

Psychological empowerment as a mediator of ambidextrous leadership and innovative work behavior among hospital nurses in Pampanga, Philippines

Allan M. Manaloto*¹, Dave P. Palicpic², Junver P. Robes³, Madel Marcos-Laxamana⁴, Monette S. Dalangin⁵,
Ria Lou R. Casi⁶, Jasmin P. Harata-Timoteo⁷, Joseph Erol Cuevas⁸, Carlo Vincent Jordan⁹

¹ Bulacan State University, ^{2, 3, 4, 5, 6, 7, 8, 9} La Consolacion University Philippines

*Corresponding author email: allan.manaloto@bulsu.edu.ph

Received: 01 May 2026

Revised: 02 June 2026

Accepted: 04 June 2026

Available Online: 05 June 2026

Volume 1 (2026), Issue 2, P-ISSN – 3116-3866; E-ISSN - 3116-3874

<https://doi.org/10.63498/inclinphs12>

Abstract

Aim: This study determined the mediating role of psychological empowerment in the relationship between ambidextrous leadership and innovative work behavior among hospital nurses in San Fernando, Pampanga, Philippines, with implications for nursing leadership and innovation in healthcare organizations.

Methods: A descriptive-correlational design with mediation analysis was employed involving 245 staff nurses from five private hospitals using total population sampling. Standardized instruments measured ambidextrous leadership, psychological empowerment, and innovative work behavior. Data were analyzed using descriptive statistics, Pearson correlation, and Hayes' PROCESS Model 4 with bootstrapping (5,000 resamples, 95% bias-corrected confidence intervals).

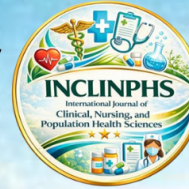
Results: Ambidextrous leadership was rated high ($M = 3.64$), while psychological empowerment ($M = 5.27$) and innovative work behavior ($M = 4.59$) were rated moderately high. Significant positive relationships were found between ambidextrous leadership and innovative work behavior ($r = .523, p < .001$), ambidextrous leadership and psychological empowerment ($r = .523, p < .001$), and psychological empowerment and innovative work behavior ($r = .597, p < .001$). Psychological empowerment partially mediated the relationship between ambidextrous leadership and innovative work behavior (indirect effect $B = 0.209, 95\% \text{ BC CI } [0.148, 0.284]$), accounting for 44.5% of the total effect.

Conclusion: Ambidextrous leadership promotes innovative work behavior among hospital nurses through both direct and empowerment-mediated pathways. Strengthening nurses' self-determination and perceived impact through participatory leadership and shared governance may enhance innovation implementation in healthcare settings. The findings provide evidence for nurse managers and hospital administrators to develop leadership and empowerment strategies that support innovation and improve organizational performance.

Keywords: *ambidextrous leadership, psychological empowerment, innovative work behavior, hospital nurses, mediation analysis, Philippines*

INTRODUCTION

The global nursing workforce reached 29.8 million in 2023 yet faces a deficit of 5.8 million, projected to narrow only to 4.1 million by 2030 (World Health Organization [WHO], 2025). Nurses are increasingly expected to generate and implement workplace innovations — conceptualized as innovative work behavior (IWB; Janssen, 2000; Kanter, 1988) — that improve care processes, patient safety, and the quality of healthcare delivery. Ambidextrous leadership, wherein leaders flexibly alternate between opening behaviors (encouraging experimentation) and closing behaviors (monitoring goals and enforcing standards) (Rosing et al., 2011), was positively associated with IWB in Egyptian nursing samples (El-Sayed et al., 2025; Ali Abd Elhamed & Badran, 2024). Both studies, however, employed direct-effect models without examining the mechanism through which this leadership style translates to innovation. Psychological empowerment — an intrinsic motivational state comprising meaning, competence, self-determination, and impact (Spreitzer, 1995) — mediated the effects of other leadership styles on nurse IWB (Bektaş et al., 2025; El-boudy et al., 2025) but has never been tested in the ambidextrous leadership–IWB pathway in nursing.



The Philippine context makes leadership-driven innovation both urgent and difficult. The country faces a shortage of approximately 127,000 nurses projected to reach 250,000 by 2030 (WHO, 2025), while only 37,098 new nurses were licensed in 2024 — well below the annual average of 63,800 a decade ago (Rillo, 2025). Outward migration compounds the problem: 28,258 Filipino nursing graduates took the U.S. licensure examination in 2024 (National Council of State Boards of Nursing [NCSBN], 2025), drawn by compensation differentials where entry-level government nurses earn ₱40,208 monthly (Rillo, 2025). Remaining nurses contend with patient ratios exceeding 1:20 against the Department of Health (DOH) standard of 1:12, heavy workloads, and delayed benefits — structural drivers of burnout and further migration (Alibudbud, 2023). No published study has examined ambidextrous leadership, psychological empowerment, or IWB among Filipino nurses, a significant contextual gap given that Philippine workforce dynamics shaped by cyclical migration differ substantially from the Egyptian and Chinese settings where existing research originated.

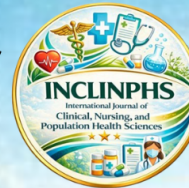
This study addresses converging gaps. First, an empirical gap: the direct ambidextrous leadership–IWB relationship was established in Egyptian nursing (El-Sayed et al., 2025; Ali Abd Elhamed & Badran, 2024), but the mediating mechanism remains untested in any nursing population. Other mediators — psychological safety (El-Gazar et al., 2024), organizational culture (Zeng et al., 2025), leader-member exchange (Zhou et al., 2026) — were tested for ambidextrous leadership's effects on various outcomes, but not psychological empowerment, despite its established mediating role under other leadership frameworks (Bektaş et al., 2025; El-boudy et al., 2025; Knol & van Linge, 2009). Wang et al. (2022) connected ambidextrous leadership to psychological empowerment but operationalized it as servant–authoritarian combinations rather than Rosing et al.'s (2011) opening–closing framework and tested effects on citizenship behavior among Chinese employees, not in healthcare and not with innovation as the outcome. Second, a contextual gap: all nursing studies on ambidextrous leadership originated from Egypt and China, with none conducted in the Philippines. Third, a methodological gap: existing nursing studies tested only direct effects, leaving the leadership–empowerment–innovation mediation pathway unexamined.

This study aimed to determine the mediating role of psychological empowerment in the relationship between ambidextrous leadership and IWB among hospital nurses in Pampanga, Philippines. Specifically, it sought to: (1) describe the respondents' demographic and professional profile; (2) determine the level of ambidextrous leadership in terms of opening and closing leader behaviors; (3) determine the level of psychological empowerment in terms of meaning, competence, self-determination, and impact; (4) determine the level of IWB in terms of idea generation, idea promotion, and idea realization; (5) determine the significant relationships among ambidextrous leadership, psychological empowerment, and IWB; and (6) determine whether psychological empowerment significantly mediates the relationship between ambidextrous leadership and IWB. The study contributed the first empirical test of the ambidextrous leadership → psychological empowerment → IWB pathway in nursing, applied Hayes' PROCESS Macro Model 4 mediation analysis to a configuration not yet tested in the discipline, and generated practical evidence on how specific leadership behaviors activate the psychological conditions enabling innovation among nurses in resource-constrained, migration-affected settings.

Review of Related Literature and Studies

Ambidextrous leadership, as conceptualized by Rosing et al. (2011), refers to a leader's capacity to flexibly alternate between opening behaviors — encouraging experimentation, risk-taking, and independent thinking — and closing behaviors that monitor goal attainment, enforce standards, and correct deviations. Rooted in March's (1991) exploration–exploitation framework, the theory posits that neither behavioral mode alone is sufficient for innovation; rather, their dynamic interplay creates conditions under which employees generate and implement novel ideas. Zacher and Rosing (2015) provided the first empirical support for this interaction effect, demonstrating that team innovation was highest when leaders exhibited both high opening and high closing behaviors. Outside healthcare, Kousina and Voudouris (2023) confirmed this pattern among 317 public servants using multilevel, multisource data, finding that the opening–closing interaction predicted innovative work behavior (IWB) through promotion-oriented psychological ownership. Their study operationalized ambidextrous leadership as the interaction of opening and closing behaviors, distinct from the composite approach used in the present study. Within nursing, research on ambidextrous leadership remains nascent and geographically concentrated. El-Sayed et al. (2025) reported a positive correlation between ambidextrous leadership and IWB among 360 Egyptian critical care nurses ($r = .483, p < .001$), while Ali Abd Elhamed and Badran (2024) documented a similar association in a separate Egyptian sample. Both studies, however, employed direct-effect models, leaving the mechanism through which ambidextrous leadership translates to innovation untested.

Subsequent nursing research has confirmed that ambidextrous leadership operates through mediating pathways, though the specific mechanisms differ across studies and none have examined psychological



empowerment. Psychological safety (El-Gazar et al., 2024), perceived organizational support and organizational commitment in chain (Tao et al., 2025), nursing organizational culture (Zeng et al., 2025), and leader-member exchange (Zhou et al., 2026) have each been identified as mediators linking ambidextrous leadership to various nursing outcomes — creativity, knowledge sharing, clinical leadership, and presenteeism, respectively. This growing but fragmented evidence base indicates that the effects of ambidextrous leadership on nurses are indirect and psychologically mediated, yet the field lacks a unifying motivational mechanism that specifically accounts for innovation.

Psychological empowerment — defined by Spreitzer (1995) as an intrinsic task motivation comprising meaning, competence, self-determination, and impact — offers a theoretically grounded candidate for that mechanism. Knol and van Linge (2009) provided early evidence that psychological empowerment predicted innovative behavior among 519 registered nurses and mediated the link between structural empowerment and innovation. More recently, Bektaş et al. (2025) found that psychological empowerment mediated the effect of transformational leadership on IWB among 317 Turkish nurses using structural equation modeling (indirect effect $\beta = .291$, $p < .001$), and El-boudy et al. (2025) reported full mediation between humble leadership and IWB among 306 Egyptian nurses — demonstrating that empowerment can function as the complete transmission mechanism even when a leadership style lacks a direct effect on innovation. The only study connecting ambidextrous leadership to psychological empowerment is Wang et al. (2022), who tested servant and authoritarian leadership combinations — operationalized as ambidextrous leadership but distinct from Rosing et al.'s (2011) opening-closing model — and found that empowerment mediated the effects on organizational citizenship behavior and task performance among 315 Chinese employees. Their study was conducted in state-owned communication companies with general work outcomes, not in healthcare and not with innovation as the dependent variable.

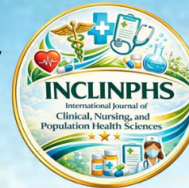
The ambidextrous leadership → psychological empowerment → innovative work behavior pathway thus remains empirically untested in nursing. The direct-effect nursing studies on ambidextrous leadership (El-Sayed et al., 2025; Ali Abd Elhamed & Badran, 2024) did not examine mediating mechanisms, and the nursing studies confirming empowerment as a mediator of leadership and IWB (Bektaş et al., 2025; El-boudy et al., 2025) tested different leadership styles entirely. This gap is compounded by the complete absence of ambidextrous leadership research in the Philippine nursing context; all existing studies originate from Egypt or China, settings that differ from the Philippines in healthcare infrastructure, workforce dynamics shaped by chronic migration, and regulatory conditions under the Philippine Nursing Act (RA 9173). The present study addresses these converging gaps by testing the mediating role of psychological empowerment in the relationship between ambidextrous leadership and innovative work behavior among hospital nurses in Pampanga, Philippines.

Theoretical Framework

This study was anchored on two complementary theories — the Ambidextrous Leadership Theory (Rosing et al., 2011) and the Psychological Empowerment Theory (Spreitzer, 1995) — supplemented by Laschinger's nursing-specific model of workplace empowerment (Laschinger et al., 2001), which provided the nursing disciplinary anchor for the proposed mediation pathway.

Ambidextrous Leadership Theory. Rosing, Frese, and Bausch (2011) proposed the Ambidextrous Leadership Theory to explain inconsistent findings in the leadership-innovation literature. Rooted in March's (1991) exploration-exploitation framework, the theory posits that effective innovation leadership requires flexible alternation between two complementary behavioral sets: opening behaviors, which encourage experimentation, risk-taking, independent thinking, and error tolerance; and closing behaviors, which monitor goal attainment, enforce routines, control adherence to rules, and initiate corrective action. Neither behavioral mode alone is sufficient — opening behaviors stimulate idea generation, while closing behaviors channel those ideas into implementable outcomes. Innovation occurs when leaders dynamically switch between both modes based on situational demands. Zacher and Rosing (2015) provided the first empirical support for this interaction effect, demonstrating that team innovation was highest when leaders exhibited both high opening and high closing behaviors. In this study, ambidextrous leadership served as the independent variable. The theory aligned with the study's objective of determining the level of ambidextrous leadership as perceived by the respondents in terms of opening and closing leader behaviors, as well as the objective of determining whether ambidextrous leadership was significantly related to innovative work behavior and psychological empowerment.

Psychological Empowerment Theory. Spreitzer (1995) conceptualized psychological empowerment as an intrinsic task motivation manifested in four cognitive dimensions: meaning, the alignment between work role requirements and personal values; competence, self-efficacy regarding work activities; self-determination, a sense of autonomy in initiating and regulating work actions; and impact, the perception of influence over departmental



outcomes. Spreitzer distinguished psychological empowerment from structural empowerment (Kanter, 1977), arguing that while structural conditions create the context for empowerment, it is the individual's cognitive appraisal of those conditions that constitutes the motivational state. The four cognitions represent an active orientation toward one's work role and have been validated as mediators between contextual antecedents and proactive work outcomes. Kraimer et al. (1999) confirmed the construct validity and four-factor structure across diverse occupational samples. In this study, psychological empowerment served as the mediating variable. The theory aligned with the study's objective of determining the level of psychological empowerment as perceived by the respondents in terms of meaning, competence, self-determination, and impact, and with the central objective of determining whether psychological empowerment significantly mediated the relationship between ambidextrous leadership and innovative work behavior.

Nursing Disciplinary Anchor: Laschinger's Model of Workplace Empowerment. The application of empowerment theory to nursing was advanced most substantially by Heather K. Spence Laschinger, a nurse researcher who systematically tested and expanded Kanter's (1977) structural empowerment theory in nursing populations (Laschinger, 1996; Laschinger et al., 1997). Laschinger et al. (2001) proposed an expanded model integrating structural and psychological empowerment, demonstrating that structural empowerment — access to information, support, resources, and opportunities — was associated with heightened psychological empowerment among staff nurses, which in turn influenced job strain and work satisfaction. This model established, within nursing scholarship, the pathway through which workplace conditions activate nurses' motivational cognitions that then drive organizational outcomes. Knol and van Linge (2009) extended this logic by demonstrating that psychological empowerment predicted innovative behavior among 519 registered nurses and mediated the structural empowerment–innovation link. Laschinger's model anchored the present study within nursing tradition by providing precedent that empowerment functions as a mediating mechanism between workplace antecedents and nurse outcomes — the same logic tested here with ambidextrous leadership as the antecedent and innovative work behavior as the outcome.

Integration. The three perspectives converged to form the study's conceptual logic. Ambidextrous Leadership Theory explained how nurse managers' flexible switching between opening and closing behaviors creates contextual conditions for innovation. Psychological Empowerment Theory explained how those conditions are cognitively appraised as meaning, competence, self-determination, and impact, producing an intrinsic motivational state. Laschinger's nursing model confirmed that empowerment operates as a mediating mechanism between workplace antecedents and nurse outcomes. The integration followed the motivational pathway of the Job Demands-Resources Model (Bakker & Demerouti, 2007): ambidextrous leadership functioned as a job resource that activated psychological empowerment (a motivational state), which in turn drove innovative work behavior. The proposed pathway — Ambidextrous Leadership → Psychological Empowerment → Innovative Work Behavior — was grounded in both management theory and nursing-specific evidence, and directly addressed the study's objective of determining whether psychological empowerment significantly mediated the relationship between ambidextrous leadership and innovative work behavior among hospital nurses in the City of San Fernando, Pampanga.

Figure 1 presents the conceptual framework of the study. Ambidextrous leadership (independent variable), comprising opening and closing leader behaviors, was hypothesized to influence innovative work behavior (dependent variable), comprising idea generation, idea promotion, and idea realization, both directly (path c') and indirectly through psychological empowerment (mediating variable), comprising meaning, competence, self-determination, and impact. Path a represented the effect of ambidextrous leadership on psychological empowerment, and path b represented the effect of psychological empowerment on innovative work behavior. The indirect effect ($a \times b$) constituted the mediated pathway. Mediation was established if the bootstrap confidence interval for the indirect effect excluded zero; full mediation was indicated if path c' became non-significant after controlling for the mediator, and partial mediation if both effects remained significant. This framework guided the testing of all four null hypotheses using Hayes' PROCESS Macro Model 4.

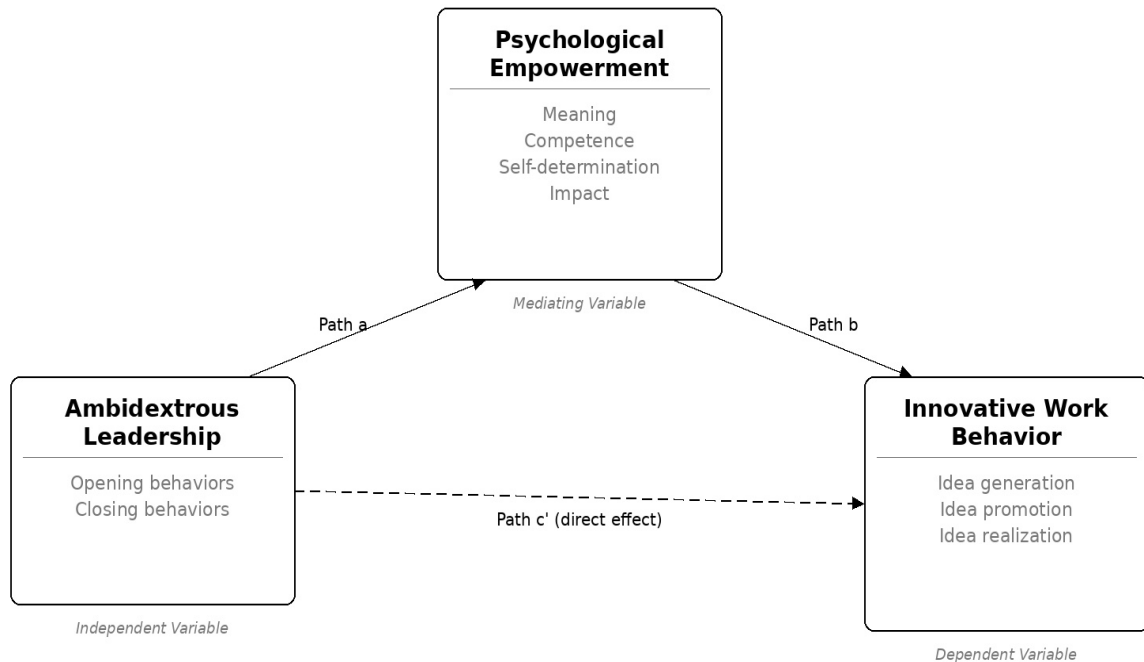
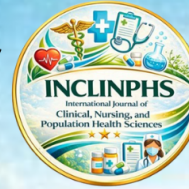
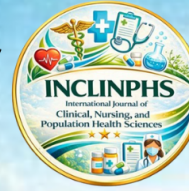


Figure 1. Conceptual Framework of the Study

Statement of the Problem

Ambidextrous leadership has been positively associated with innovative work behavior (IWB) among nurses in Egyptian samples (El-Sayed et al., 2025; Ali Abd Elhamed & Badran, 2024), but both studies tested only direct effects, leaving the mechanism through which this leadership style translates into nurse innovation untested. Psychological empowerment is the theoretically grounded candidate for that mechanism. Knol and van Linge (2009) established that psychological empowerment predicted innovative behavior in nursing, and recent studies confirmed that it mediated the effects of transformational leadership (Bektaş et al., 2025) and humble leadership (El-boudy et al., 2025) on nurse innovative work behavior. However, the ambidextrous leadership → psychological empowerment → innovative work behavior pathway has never been tested in any nursing population. Wang et al. (2022) linked ambidextrous leadership to psychological empowerment but operationalized ambidextrous leadership as a servant-authoritarian combination rather than Rosing et al.'s (2011) opening-closing framework and examined citizenship behavior rather than innovation.

The Philippine context further highlights the need for this investigation. The country faces a nurse shortage projected to reach 250,000 by 2030 (WHO, 2025), coupled with continued outward migration of nurses (NCSBN, 2025; Rillo, 2025). Patient-to-nurse ratios in many healthcare settings exceed the Department of Health (DOH) standard of 1:12, creating conditions in which leadership-driven innovation is both necessary and difficult to sustain (Alibudbud, 2023). Despite these challenges, no published study has examined ambidextrous leadership, psychological empowerment, and innovative work behavior among Filipino nurses. Existing evidence on ambidextrous leadership in nursing originates primarily from Egypt and China, which differ substantially from the Philippine healthcare context. This study therefore addressed these empirical, contextual, and methodological gaps by examining the mediating role of psychological empowerment in the relationship between ambidextrous leadership and innovative work behavior among hospital nurses in the City of San Fernando, Pampanga.



Research Objectives

General Objective

This study aimed to determine the mediating role of psychological empowerment in the relationship between ambidextrous leadership and innovative work behavior among hospital nurses in the City of San Fernando, Pampanga.

Specific Objectives

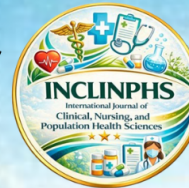
Specifically, this study sought:

1. To describe the demographic and professional profile of the respondents in terms of:
 - 1.1 Age;
 - 1.2 Sex;
 - 1.3 Highest educational attainment;
 - 1.4 Years of nursing experience;
 - 1.5 Current unit/department; and
 - 1.6 Employment status.
2. To determine the level of ambidextrous leadership as perceived by the respondents in terms of:
 - 2.1 Opening leader behaviors; and
 - 2.2 Closing leader behaviors.
3. To determine the level of psychological empowerment as perceived by the respondents in terms of:
 - 3.1 Meaning;
 - 3.2 Competence;
 - 3.3 Self-determination; and
 - 3.4 Impact.
4. To determine the level of innovative work behavior among the respondents in terms of:
 - 4.1 Idea generation;
 - 4.2 Idea promotion; and
 - 4.3 Idea realization.
5. To determine the relationship between ambidextrous leadership and innovative work behavior.
6. To determine the relationship between ambidextrous leadership and psychological empowerment.
7. To determine the relationship between psychological empowerment and innovative work behavior.
8. To determine whether psychological empowerment significantly mediates the relationship between ambidextrous leadership and innovative work behavior.

Research Questions

This study sought to answer the following research questions:

1. What is the demographic and professional profile of the respondents in terms of:
 - 1.1 age;
 - 1.2 sex;
 - 1.3 highest educational attainment;
 - 1.4 years of nursing experience;
 - 1.5 current unit/department; and
 - 1.6 employment status?
2. What is the level of ambidextrous leadership as perceived by the respondents in terms of:
 - 2.1 opening leader behaviors; and
 - 2.2 closing leader behaviors?
3. What is the level of psychological empowerment as perceived by the respondents in terms of:
 - 3.1 meaning;
 - 3.2 competence;
 - 3.3 self-determination; and
 - 3.4 impact?
4. What is the level of innovative work behavior among the respondents in terms of:
 - 4.1 idea generation;
 - 4.2 idea promotion; and
 - 4.3 idea realization?



5. Is there a significant relationship between ambidextrous leadership and innovative work behavior?
6. Is there a significant relationship between ambidextrous leadership and psychological empowerment?
7. Is there a significant relationship between psychological empowerment and innovative work behavior?
8. Does psychological empowerment significantly mediate the relationship between ambidextrous leadership and innovative work behavior?

Hypotheses

All hypotheses were tested at the 0.05 level of significance.

H₀₁: There is no significant relationship between ambidextrous leadership and innovative work behavior among hospital nurses in the City of San Fernando, Pampanga.

H₀₂: There is no significant relationship between ambidextrous leadership and psychological empowerment among hospital nurses in the City of San Fernando, Pampanga.

H₀₃: There is no significant relationship between psychological empowerment and innovative work behavior among hospital nurses in the City of San Fernando, Pampanga.

H₀₄: Psychological empowerment does not significantly mediate the relationship between ambidextrous leadership and innovative work behavior among hospital nurses in the City of San Fernando, Pampanga.

METHODS

Research Design

This study employed a descriptive-correlational design with mediation analysis. The descriptive-correlational design is a non-experimental quantitative approach that describes variable characteristics and examines relationships among them without manipulation or establishing causation (Creswell & Creswell, 2018). This design was appropriate because the study described the levels of ambidextrous leadership, psychological empowerment, and innovative work behavior and examined the relationships among these variables in their naturally occurring state. The descriptive component addressed the objectives of characterizing the respondents' profile and determining variable levels, while the correlational component addressed the objectives of determining significant relationships among the three main variables.

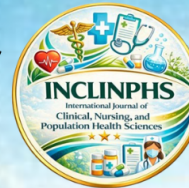
The study incorporated mediation analysis to determine whether psychological empowerment significantly mediated the ambidextrous leadership–innovative work behavior relationship. Mediation analysis tests whether the effect of an independent variable on a dependent variable operates through an intervening variable, illuminating the mechanism underlying an observed relationship (Hayes, 2018). This approach was consistent with Wang et al. (2022), who tested psychological empowerment as a mediator of ambidextrous leadership using Hayes' PROCESS Model 4, and advanced the direct-effect models in nursing by El-Sayed et al. (2025) and Ali Abd Elhamed and Badran (2024). The detailed analytical specification, including path estimation, bootstrapping parameters, and significance criteria, is presented in the Treatment of Data subsection.

Population and Sampling

The respondents of this study were staff nurses employed in all five (5) private hospitals in the City of San Fernando, Pampanga. The hospitals comprised two (2) Department of Health (DOH) Level 3 tertiary hospitals — fully departmentalized facilities with the capability to provide training and to serve as teaching institutions — with 150 and 142 authorized beds, respectively, and three (3) DOH Level 2 secondary hospitals — non-departmentalized hospitals providing, at minimum, general medicine and general surgery services — with authorized bed capacities ranging from 50 to 100 beds, yielding a combined capacity of 492 beds across the five facilities. The total staff nurse population across all five hospitals was 280.

The study employed total population sampling, wherein all eligible staff nurses were included as respondents rather than drawing a subset through probability or non-probability sampling (Polit & Beck, 2021). This approach eliminated sampling bias, maximized statistical power for mediation analysis, and was feasible given the finite and accessible population. No sample size computation formula was required. After application of exclusion criteria and accounting for potential non-response, the eligible respondent pool was estimated at 245, which exceeded the minimum of 148 participants required for .80 statistical power in mediation models with medium a-path and b-path effect sizes (Fritz & MacKinnon, 2007) and the 200-respondent threshold recommended for stable bootstrap estimates in PROCESS Model 4 (Hayes, 2018).

The following inclusion criteria were applied: (a) registered nurse with a valid Professional Regulation Commission (PRC) license; (b) currently employed as a staff nurse in a private hospital in the City of San Fernando,



Pampanga; (c) at least six months of continuous experience in the current hospital, ensuring sufficient exposure to the immediate nurse manager's leadership behaviors; and (d) assigned to a direct patient care role at the time of data collection.

The following exclusion criteria were applied: (a) nurse managers, supervisors, charge nurses, and chief nurses, as they occupy the leadership positions being evaluated; (b) nurses on extended leave during the data collection period; (c) floating, agency, or contractual nurses with less than six months in the current hospital; and (d) nurses in purely administrative or non-clinical roles.

Instruments

The study utilized a 41-item self-administered questionnaire in four parts. All three scales were adopted as published with no modifications. The instruments have been previously validated in published studies and demonstrated acceptable psychometric properties in nursing and organizational research. In the present study, all instruments demonstrated good overall internal consistency ($N = 245$): Ambidextrous Leadership Scale ($\alpha = .895$), Psychological Empowerment Scale ($\alpha = .813$), and Innovative Work Behavior Scale ($\alpha = .843$). Subscale coefficients ranged from .698 (PE Meaning) to .862 (AL Closing Leader Behaviors), with all but one exceeding the .70 threshold (Polit & Beck, 2021).

Part I gathered the respondents' demographic and professional profile through 6 researcher-developed items covering age, sex, highest educational attainment, years of nursing experience, current unit/department, and employment status (Research Question 1).

Part II measured ambidextrous leadership using the 14-item Ambidextrous Leadership Scale (Rosing et al., 2011; Zacher & Rosing, 2015) with two subscales: opening leader behaviors (7 items) and closing leader behaviors (7 items) on a 5-point frequency scale (1 = *Not at all* to 5 = *Always*). Published reliability: $\alpha = .89$ (opening) and .83 (closing) (Zacher & Rosing, 2015). Mean scores were interpreted as very low (1.00–1.80), low (1.81–2.60), moderate (2.61–3.40), high (3.41–4.20), and very high (4.21–5.00). This instrument addressed Research Questions 2, 5, 6, and 8.

Part III measured psychological empowerment using Spreitzer's (1995) 12-item Psychological Empowerment Scale with four subscales (3 items each): meaning, competence, self-determination, and impact on a 7-point Likert scale (1 = *Very Strongly Disagree* to 7 = *Very Strongly Agree*). Published reliability: $\alpha = .76-.88$ (Spreitzer, 1995). Mean scores were interpreted as very low (1.00–1.86), low (1.87–2.71), moderately low (2.72–3.57), moderate (3.58–4.43), moderately high (4.44–5.29), high (5.30–6.14), and very high (6.15–7.00). This instrument addressed Research Questions 3, 6, 7, and 8.

Part IV measured innovative work behavior using Janssen's (2000) 9-item Innovative Work Behavior Scale with three subscales (3 items each): idea generation, idea promotion, and idea realization on a 7-point frequency scale (1 = *Never* to 7 = *Always*). Published reliability: $\alpha = .95$ (Janssen, 2000). The same 7-point interpretation scale as Part III was applied. This instrument addressed Research Questions 4, 5, 7, and 8.

Data Collection

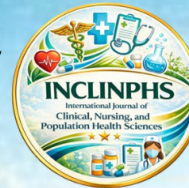
Upon securing institutional approval from all five private hospitals in the City of San Fernando, Pampanga, the researcher coordinated with each hospital's nursing service department to schedule data collection. The researcher personally distributed the self-administered questionnaires to eligible staff nurses during their duty shifts. The questionnaire took approximately 10 to 15 minutes to complete. Completed questionnaires were collected on the same day and sealed in envelopes.

Treatment of Data

All data were encoded, cleaned, and analyzed using IBM SPSS Statistics. Prior to inferential analysis, the Shapiro-Wilk test was conducted to assess normality of score distributions and determine the appropriateness of parametric tests. The following statistical tools were applied per research question:

Research Question 1 (demographic and professional profile) was analyzed using frequency counts and percentages for categorical variables (sex, educational attainment, unit/department, employment status) and measures of central tendency (mean and standard deviation) for continuous variables (age, years of nursing experience).

Research Questions 2 through 4 (levels of ambidextrous leadership, psychological empowerment, and innovative work behavior and their respective dimensions) were analyzed using mean scores and standard deviations. Mean scores were interpreted using the scale-specific interpretation guides described in the Instruments section.



Research Questions 5 through 7 (significant relationships between ambidextrous leadership and innovative work behavior, between ambidextrous leadership and psychological empowerment, and between psychological empowerment and innovative work behavior) were analyzed using Pearson product-moment correlation coefficient (Pearson r). Pearson r was appropriate because the variables were measured on interval-level scales and normality was assessed prior to analysis. The strength of correlations was interpreted using Cohen's (1988) guidelines: small ($r = .10-.29$), medium ($r = .30-.49$), and large ($r \geq .50$). All tests were evaluated at the .05 level of significance.

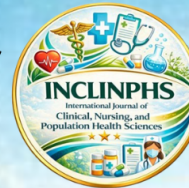
Research Question 8 (whether psychological empowerment significantly mediates the relationship between ambidextrous leadership and innovative work behavior) was analyzed using Hayes' PROCESS Macro Model 4 with bootstrapping (5,000 resamples, 95% bias-corrected confidence intervals). The analysis estimated three paths: the a-path (ambidextrous leadership \rightarrow psychological empowerment), the b-path (psychological empowerment \rightarrow innovative work behavior, controlling for ambidextrous leadership), and the c'-path or direct effect (ambidextrous leadership \rightarrow innovative work behavior, controlling for psychological empowerment). The indirect effect ($a \times b$) represented the mediated effect. Mediation was considered statistically significant if the 95% bias-corrected bootstrap confidence interval for the indirect effect excluded zero (Hayes, 2018; Preacher & Hayes, 2008). Full mediation was indicated when the direct effect (c') became non-significant after controlling for the mediator, while partial mediation was indicated when both the indirect effect and the direct effect remained significant.

Ethical Considerations

The study collected self-reported perceptions through a structured questionnaire. No experimental intervention, clinical procedure, biological specimen, or psychologically distressing content was involved, and no vulnerable populations were included. The study posed minimal risk limited to the time required to complete the questionnaire. The researchers ensured adherence to the ethical principles of the Belmont Report (National Commission for the Protection of Human Subjects, 1979), the Declaration of Helsinki (World Medical Association, 2013), and the National Ethical Guidelines for Health and Health-Related Research (Philippine Health Research Ethics Board, 2017).

Prior to data collection, permission letters were sent to the administrators of all five private hospitals in the City of San Fernando, Pampanga. After securing institutional approval, each respondent was provided an informed consent form explaining the study's purpose, procedures, voluntary nature, right to withdraw without penalty, confidentiality measures, and contact information for the researcher. Participation was entirely voluntary, and only those who signed the informed consent form were included as respondents. All eligible staff nurses across the five hospitals were given equal opportunity to participate based solely on the established inclusion criteria.

Confidentiality was maintained throughout the study. Completed questionnaires were collected on the same day of administration, sealed in envelopes, and stored in a locked cabinet accessible only to the researcher. All data were encoded in password-protected files, and respondent identities were replaced by numerical codes. No individual responses were reported, and all findings were presented in aggregate. In compliance with Republic Act No. 10173 (Data Privacy Act of 2012), all physical questionnaires and digital files will be retained for five years after the completion of the study and then permanently destroyed through shredding and secure file deletion, respectively.



RESULTS and DISCUSSION

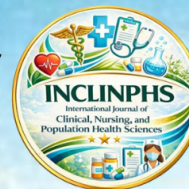
This section presents the findings of the study based on data gathered from 245 staff nurses across five private hospitals in the City of San Fernando, Pampanga. Results are organized according to the eight research questions, beginning with the respondents' demographic and professional profile, followed by the descriptive levels of ambidextrous leadership, psychological empowerment, and innovative work behavior, and concluding with the correlational and mediation analyses.

Table 1
Demographic and Professional Profile of the Respondents

Variable / Category	Category	f	%			
Sex						
	Male	51	20.8			
	Female	194	79.2			
	<i>Total</i>	<i>245</i>	<i>100.0</i>			
Highest Educational Attainment						
	Bachelor's Degree in Nursing	181	73.9			
	With Master's units	51	20.8			
	Master's Degree	10	4.1			
	With Doctoral units	3	1.2			
	<i>Total</i>	<i>245</i>	<i>100.0</i>			
Current Unit/Department						
	Medical-Surgical	65	26.4 ^a			
	ICU/CCU	51	20.8			
	OB-Gyne	32	13.1			
	Others	32	13.1			
	Emergency Department	22	9.0			
	Pediatric	22	9.0			
	Operating Room	21	8.6			
	<i>Total</i>	<i>245</i>	<i>100.0</i>			
Employment Status						
	Permanent/Regular	166	67.8			
	Contractual/Casual	54	22.0			
	Job Order	25	10.2			
	<i>Total</i>	<i>245</i>	<i>100.0</i>			
Continuous Variable	N	M	SD	Median	Min	Max
Age (years)	245	31.05	6.10	30.00	23	54
Years of Nursing Experience	245	8.80	6.10	7.80	0.5	32.3

Note. N = 245. ^aPercentage adjusted from 26.5% to 26.4% to ensure the total sums to 100.0% due to rounding.

The sample consisted of 245 hospital nurses from Pampanga, Philippines. The majority were female ($f = 194, 79.2\%$), and the mean age was 31.05 years ($SD = 6.10$), with a range of 23 to 54 years. Most respondents held a Bachelor's Degree in Nursing ($f = 181, 73.9\%$), while a combined 26.1% had pursued graduate education. The



mean years of nursing experience was 8.80 ($SD = 6.10$), with a median of 7.80 years, indicating that the sample was relatively experienced. Medical-Surgical was the most represented unit ($f = 65, 26.4\%$), followed by ICU/CCU ($f = 51, 20.8\%$), while Operating Room had the lowest representation ($f = 21, 8.6\%$). Two thirds of the respondents held permanent or regular positions ($f = 166, 67.8\%$), while 10.2% were under job order status.

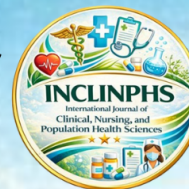
The predominantly female composition of the sample was consistent with the gender distribution of the Philippine nursing workforce. The sample reflected a mix of early-career and mid-career nurses, with experience ranging from less than one year to over three decades. The concentration of bachelor's degree holders and the relatively small proportion with graduate-level education reflected the typical credentialing profile of staff nurses in provincial tertiary hospitals. The presence of nurses across seven clinical units provided a reasonable cross-section of the hospital workforce, though the underrepresentation of specialty units such as the Operating Room ($f = 21, 8.6\%$) may limit the applicability of findings to those specific practice areas.

Table 2
Level of Ambidextrous Leadership as Perceived by the Respondents

Indicator	M	SD	Verbal Interpretation
Opening Leader Behaviors			
1. Allows different ways of accomplishing a task	3.76	0.83	High
5. Gives room for own ideas	3.76	0.84	High
4. Gives possibilities for independent thinking and acting	3.71	0.78	High
7. Encourages error learning	3.67	0.78	High
2. Encourages experimentation with different ideas	3.65	0.82	High
3. Motivates to take risks	3.50	0.83	High
6. Allows errors	3.39	0.82	Moderate
<i>Opening Leader Behaviors (Composite)</i>	<i>3.63</i>	<i>0.56</i>	<i>High</i>
Closing Leader Behaviors			
1. Monitors and controls goal attainment	3.77	0.91	High
4. Controls adherence to rules	3.74	0.95	High
3. Takes corrective action	3.71	0.88	High
2. Establishes routines	3.68	0.84	High
5. Pays attention to uniform task accomplishment	3.63	0.88	High
7. Sticks to plans	3.58	0.86	High
6. Sanctions errors	3.42	0.86	High
<i>Closing Leader Behaviors (Composite)</i>	<i>3.65</i>	<i>0.65</i>	<i>High</i>
Overall Ambidextrous Leadership	3.64	0.55	High

Note. N = 245. Verbal interpretation scale: 4.21–5.00 = Very High; 3.41–4.20 = High; 2.61–3.40 = Moderate; 1.81–2.60 = Low; 1.00–1.80 = Very Low. Weighted mean computed as arithmetic mean of items (equal weights).

The respondents perceived a high level of ambidextrous leadership overall ($M = 3.64, SD = 0.55$). The two subscales obtained nearly identical composite means: Closing Leader Behaviors ($M = 3.65, SD = 0.65$) and Opening Leader Behaviors ($M = 3.63, SD = 0.56$), both interpreted as "High." Among opening behaviors, "Allows different ways of accomplishing a task" obtained the highest mean ($M = 3.76, SD = 0.83$), while "Allows errors" obtained the lowest ($M = 3.39, SD = 0.82, "Moderate"$) — the only indicator across both subscales that did not reach the "High" threshold. Among closing behaviors, "Monitors and controls goal attainment" ranked highest ($M = 3.77, SD = 0.91$), while "Sanctions errors" ranked lowest ($M = 3.42, SD = 0.86$), though it remained within the "High" range. The



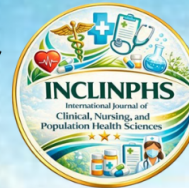
balance between the two subscales suggested that nurse managers were perceived to engage in both exploratory and regulatory leadership behaviors at comparable levels.

The near-identical composite means for opening ($M = 3.63$) and closing ($M = 3.65$) behaviors supported Rosing et al.'s (2011) premise that effective innovation leadership requires flexible alternation between both behavioral modes rather than favoring one. Zacher and Rosing (2015) demonstrated that team innovation peaked only when both behaviors were high, and the present sample reflected that balance. The high overall perception ($M = 3.64$) was consistent with El-Sayed et al. (2025), who reported that Egyptian critical care nurses similarly perceived their nurse managers as engaging in both exploratory and regulatory behaviors.

The sole "Moderate" indicator — "Allows errors" ($M = 3.39$) — is conceptually linked to the psychological safety that El-Gazar et al. (2024) identified as a mediator of ambidextrous leadership's effects on nurse creativity. In Philippine hospitals, where patient safety accountability is stringent, nurse managers may hesitate to signal error permissiveness even while encouraging experimentation otherwise. Rosing et al.'s (2011) framework distinguishes error tolerance as a learning mechanism from error condoning, and leadership development programs could target this distinction to strengthen the exploratory climate without compromising safety standards.

Table 3
Level of Psychological Empowerment of the Respondents

Indicator	<i>M</i>	<i>SD</i>	Verbal Interpretation
Meaning			
1. The work that I do is important to me	5.87	0.73	High
3. The work I do is meaningful to me	5.81	0.72	High
2. My job activities are personally meaningful to me	5.77	0.72	High
<i>Meaning (Composite)</i>	<i>5.82</i>	<i>0.57</i>	<i>High</i>
Competence			
1. I am confident about my ability to do my job	5.62	0.74	High
2. I am self-assured about my capabilities to perform my work activities	5.47	0.72	High
3. I have mastered the skills necessary for my job	5.47	0.68	High
<i>Competence (Composite)</i>	<i>5.52</i>	<i>0.57</i>	<i>High</i>
Self-Determination			
2. I can decide on my own how to go about doing my own work	5.10	0.76	Moderately High
1. I have significant autonomy in determining how I do my job	5.06	0.76	Moderately High
3. I have considerable opportunity for independence and freedom in how I do my job	4.92	0.77	Moderately High
<i>Self-Determination (Composite)</i>	<i>5.03</i>	<i>0.61</i>	<i>Moderately High</i>
Impact			
1. My impact on what happens in my department is large	4.81	0.69	Moderately High
3. I have significant influence over what happens in my department	4.74	0.71	Moderately High
2. I have a great deal of control over what happens in my department	4.57	0.72	Moderately High
<i>Impact (Composite)</i>	<i>4.71</i>	<i>0.57</i>	<i>Moderately High</i>



Overall Psychological Empowerment 5.27 0.42 Moderately High

Note. N = 245. Verbal interpretation scale: 6.15–7.00 = Very High; 5.30–6.14 = High; 4.44–5.29 = Moderately High; 3.58–4.43 = Moderate; 2.72–3.57 = Moderately Low; 1.87–2.71 = Low; 1.00–1.86 = Very Low. Weighted mean computed as arithmetic mean of items (equal weights). Overall PE computed as the mean of the four dimension means (Spreitzer, 1995).

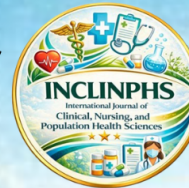
The respondents reported a moderately high level of overall psychological empowerment ($M = 5.27$, $SD = 0.42$). Among the four dimensions, Meaning obtained the highest composite mean ($M = 5.82$, $SD = 0.57$, "High"), followed by Competence ($M = 5.52$, $SD = 0.57$, "High"), Self-Determination ($M = 5.03$, $SD = 0.61$, "Moderately High"), and Impact ($M = 4.71$, $SD = 0.57$, "Moderately High"). The two cognition-oriented dimensions (Meaning and Competence) reached the "High" threshold, while the two influence-oriented dimensions (Self-Determination and Impact) remained at "Moderately High." The lowest-rated individual indicator was "I have a great deal of control over what happens in my department" ($M = 4.57$, $SD = 0.72$), suggesting that the respondents perceived relatively limited departmental influence compared to their strong sense of work meaningfulness.

The moderately high overall empowerment ($M = 5.27$) reflected a positive but unevenly distributed motivational orientation across Spreitzer's (1995) four dimensions. Meaning ($M = 5.82$) and Competence ($M = 5.52$) reached "High," while Self-Determination ($M = 5.03$) and Impact ($M = 4.71$) remained at "Moderately High" — consistent with the structural logic of Laschinger et al.'s (2001) nursing empowerment model, in which influence-oriented cognitions such as self-determination and impact are more dependent on workplace structural conditions than personally held appraisals of meaning and competence. Kraimer et al. (1999) confirmed the distinctiveness of these four dimensions across occupational samples, supporting the interpretation that this gap reflected genuine structural differences rather than measurement artifact.

The lower influence-oriented dimensions aligned with the hierarchical authority structures and demanding operational conditions — workloads exceeding the DOH 1:12 standard (Alibudbud, 2023) — that constrain staff nurse autonomy and departmental influence in Philippine hospitals. These findings suggested that while ambidextrous leadership may activate meaning and competence appraisals, strengthening self-determination and impact likely requires structural interventions beyond leadership behavior — consistent with Laschinger et al.'s (2001) demonstration that structural empowerment preceded psychological empowerment in nursing. From a nursing practice perspective, the gaps in self-determination and impact have direct implications for professional autonomy and clinical decision-making. Nurses who perceive limited influence over departmental outcomes may be less likely to initiate evidence-based practice changes or lead quality improvement activities, even when they recognize opportunities for improvement. Strengthening these influence-oriented dimensions through participatory governance structures and delegated clinical decision-making authority may therefore enhance not only innovation but also the broader capacity for nurse-led practice improvement.

Table 4
Level of Innovative Work Behavior of the Respondents

Indicator	M	SD	Verbal Interpretation
Idea Generation			
1. Creating new ideas for difficult issues	4.90	0.76	Moderately High
2. Searching out new working methods, techniques, or instruments	4.75	0.76	Moderately High
3. Generating original solutions for problems	4.74	0.78	Moderately High
<i>Idea Generation (Composite)</i>	<i>4.80</i>	<i>0.64</i>	<i>Moderately High</i>
Idea Promotion			
1. Mobilizing support for innovative ideas	4.62	0.70	Moderately High
3. Making important organizational members enthusiastic for innovative ideas	4.59	0.72	Moderately High
2. Acquiring approval for innovative ideas	4.47	0.75	Moderately High
<i>Idea Promotion (Composite)</i>	<i>4.56</i>	<i>0.61</i>	<i>Moderately High</i>



Idea Realization

1. Transforming innovative ideas into useful applications	4.49	0.76	Moderately High
3. Evaluating the utility of innovative ideas	4.42	0.75	Moderate
2. Introducing innovative ideas into the work environment in a systematic way	4.36	0.70	Moderate
<i>Idea Realization (Composite)</i>	<i>4.42</i>	<i>0.61</i>	<i>Moderate</i>
Overall Innovative Work Behavior	4.59	0.50	Moderately High

Note. N = 245. Verbal interpretation scale: 6.15–7.00 = Very High; 5.30–6.14 = High; 4.44–5.29 = Moderately High; 3.58–4.43 = Moderate; 2.72–3.57 = Moderately Low; 1.87–2.71 = Low; 1.00–1.86 = Very Low. Weighted mean computed as arithmetic mean of items (equal weights).

The respondents reported a moderately high level of overall innovative work behavior ($M = 4.59, SD = 0.50$). Among the three dimensions, Idea Generation obtained the highest composite mean ($M = 4.80, SD = 0.64$, "Moderately High"), followed by Idea Promotion ($M = 4.56, SD = 0.61$, "Moderately High"), and Idea Realization ($M = 4.42, SD = 0.61$, "Moderate"). A descending pattern was evident across the innovation process: scores decreased from generating ideas, to promoting them, to implementing them. Idea Realization was the only dimension that fell to the "Moderate" threshold, with two of its three indicators — "Introducing innovative ideas into the work environment in a systematic way" ($M = 4.36, SD = 0.70$) and "Evaluating the utility of innovative ideas" ($M = 4.42, SD = 0.75$) — also rated "Moderate."

The descending pattern — Idea Generation ($M = 4.80$) to Idea Promotion ($M = 4.56$) to Idea Realization ($M = 4.42$, "Moderate") — corresponded to Janssen's (2000) sequential stage model, where ideas are generated more readily than they are championed and ultimately implemented. Kousina and Voudouris (2023), who found that the opening-closing leadership interaction predicted IWB among 317 public servants through psychological ownership, similarly suggested that translating ideas into implementation depends on factors beyond individual motivation.

The drop to "Moderate" at the realization stage was notable given that closing leader behaviors — which Rosing et al.'s (2011) theory predicts should channel ideas into implementable outcomes — were perceived as high ($M = 3.65$). This suggested that leadership alone may be insufficient to overcome structural implementation barriers such as limited resources, rigid protocols, and the operational pressures facing Philippine nurses (Alibudbud, 2023). Supporting idea realization likely requires organizational conditions — time, resources, managerial endorsement — beyond leadership behavior. Improved implementation of nurse-generated innovations may contribute to safer patient care processes, more efficient clinical workflows, and enhanced quality of healthcare delivery. The finding that idea realization was the weakest stage is therefore not only an organizational concern but a clinical one, as innovations that remain unimplemented represent missed opportunities to improve patient outcomes.

Table 5

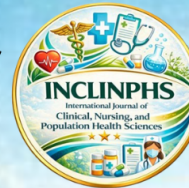
Correlations among Ambidextrous Leadership, Psychological Empowerment, and Innovative Work Behavior

Variable Pair	Test Used	r	p	Magnitude	95% CI	Decision
AL ↔ IWB	Pearson r	.523	< .001	Strong	[.430, .610]	Reject H ₀
AL ↔ PE	Pearson r	.523	< .001	Strong	[.430, .610]	Reject H ₀
PE ↔ IWB	Pearson r	.597	< .001	Strong	[.510, .670]	Reject H ₀

Note. N = 245. All tests two-tailed at $\alpha = .05$. Correlation magnitude based on Cohen (1988): Small = .10–.29, Medium = .30–.49, Large $\geq .50$.

*** $p < .001$.

Pearson r was used to determine the significant relationships among the three variables. Although the Shapiro-Wilk test for AL Overall was statistically significant ($W = 0.988, p = .036$), skewness (-0.246) and kurtosis (-0.409) remained within the acceptable thresholds of ± 2 and ± 7 respectively (Kim, 2013), and the large sample size ($N = 245$) supported the robustness of Pearson r to moderate departures from normality (Lumley et al., 2002). PE Overall ($W = 0.991, p = .156$) and IWB Overall ($W = 0.989, p = .062$) met the normality assumption.



All three bivariate correlations were statistically significant. Ambidextrous leadership and innovative work behavior were strongly and positively correlated ($r = .523, p < .001, 95\% \text{ CI } [.430, .610]$); the null hypothesis (H_{01}) was rejected. Ambidextrous leadership and psychological empowerment were also strongly and positively correlated ($r = .523, p < .001, 95\% \text{ CI } [.430, .610]$); the null hypothesis (H_{02}) was rejected. The identical coefficients for these two bivariate pairs ($r = .523$) were a coincidence of the data, not a computational error; the two correlations involve different variable pairs with distinct score distributions. The strongest bivariate relationship was between psychological empowerment and innovative work behavior ($r = .597, p < .001, 95\% \text{ CI } [.510, .670]$); the null hypothesis (H_{03}) was rejected. All three correlations reached the large magnitude threshold ($r \geq .50$) per Cohen's (1988) guidelines.

All three null hypotheses were rejected. The strong $AL \leftrightarrow IWB$ correlation ($r = .523, p < .001$) corroborated El-Sayed et al. (2025), who reported a comparable coefficient ($r = .483, p < .001$) among 360 Egyptian critical care nurses, and Ali Abd Elhamed and Badran (2024), who documented a similar association in a separate Egyptian sample.

The strongest bivariate relationship was $PE \leftrightarrow IWB$ ($r = .597$), exceeding $AL \leftrightarrow IWB$ ($r = .523$). This aligned with Knol and van Linge (2009), who established psychological empowerment as a predictor of innovative behavior among 519 registered nurses, and with Spreitzer's (1995) position that empowerment functions as a proximal motivational driver of proactive work outcomes. The pattern was theoretically coherent within the JD-R motivational pathway (Bakker & Demerouti, 2007) adopted in this study: the motivational state (PE) should correlate more strongly with the behavioral outcome (IWB) than the distal resource (AL) that activates it — providing preliminary support for the mediation tested in Research Question 8. In practical terms, however, the shared variance should temper the "Strong" label. Ambidextrous leadership accounted for approximately 27% of the variance in IWB ($r^2 = .27$), leaving 73% attributable to other factors — and even the stronger $PE \leftrightarrow IWB$ association explained roughly 36% ($r^2 = .36$). These figures reinforced the rationale for examining mediating mechanisms rather than relying on bivariate associations alone.

Table 6

Mediation Analysis: Ambidextrous Leadership → Psychological Empowerment → Innovative Work Behavior (Hayes' PROCESS Model 4)

Part A. Model Fit

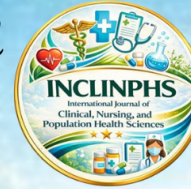
Model	R	R ²	Adj R ²	F	df ₁	df ₂	p
Total effect (c): AL → IWB	.523	.274	—	91.56	1	243	< .001
Path a: AL → PE	.523	.273	—	91.44	1	243	< .001
Paths b + c': AL + PE → IWB	.646	.417	.413	86.70	2	242	< .001

Part B. Path Coefficients

Path / Predictor	B	SE	β	t	p	95% CI
Total Effect Model (c)						
AL → IWB	0.469	0.049	.523	9.57	< .001	[0.373, 0.566]
Path a Model						
AL → PE	0.394	0.041	.523	9.56	< .001	[0.313, 0.475]
Direct Effect + Path b						
AL → IWB (c')	0.261	0.052	.291	5.05	< .001	[0.159, 0.362]
PE → IWB (b)	0.530	0.069	.445	7.73	< .001	[0.395, 0.665]

Note. N = 245. Bootstrap samples = 5,000. BC = bias-corrected. AL = ambidextrous leadership; PE = psychological empowerment; IWB = innovative work behavior. VIF = 1.38 (no multicollinearity). Durbin-Watson = 2.10 (no autocorrelation). Breusch-Pagan $p = .873$ (homoscedasticity met). Residual Shapiro-Wilk $W = 0.995, p = .544$ (residual normality met).

*** $p < .001$.

**Table 7***Indirect Effect and Effect Decomposition*

Effect	<i>B</i>	β	Boot <i>SE</i>	BC 95% CI	Significant?
Total effect (c)	0.469	.523	—	[0.373, 0.566]	Yes
Direct effect (c')	0.261	.291	—	[0.159, 0.362]	Yes
Indirect (a × b)	0.209	.233	0.035	[0.148, 0.284]	Yes (CI excludes zero)
Proportion mediated	.445	—	—	—	—

Note. N = 245. Bootstrap samples = 5,000; 95% bias-corrected confidence intervals. Mediation type: partial (both direct and indirect effects significant). Proportion mediated = indirect effect / total effect = 0.209 / 0.469 = .445 (44.5% of the total effect transmitted through psychological empowerment).

Hayes' PROCESS Model 4 with bootstrapping (5,000 resamples, 95% bias-corrected confidence intervals) was used to determine whether psychological empowerment significantly mediated the relationship between ambidextrous leadership and innovative work behavior. All regression assumptions were satisfied: multicollinearity was absent (VIF = 1.38, Tolerance = 0.727), residuals were normally distributed (Shapiro-Wilk $W = 0.995$, $p = .544$), homoscedasticity was met (Breusch-Pagan $p = .873$), and no autocorrelation was detected (Durbin-Watson = 2.10).

The total effect of ambidextrous leadership on innovative work behavior was significant ($B = 0.469$, $\beta = .523$, $t = 9.57$, $p < .001$, 95% CI [0.373, 0.566]), with ambidextrous leadership explaining 27.4% of the variance in innovative work behavior ($R^2 = .274$, $F(1, 243) = 91.56$, $p < .001$). In the path a model, ambidextrous leadership significantly predicted psychological empowerment ($B = 0.394$, $\beta = .523$, $t = 9.56$, $p < .001$, 95% CI [0.313, 0.475]), accounting for 27.3% of its variance ($R^2 = .273$, $F(1, 243) = 91.44$, $p < .001$).

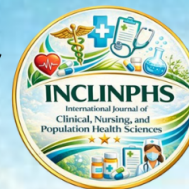
When both ambidextrous leadership and psychological empowerment were entered as predictors of innovative work behavior, the model explained 41.7% of the variance ($R^2 = .417$, Adjusted $R^2 = .413$, $F(2, 242) = 86.70$, $p < .001$). Psychological empowerment was a significant predictor of innovative work behavior ($B = 0.530$, $\beta = .445$, $t = 7.73$, $p < .001$, 95% CI [0.395, 0.665]). The direct effect of ambidextrous leadership on innovative work behavior remained significant but was reduced ($B = 0.261$, $\beta = .291$, $t = 5.05$, $p < .001$, 95% CI [0.159, 0.362]) compared to the total effect ($\beta = .523$ reduced to $\beta = .291$).

The indirect effect through psychological empowerment was statistically significant ($B = 0.209$, Boot $SE = 0.035$, 95% BC CI [0.148, 0.284]), as the bootstrap confidence interval excluded zero. Psychological empowerment accounted for 44.5% of the total effect of ambidextrous leadership on innovative work behavior (proportion mediated = .445). Because both the direct and indirect effects were significant, the mediation was classified as partial.

The null hypothesis was rejected: psychological empowerment significantly mediated the AL-IWB relationship ($B = 0.209$, 95% BC CI [0.148, 0.284]), accounting for 44.5% of the total effect. The partial mediation — with ambidextrous leadership retaining a significant direct effect ($\beta = .291$, $p < .001$) — indicated that the leadership–innovation association operated through both empowerment-mediated and non-empowerment channels.

This finding corroborated Bektaş et al. (2025), who reported psychological empowerment mediated transformational leadership's effect on IWB among 317 Turkish nurses (indirect $\beta = .291$), and El-boudy et al. (2025), who found full mediation for humble leadership–IWB via empowerment among 306 Egyptian nurses. The partial rather than full mediation in the present study suggested that the opening–closing behavioral repertoire (Rosing et al., 2011) retains direct pathways to innovation that other leadership styles may not. The finding also advanced Wang et al. (2022), who connected ambidextrous leadership to empowerment among Chinese employees but used a different leadership operationalization (servant–authoritarian) and a non-innovation outcome.

The remaining direct effect pointed to additional mediating pathways. Psychological safety (El-Gazar et al., 2024), nursing organizational culture (Zeng et al., 2025), and leader-member exchange (Zhou et al., 2026) have each been identified as mediators of ambidextrous leadership's effects on nurse outcomes and warrant simultaneous testing in future research. From the perspective of Laschinger et al.'s (2001) nursing empowerment model, the findings confirmed that ambidextrous leadership functions as a workplace condition that activates empowerment cognitions driving innovation — though it accounts for a substantial but not exhaustive portion of the leadership–innovation association. The practical implication is that promoting nurse innovation requires both developing ambidextrous leadership among nurse managers and strengthening the empowerment dimensions — particularly Self-Determination and Impact — that were rated lower (Research Question 3). This convergence was sharpened by the Research Question 4 finding that Idea Realization — the implementation stage of IWB — was the only dimension



rated "Moderate" ($M = 4.42$). The influence-oriented empowerment cognitions that scored lower (Self-Determination, $M = 5.03$; Impact, $M = 4.71$) are precisely those that would support implementation: translating ideas into practice changes requires perceived autonomy to act and perceived influence over departmental outcomes. Strengthening these dimensions may therefore have the most direct effect on the specific innovation stage where nurses in this sample were weakest.

For healthcare administrators, these findings suggest that promoting nurse innovation requires a dual strategy: investing in ambidextrous leadership development among nurse managers to activate the direct pathway, while simultaneously establishing structural empowerment mechanisms — participatory governance, unit-level committees, and delegated project authority — to strengthen the mediated pathway. Neither leadership development alone nor structural change alone would fully address the innovation implementation gap identified in this study.

From a workforce and health policy perspective, the findings are relevant to the broader challenge of nurse retention and workforce sustainability in the Philippines. Leadership and empowerment strategies that support nurses' professional engagement and innovation capacity may contribute to retaining skilled nurses who might otherwise seek employment abroad, where greater autonomy and perceived impact are often cited as pull factors (Rillo, 2025). At the healthcare systems level, strengthening innovation capacity among frontline nurses may enhance institutional responsiveness to increasing service demands and support broader health system sustainability goals, particularly in settings where workforce shortages limit the capacity for organizational adaptation.

This study was delimited to staff nurses in five private hospitals in San Fernando, Pampanga, limiting generalizability to public hospitals, other provinces, or different healthcare settings. The cross-sectional design precluded causal inferences among the variables. All data were self-reported, introducing possible common method variance and social desirability bias, particularly for leadership perceptions. The mediation model tested a single mediator; the significant remaining direct effect confirmed unmeasured pathways that the present design could not identify.

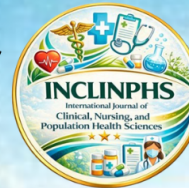
Conclusions

The study concluded that hospital nurses in San Fernando, Pampanga perceived a high level of ambidextrous leadership, with opening and closing behaviors occurring at near-parity, although error tolerance emerged as the least developed leadership indicator. Psychological empowerment was moderately high, with Meaning and Competence rated higher than Self-Determination and Impact. Innovative work behavior was also moderately high, but Idea Realization was the weakest innovation stage. Ambidextrous leadership, psychological empowerment, and innovative work behavior were all significantly and positively related. Psychological empowerment partially mediated the relationship between ambidextrous leadership and innovative work behavior, accounting for 44.5% of the total effect.

These findings indicate that nurse innovation is influenced through both empowerment-dependent and empowerment-independent pathways. The results contribute to nursing leadership and organizational behavior scholarship by providing evidence that ambidextrous leadership fosters innovative work behavior through enhanced psychological empowerment. For nursing practice, strengthening nurses' autonomy, participation in decision-making, and perceived impact within healthcare organizations may enhance innovation implementation. For clinical practice and healthcare delivery, greater nurse innovation may contribute to improved care processes, patient safety initiatives, and quality improvement efforts. At the healthcare systems level, leadership and empowerment strategies that support nurse retention, professional engagement, and innovation may help healthcare institutions respond more effectively to workforce shortages and increasing service demands. The findings also provide evidence that may inform leadership development initiatives and workforce policies aimed at strengthening innovation capacity within healthcare organizations.

Recommendations

Hospital administrators and nursing leaders should integrate ambidextrous leadership competencies into nurse manager development programs, with specific attention to cultivating error tolerance as a learning mechanism within patient safety boundaries. To strengthen the empowerment dimensions most closely linked to innovation implementation, hospitals may establish participatory decision-making structures, unit-level governance committees, and delegated project responsibilities that elevate nurses' perceived self-determination and departmental impact. Organizational support for innovation should extend beyond ideation through dedicated time, seed resources, and formal channels for piloting nurse-initiated innovations — directly addressing the structural barriers at the realization

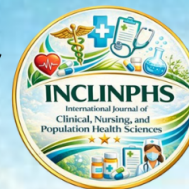


stage. Graduate and continuing education programs may complement these efforts by integrating innovation process training that covers promotional and implementation competencies, not only idea generation.

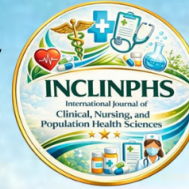
Future research should test multiple mediators simultaneously — psychological safety, organizational culture, and leader-member exchange alongside psychological empowerment — to clarify the relative contribution of each pathway. Replication with probability-based sampling across multiple provinces and hospital types would strengthen generalizability beyond the five private hospitals sampled. A longitudinal or quasi-experimental design would permit examination of whether leadership changes produce corresponding shifts in empowerment and innovation over time. Dimension-level mediation analysis testing whether specific empowerment dimensions mediate the relationship between specific leadership behaviors and specific innovation stages would yield more targeted evidence for intervention design.

REFERENCES

- Ali Abd Elhamed, R., & Badran, F. M. (2024). Ambidextrous leadership and its relation to innovative work behavior among staff nurses. *Egyptian Journal of Health Care*, 15(2), 1762–1772. <https://doi.org/10.21608/ejhc.2024.386367>
- Alibudbud, R. (2023). Addressing the burnout and shortage of nurses in the Philippines. *SAGE Open Nursing*, 9, 23779608231195737. <https://doi.org/10.1177/23779608231195737>
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328. <https://doi.org/10.1108/02683940710733115>
- Bektaş, G., Özcan Ünal, B., & Ünal, M. (2025). The effect of transformational leadership on nurses' innovative behaviors: The mediating effect of psychological empowerment. *BMC Nursing*, 24, 684. <https://doi.org/10.1186/s12912-025-03467-1>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- El-boudy, D. F., Nassar, R. A., & Bakeer, H. M. (2025). Mediating role of psychological empowerment in the relationship between humble leadership and nurses' innovative work behaviour. *Nursing Management*, 32(2). <https://doi.org/10.7748/nm.2025.e2139>
- El-Gazar, H. E., Baghdadi, N. A., Abdelaliem, S. M. F., & Zoromba, M. A. (2024). Sparking nurses' creativity: The roles of ambidextrous leadership and psychological safety. *BMC Nursing*, 23, 643. <https://doi.org/10.1186/s12912-024-02277-1>
- El-Sayed, A. A. I., Ghazy, D. F. H., Elbially, G. G., Awad, N. H. A., & Ashour, H. M. A. A. (2025). The impact of ambidextrous leadership on innovative work behavior among critical care nurses: A cross-sectional study. *BMC Nursing*, 25, 94. <https://doi.org/10.1186/s12912-025-04232-0>
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239. <https://doi.org/10.1111/j.1467-9280.2007.01882.x>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), 287–302. <https://doi.org/10.1348/096317900167038>
- Kanter, R. M. (1977). *Men and women of the corporation*. Basic Books.
- Kanter, R. M. (1988). When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 169–211). JAI Press.
- Kim, H.-Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, 38(1), 52–54. <https://doi.org/10.5395/rde.2013.38.1.52>
- Knol, J., & van Linge, R. (2009). Innovative behaviour: The effect of structural and psychological empowerment on nurses. *Journal of Advanced Nursing*, 65(2), 359–370. <https://doi.org/10.1111/j.1365-2648.2008.04876.x>



- Kousina, E., & Voudouris, I. (2023). The ambidextrous leadership–innovative work behavior relationship in the public sector: The mediating role of psychological ownership. *Public Administration Review*, 83(6), 1478–1495. <https://doi.org/10.1111/puar.13650>
- Kraimer, M. L., Seibert, S. E., & Liden, R. C. (1999). Psychological empowerment as a multidimensional construct: A test of construct validity. *Educational and Psychological Measurement*, 59(1), 127–142. <https://doi.org/10.1177/0013164499591009>
- Laschinger, H. K. S. (1996). A theoretical approach to studying work empowerment in nursing: A review of studies testing Kanter's theory of structural power in organizations. *Nursing Administration Quarterly*, 20(2), 25–41. <https://doi.org/10.1097/00006216-199602020-00006>
- Laschinger, H. K. S., Finegan, J., Shamian, J., & Wilk, P. (2001). Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's model. *The Journal of Nursing Administration*, 31(5), 260–272. <https://doi.org/10.1097/00005110-200105000-00006>
- Laschinger, H. K. S., Sabiston, J. A., & Kutzcher, L. (1997). Empowerment and staff nurse decision involvement in nursing work environments: Testing Kanter's theory of structural power in organizations. *Research in Nursing & Health*, 20(4), 341–352. [https://doi.org/10.1002/\(SICI\)1098-240X\(199708\)20:4<341::AID-NUR7>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1098-240X(199708)20:4<341::AID-NUR7>3.0.CO;2-G)
- Lumley, T., Diehr, P., Emerson, S., & Chen, L. (2002). The importance of the normality assumption in large public health data sets. *Annual Review of Public Health*, 23, 151–169. <https://doi.org/10.1146/annurev.publhealth.23.100901.140546>
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71–87. <https://doi.org/10.1287/orsc.2.1.71>
- National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research*. U.S. Department of Health and Human Services. <https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>
- National Council of State Boards of Nursing. (2025). *2024 NCLEX examination statistics* (Research Brief Vol. 94). NCSBN. https://www.ncsbn.org/public-files/2024_NCLEXExamStats_Final.pdf
- Philippine Health Research Ethics Board. (2017). *National ethical guidelines for health and health-related research*. Department of Science and Technology.
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Rillo, M. (2025, January 2). PH faces shortage of nurses, solon warns. *Manila Standard*. <https://manilastandard.net/news/314542714/ph-faces-shortage-of-nurses-solon-warns.html>
- Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, 22(5), 956–974. <https://doi.org/10.1016/j.leaqua.2011.07.014>
- Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442–1465. <https://doi.org/10.5465/256865>
- Tao, J., Liu, Y., & Su, D. (2025). The effect of ambidextrous leadership on knowledge sharing behavior among nurse specialists: A chain mediation role of perceived organizational support and organizational commitment. *BMC Nursing*, 24(1), 181. <https://doi.org/10.1186/s12912-025-02808-4>
- Wang, L., Sun, Y., Li, J., Xu, Y., Chen, M., Zhu, X., & Wang, D. (2022). Effects of ambidextrous leadership on employees' work behavior: The mediating role of psychological empowerment. *Frontiers in Psychology*, 13, 862799. <https://doi.org/10.3389/fpsyg.2022.862799>
- World Health Organization. (2025). *State of the world's nursing 2025: Investing in education, jobs, leadership and service delivery*. WHO. <https://www.who.int/publications/i/item/9789240110236>
- World Medical Association. (2013). Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191–2194. <https://doi.org/10.1001/jama.2013.281053>
- Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal*, 36(1), 54–68. <https://doi.org/10.1108/LODJ-11-2012-0141>



- Zeng, H., Zhang, H., Zhang, Y., & Chen, J. (2025). Mediating effect of nursing organizational culture on the relationship between ambidextrous leadership and staff nurse clinical leadership. *Journal of Nursing Management*, 2025, 6625892. <https://doi.org/10.1155/jonm/6625892>
- Zhou, X., Yu, Y., & Yan, X. (2026). Assessing the impact of ambidextrous leadership on nurses' presenteeism: A latent profile and mediation analysis study. *Journal of Nursing Management*, 2026, 6624868. <https://doi.org/10.1155/jonm/6624868>