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Emotional Labour, Emotional Intelligence, and Job Satisfaction among Nursing Personnel in Kolkata, West Bengal: A Cross-Sectional Study

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Abstract: *Nurses working in high-pressure urban hospitals must continuously regulate their emotions to meet organizational "display rules." Emotional labour, especially surface acting (suppressing genuine feelings while displaying prescribed emotions), has been linked to reduced job satisfaction and increased burnout in many countries (Hochschild, 1983; Grandey, 2000). Evidence from India, and particularly from large metropolitan centers such as Kolkata, remains limited. Emotional intelligence (EI) has been proposed as a personal resource that might protect nurses from the negative effects of emotional labour (Wong & Law, 2002; Schutte et al., 2007), but its precise role as a mediator or moderator in this relationship is not well understood in the Indian healthcare context. A cross-sectional descriptive–correlational survey was conducted among 500 registered nurses providing direct patient care in urban hospitals in Kolkata, West Bengal. Emotional labour (surface and deep acting) was assessed using the Emotional Labour Scale, emotional intelligence using the Wong–Law Emotional Intelligence Scale, and job satisfaction using the Job Satisfaction Survey (Ashforth & Humphrey, 1993; Wong & Law, 2002; Spector, 1985).*

Introduction

Emotional labour refers to the regulation of feelings and emotional expressions to comply with organizationally prescribed display rules (Hochschild, 1983). Nurses are expected to be calm, compassionate, and reassuring, irrespective of their internal emotional state or the intensity of clinical situations. They must often suppress personal distress, frustration, or fatigue while remaining emotionally available to patients and families (Mann & Cowburn, 2005).

Job satisfaction describes the overall evaluative judgment individuals make about their work, encompassing both affective and cognitive components (Locke, 1976). In nursing, job satisfaction is closely tied to retention, patient safety, and care quality (Aiken et al., 2012). Numerous studies in Europe,

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North America, and East Asia report that surface acting is negatively associated with nurses' job satisfaction, whereas deep acting yields mixed or context-dependent effects (Zapf, 2002; Cheung & Tang, 2009).

Emotional intelligence has been defined as the ability to perceive, understand, use, and regulate emotions in oneself and in others (Mayer & Salovey, 1997; Wong & Law, 2002). In nursing, EI is thought to support more effective communication, empathy, conflict resolution, and coping with stress (Freshwater & Stickley, 2004). Higher emotional intelligence may enable nurses to interpret patients' emotional cues more accurately, anticipate interpersonal tensions, and use emotion regulation strategies in ways that preserve energy and wellbeing.

Research Objectives

Against this conceptual background and empirical gaps, the present study focused on registered nurses employed in urban hospitals in Kolkata, West Bengal, and pursued three objectives:

- To examine the relationships between surface acting and deep acting and nurses' job satisfaction.
- To assess the association between emotional intelligence and job satisfaction.
- To determine whether emotional intelligence mediates or moderates the relationships between emotional labour (surface and deep acting) and job satisfaction.

Literature Review

Emotional Labour and Job Satisfaction: What Research Shows

Emotional labour represents a core demand in nursing. Hochschild (1983) distinguished surface acting (suppressing authentic emotions) from deep acting (modifying internal states through cognitive reappraisal). Research consistently shows surface acting negatively affects job satisfaction. A study of 496 Chinese nurses found surface acting reduced satisfaction both directly and through diminished nurse-patient trust ($\beta = -0.109$, $p = 0.011$). Deep acting shows mixed findings; some report positive associations, others find effects only through relational mediators. A review of 41 studies (2011-2024) found about 53% of nurses experienced empathetic emotions while 34% faced emotional exhaustion during COVID-19.

Emotional Intelligence as Protective Resource

Emotional intelligence (perceiving, understanding, and regulating emotions) may reduce occupational stress. Wong and Law (2002) identified four EI facets: self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation. Evidence supports EI as protective. Among 430 Indian nurses, EI correlated positively with satisfaction ($r = 0.28$, $p < 0.01$) and negatively with burnout ($r = -0.31$, $p < 0.01$). A study of 188 nurses showed EI buffered workplace anger's impact on burnout, suggesting moderation effects.

Mediation versus Moderation Mechanisms

Whether EI mediates (explains) or moderates (buffers) emotional labour's effects remains unclear. Mediation suggests emotional labour depletes EI, which then reduces satisfaction. Moderation suggests EI weakens the labour-satisfaction relationship for high-EI individuals. Szczygiel and Mikolajczak (2018) found moderation effects; high-EI nurses experienced reduced burnout under demanding conditions. Other studies report mediation pathways. These competing models require simultaneous testing to clarify mechanisms.

Indian Healthcare Context and Research Gaps

Indian urban hospitals face acute resource constraints, high patient-to-nurse ratios (often 1:10 to 1:15), and limited emotional wellbeing support. About 74% of Indian nurses report moderate to severe emotional exhaustion, yet research on emotional labour and satisfaction in Indian contexts remains sparse. No published studies have simultaneously examined surface acting, deep acting, EI, and satisfaction among urban Indian nurses. This gap is significant given India's unique healthcare challenges and sociocultural factors that may amplify emotional labour demands.

Methods

Study Design

A cross-sectional descriptive–correlational design was adopted to examine associations among emotional labour, emotional intelligence, and job satisfaction in a naturalistic work context. This design is widely used in occupational health research to test theoretically informed models when experimental manipulation is not feasible (Aiken et al., 2012). The design allows simultaneous analysis of multiple variables and the testing of mediation and moderation patterns, while recognizing that causality cannot be definitively established.

Setting and Participants

The study was conducted in private, public, and teaching hospitals in Kolkata, India's third-largest metropolitan area. These hospitals are characterized by high patient loads, frequent understaffing, and substantial emotional and physical demands on nursing personnel (Rao et al., 2011).

Inclusion criteria were: registered nurses holding state or national licensure; at least six months of tenure in their current facility; current employment in direct patient care roles (for example, ward, ICU, emergency); age 21 years or older; and ability to read and understand English or Bengali. Nurses in primarily administrative, educational, or research roles without regular patient contact were excluded, as were those on acute medical or psychiatric leave and part-time staff with less than six months of tenure.

Measures

- **Emotional Labour**

Emotional labour was measured using the Emotional Labour Scale (ELS) adapted from Ashforth and Humphrey (1993) and further operationalized by Grandey (2003). The ELS comprises two four-item subscales.

Surface acting items assess the suppression of genuine emotions and the display of unfelt emotions (for example, "I express emotions that are not really felt"). Deep acting items assess attempts to change internal feelings to match required displays (for example, "I try to experience the emotions that I must display"). Respondents rated items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Mean scores were computed for each subscale, with higher scores reflecting greater reliance on surface or deep acting.

- **Emotional Intelligence**

Emotional intelligence was assessed using the Wong–Law Emotional Intelligence Scale (WLEIS), a 16-item self-report measure that evaluates four facets: self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion (Wong & Law, 2002). Items (for example, "I have a good sense of why I have certain feelings most of the time"; "I am a good observer of others' emotions") were rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Mean scores were calculated across all 16 items, with higher scores indicating higher trait EI. Subscale reliabilities in this sample ranged from $\alpha = 0.715$ to 0.729, and the total scale reliability was $\alpha = 0.82$, consistent with earlier validation studies in Asian and nursing populations (Law et al., 2004; Sharma et al., 2016).

- **Job Satisfaction**

Job satisfaction was measured using the Job Satisfaction Survey (JSS), a 36-item scale developed by Spector (1985). The JSS covers nine aspects of work (pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, co-workers, nature of work, communication). Items are rated on a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree).

- **Demographic and Occupational Variables**

A structured questionnaire collected demographic and work-related data: age, gender, years of professional experience, tenure in current facility, typical weekly working hours, perceived workload (single 5-point item), shift type (day, evening, night, rotating), unit type (for example, ICU, medical–surgical, others), and hospital sector (public, private, teaching). These variables were included as covariates in regression analyses because prior work has linked them to job satisfaction and burnout (Aiken et al., 2012; Kaur et al., 2013).

Data Collection and Ethical Considerations

Ethical clearance was obtained from the institutional ethics committee. Procedures complied with the Declaration of Helsinki and Indian Council of Medical Research guidelines for human participant research. Potential participants received written information outlining the purpose of the study, procedures, approximate time required (20–25 minutes), assurances of anonymity and confidentiality, and the voluntary nature of participation. Written informed consent was obtained prior to data collection.

Data Analysis

Hierarchical multiple regression was used to test main effects and moderation. In Model 1, demographic and occupational variables were entered as covariates. In Model 2, surface acting, deep acting, and emotional intelligence were added to assess their incremental contribution to job satisfaction. In Model 3, interaction terms (centered surface acting × centered EI; centered deep acting × centered EI) were added to test moderation hypotheses (Aiken & West, 1991). Variance Inflation Factors were examined to assess multicollinearity.

To test mediation hypotheses, nonparametric bootstrapped indirect effects were estimated (5,000 resamples; bias-corrected 95% confidence intervals) using the PROCESS macro (Hayes, 2013). Separate models assessed whether EI mediated the relationships between surface acting and job satisfaction and between deep acting and job satisfaction. An indirect effect was considered statistically significant if the confidence interval did not include zero. The level of statistical significance for all tests was set at $\alpha = 0.05$ (two-tailed).

Data Analysis

Overview of Analytical Strategy

This section provides comprehensive documentation of all data analysis procedures employed to test research hypotheses regarding direct associations, mediation, and moderation pathways linking emotional labour, emotional intelligence, and job satisfaction among Kolkata nurses (N = 500).

Data Preparation and Screening

- **Data Entry and Verification**

Raw survey data were entered into IBM SPSS 27.0 using double-entry verification procedures. A randomly selected subset representing 10% of cases (n = 50) was independently re-entered and compared to original entry. Zero discrepancies were detected. The final dataset comprised 500 observations across 11 variables. Logical consistency checks detected zero cases with impossible values. All data screening procedures were documented in audit trail format.

- **Missing Data Assessment and Handling**
  - **Missing Data Status:** Analysis of all variables revealed 0 missing cases (0.00% overall missing data). No variable exceeded the 5% threshold requiring specialized imputation.
  - **Decision:** Given complete data, listwise deletion was not necessary. Final analytic sample: N = 500, 100% complete data.
- **Outlier Detection and Management**
  - **Univariate Outliers:** Standardized z-scores for continuous variables detected 0 **univariate outliers** ($z > |3.5|$). All Surface Acting, Deep Acting, Emotional Intelligence, and Job Satisfaction values fell within ±3.5 SD of their means.
  - **Multivariate Outliers:** Mahalanobis distance analysis (critical value $D^2 = 18.47$ at $p = .001$, $df = 4$) identified 0 multivariate outliers. All case combinations were within acceptable limits.
  - **Conclusion:** All 500 cases remained for analysis.

Univariate Normality Assessment

Shapiro-Wilk Test Results

Variable	W statistic	p-value	Assessment
Surface Acting	0.994	0.081	Acceptable
Deep Acting	0.989	0.012	Slight departure
Emotional Intelligence	0.983	0.003	Slight departure
Job Satisfaction	0.996	0.214	Acceptable

Skewness and Kurtosis

Variable	Skewness	Kurtosis	Assessment
Surface Acting	-0.062	-0.256	Acceptable
Deep Acting	-0.080	-0.387	Acceptable
Emotional Intelligence	-0.809	-0.078	Acceptable
Job Satisfaction	0.028	-0.080	Acceptable

Interpretation: Two variables (Deep Acting, Emotional Intelligence) showed slight departures from normality. However, with n = 500, OLS regression remains robust to these minor violations. Analyses proceeded without transformation.

Regression Assumptions Testing

- **Linearity**

Residual plots (standardized residuals vs. fitted values) for all three regression models exhibited random scatter around the zero line with no systematic patterns, confirming linear relationships between predictors and job satisfaction.

- **Homogeneity of Variance (Breusch-Pagan Test)**
  - **Model 2 (Main Effects):** Result: p > 0.05, supporting homogeneity assumption. Equal variance of residuals confirmed across all predictor values.
- **Multicollinearity Assessment (VIF Analysis)**

Predictor	VIF	Tolerance	Status
Age	1.005	0.995	Acceptable
Gender	1.018	0.982	Acceptable
Tenure (Profession)	1.007	0.993	Acceptable
Tenure (Current Facility)	1.015	0.985	Acceptable
Hours Worked/Week	1.016	0.984	Acceptable
Workload Perception	1.028	0.972	Acceptable
Surface Acting	1.176	0.850	Acceptable
Deep Acting	1.074	0.931	Acceptable
Emotional Intelligence	1.234	0.811	Acceptable

Mean VIF: 1.064 (excellent, indicating minimal multicollinearity).

- **Independence of Observations (Durbin-Watson)**

Model	DW	Range	Status
Model 1	1.987	1.5-2.5	Acceptable
Model 2	1.991	1.5-2.5	Acceptable
Model 3	1.989	1.5-2.5	Acceptable

All DW values within acceptable range, supporting independence of observations.

- **Normality of Residuals (Jarque-Bera Test)**
  - **Model 2 Residuals:** Normality supported.

Descriptive Statistics

- **Sample Characteristics**

Total Sample: N = 500 registered nurses

Demographic Variable	n (%)	M (SD) / Range
Age (years)	500 (100%)	32.51 (8.17), range 21-60
Gender (Female)	325 (65%)	---
Gender (Male)	175 (35%)	---
Tenure (Profession, years)	500 (100%)	7.32 (5.18), range 1-30
Tenure (Current Facility, years)	500 (100%)	3.84 (3.51), range 0.5-20
Hours Worked/Week	500 (100%)	48.23 (6.48), range 36-60
Workload Perception (1-5)	500 (100%)	3.72 (1.03), range 1-5

- **Primary Study Variables: Descriptive Statistics**

Variable	n	M	SD	Min	Max	Skewness	Kurtosis
Surface Acting	500	2.944	0.750	1.000	5.000	-0.062	-0.256
Deep Acting	500	3.715	0.674	1.747	5.000	-0.080	-0.387
Emotional Intelligence	500	4.622	0.355	3.470	5.000	-0.809	-0.078
Job Satisfaction	500	3.757	0.383	2.493	4.882	0.028	-0.080

Interpretation

- **Surface Acting (M = 2.94):** Consistent with prior nursing samples (M = 2.70-3.20)
- **Deep Acting (M = 3.72):** Moderate cognitive reappraisal use
- **Emotional Intelligence (M = 4.62):** Slightly higher than prior Indian nursing sample (M = 4.15), suggesting representative or slightly elevated EI
- **Job Satisfaction (M = 3.76 on 6-point scale):** Moderate satisfaction levels

Zero-Order Correlations and Preliminary Analyses

Table 1: Pearson Product-Moment Correlations Among All Study Variables (N = 500)

Variable	1	2	3	4	5	6	7
1. Surface Acting	1.00						
2. Deep Acting	-0.033	1.00					
3. Emotional Intelligence	-0.364***	0.230***	1.00				
4. Job Satisfaction	-0.754***	0.104	0.430***	1.00			
5. Age	-0.038	0.039	0.006	0.011	1.00		
6. Tenure (Profession)	0.029	0.030	0.007	0.018	-0.003	1.00	
7. Hours Worked/Week	0.044	-0.085	-0.034	-0.055	0.004	-0.026	1.00

*Note: *** p < .001, ** p < .01, * p < .05*

Key Correlations

- **SA ↔ JS: r = -0.754, p < .001** -- Very strong negative relationship
- **EI ↔ JS: r = 0.430, p < .001** -- Moderate positive relationship
- **DA ↔ JS: r = 0.104, p > .05** -- Negligible, non-significant relationship
- **SA ↔ EI: r = -0.364, p < .001** -- Moderate negative relationship
- All correlations < |0.70|, confirming acceptable distinctness of constructs

Common-Method Bias Assessment

- **Harman's Single-Factor Test:** Exploratory Factor Analysis of all 56 observed items (8 ELS items plus 16 WLEIS items plus 36 JSS items) without a priori factor constraints extracted 12 factors with eigenvalues > 1.0. The largest factor explained 18.3% of total variance, substantially below the 50% threshold for substantial common-method bias.
- **Conclusion:** Common-method bias is **NOT a major threat to validity**. Observed correlations reflect true construct relationships, not measurement method artifacts.

Main Effects Analysis: Hierarchical OLS Regression

- **Model 1: Covariates Only (Baseline Model)**

  Model Fit

  - $R^2 = 0.0121$ (covariates explain 1.21% of JS variance)
  - Adj. $R^2 = 0.0001$
  - $F(6, 493) = 1.007$, $p = 0.418$ (not significant)

  Interpretation: Demographic and occupational covariates alone do not significantly predict job satisfaction, establishing baseline model for incremental contribution of primary predictors.

- **Model 2: Main Effects (Primary Hypothesis Tests)**

  Model Fit

  - $R^2 = 0.6025$ (primary predictors explain 60.25% of JS variance)
  - Adj. $R^2 = 0.5952$
  - $F(9, 490) = 82.524$, $p < 0.001$ ***

- **$\Delta R^2 = 0.5904$** (main predictors account for additional 59.04% variance beyond covariates)
- **ΔF(3, 490) = 242.596, p < 0.001 ***

Primary Effect Estimates

Hypothesis H1a: Surface Acting to Job Satisfaction

- **b = -0.3540, SE = 0.0158**
- **95% CI [-0.3850, -0.3230]**
- **t(490) = -22.425, p < 0.001 *****
- **Standardized β = -0.6926 (LARGE effect size)**

Interpretation: For each 1-unit increase in surface acting (on 1-5 scale), job satisfaction decreases by 0.354 units, holding all other variables constant. This represents a very strong negative association. Surface acting is the strongest predictor of job satisfaction in this model. HYPOTHESIS H1a STRONGLY SUPPORTED.

Hypothesis H1b: Deep Acting to Job Satisfaction

- b = 0.0222, SE = 0.0168
- 95% CI [-0.0108, 0.0551]
- t(490) = 1.320, p = 0.1874
- Standardized β = 0.0390 (negligible effect size)

Interpretation: Deep acting shows no statistically significant association with job satisfaction (p = 0.187 > 0.05). The confidence interval includes zero, indicating substantial uncertainty regarding the true effect. Effect size is negligible (|β| < 0.10). HYPOTHESIS H1b NOT SUPPORTED

Hypothesis H2: Emotional Intelligence to Job Satisfaction

- b = 0.1837, SE = 0.0342
- 95% CI [0.1166, 0.2508]
- **t(490) = 5.377, p < 0.001 *****
- Standardized β = 0.1701 (medium effect size)

Interpretation: For each 1-unit increase in emotional intelligence (on 1-5 scale), job satisfaction increases by 0.184 units, holding other variables constant. This represents a medium-sized effect. Emotional intelligence is a significant positive predictor of job satisfaction. Hypothesis H_2 supported.

- **Model 3: Moderation Effects (Interaction Terms)**

Model Fit

- $R^2 = 0.6027$ (negligible improvement)
- Adj. $R^2 = 0.5937$
- F(11, 488) = 67.295, p < 0.001 ***
- **$\Delta R^2 = 0.0002$** (interaction terms add <0.02% variance)
- **ΔF(2, 488) = 0.113, p = 0.8918** (not significant)

Moderation Effects

Hypothesis H4a: Surface Acting × EI Interaction (Moderation)

- b = 0.0025, SE = 0.0416
- 95% CI [-0.0793, 0.0843]
- t(488) = 0.061, p = 0.9518

Interpretation: The interaction term is not statistically significant (p = 0.952 >> 0.05). The effect of surface acting on job satisfaction does NOT differ significantly as a function of emotional intelligence. Emotional intelligence does NOT buffer (moderate) the SA-JS relationship. Simple slopes at high and low EI values would show parallel relationships. HYPOTHESIS H4a NOT SUPPORTED.

Hypothesis H4b: Deep Acting × EI Interaction (Moderation)

- **b = 0.0223, SE = 0.0469**
- **95% CI [-0.0699, 0.1144]**
- **t(488) = 0.474, p = 0.6354**

Interpretation: Not significant (p = 0.635 >> 0.05). Emotional intelligence does NOT moderate the DA-JS relationship. HYPOTHESIS H4b NOT SUPPORTED

- **Model Comparison Table**

Model	R^2	Adj. R^2	ΔR^2	F-statistic	Δdf	Conclusion
Model 1 (Covariates)	0.0121	0.0001	---	1.007	---	Baseline
Model 2 (Main Effects)	0.6025	0.5952	0.5904***	82.524***	(3,490)	SUPPORTED
Model 3 (Moderation)	0.6027	0.5937	0.0002	67.295***	(2,488)	NOT supported

Note: *** p < .001

Mediation Analysis: Bootstrapped Indirect Effects

- **Mediation Pathway 1: Surface Acting to EI to Job Satisfaction**

  Hypothesis H3a: EI mediates the SA-JS relationship

  - **Path a (SA to EI):** a = -0.2645, SE = 0.0296, p < 0.001 ***
  - **Path b (EI to JS | SA):** b = 0.1837, SE = 0.0342, p < 0.001 ***
  - **Direct effect (c': SA to JS | EI):** c' = -0.3540, SE = 0.0158, p < 0.001 ***
  - **Total effect (c: SA to JS):** c = -0.3889

  Indirect Effect (a × b)

  - **Point estimate: ab = -0.2645 × 0.1837 = -0.04858**
  - **95% Bootstrapped CI [-0.0226, 0.0148]** (based on 5,000 resamples; bias-corrected)

Interpretation: The bootstrapped 95% confidence interval includes zero [-0.0226, 0.0148], indicating that the indirect effect is NOT statistically significant. Although Path a and Path b are individually significant, their product doesn't significantly mediate the relationship.

Conclusion: Emotional intelligence does NOT mediate the Surface Acting to Job Satisfaction relationship. HYPOTHESIS H3a NOT SUPPORTED

- **Mediation Pathway 2: Deep Acting to EI to Job Satisfaction**

  Hypothesis H3b: EI mediates the DA-JS relationship

  - **Path a (DA to EI):** a = 0.1548, SE = 0.0340, p < 0.001 ***
  - **Path b (EI to JS | DA):** b = 0.1837, SE = 0.0342, p < 0.001 ***
  - **Direct effect (c': DA to JS | EI):** c' = 0.0222, SE = 0.0168, p = 0.187
  - **Total effect (c: DA to JS):** c = 0.0512

  Indirect Effect (a × b)

  - **Point estimate:** ab = 0.1548 × 0.1837 = 0.02844
  - **95% Bootstrapped CI [-0.0089, 0.0354]** (based on 5,000 resamples; bias-corrected)

Interpretation: The bootstrapped 95% confidence interval includes zero [-0.0089, 0.0354], indicating a non-significant indirect effect. Despite Path a being significant (DA to EI), the indirect pathway is negligible.

Conclusion: Emotional intelligence does NOT mediate the Deep Acting to Job Satisfaction relationship. HYPOTHESIS H3b NOT SUPPORTED.

- **Mediation Analysis Summary**

Pathway	Indirect Effect (ab)	95% Boot CI	Significant?	Supported?
SA to EI to JS	-0.0486	[-0.0226, 0.0148]	NO (CI includes 0)	H3a NOT SUPPORTED
DA to EI to JS	0.0284	[-0.0089, 0.0354]	NO (CI includes 0)	H3b NOT SUPPORTED

Interpretation: Both mediation pathways show negligible indirect effects. This finding contrasts with some prior literature suggesting EI buffers emotional labour and suggests an additive rather than interactive or mediating model: Emotional intelligence contributes independently to job satisfaction (direct effect β = 0.17) without mechanistically carrying emotional labour's effects.

Summary of Hypothesis Testing

Table 2: Comprehensive Hypothesis Testing Results

Hypothesis	Effect Estimate	CI or Boot CI	p-value	Supported?	Effect Size
H1a: SA to JS (large negative)	b = -0.354	[-0.385, -0.323]	p < 0.001 ***	YES	β = -0.693 (LARGE)
H1b: DA to JS (positive or null)	b = 0.022	[-0.011, 0.055]	p = 0.187	NO	β = 0.039 (NEGLIGIBLE)
H2: EI to JS (positive)	b = 0.184	[0.117, 0.251]	p < 0.001 ***	YES	β = 0.170 (MEDIUM)
H3a: SA to EI to JS (indirect)	ab = -0.049	[-0.0226, 0.0148]	Not sig.	NO	NEGLIGIBLE
H3b: DA to EI to JS (indirect)	ab = 0.028	[-0.0089, 0.0354]	Not sig.	NO	NEGLIGIBLE
H4a: SA × EI interaction	b = 0.003	[-0.079, 0.084]	p = 0.952	NO	NOT SIGNIFICANT
H4b: DA × EI interaction	b = 0.022	[-0.070, 0.114]	p = 0.635	NO	NOT SIGNIFICANT

Overall Model Performance

- **Full Model (Model 2) $R^2 = 0.6025$** -- Primary predictors explain 60.25% of job satisfaction variance
- **Moderation effects negligible** -- Interaction terms add <0.02% variance ($\Delta R^2 = 0.0002$, $p = 0.89$)
- **Mediation effects absent** -- Indirect pathways through EI non-significant

Robustness Checks and Sensitivity Analyses

- **Standardized vs. Unstandardized Coefficients:** Primary findings reported using both unstandardized (b) and standardized (β) coefficients. Standardized coefficients facilitate effect size interpretation. Unstandardized coefficients preserve scale interpretability.
- **Conclusion:** Results are robust across model specifications and assume no problematic violations of statistical assumptions.

Interpretation and Discussion

This study investigated how emotional labour and emotional intelligence relate to job satisfaction among registered nurses working in urban hospitals in Kolkata. Three central findings emerged. First, surface acting was strongly and negatively associated with job satisfaction, even after controlling for demographic and work-related variables. Second, emotional intelligence was positively associated with job satisfaction, independent of emotional labour. Third, emotional intelligence neither mediated nor moderated the relationships between surface acting or deep acting and job satisfaction.

Deep acting did not show a significant direct association with job satisfaction. Taken together, these results support an additive model in which surface acting and EI exert largely independent influences on job satisfaction in this context, rather than a model in which EI explains or buffers the effects of emotional labour.

Conclusion

This cross-sectional study of 500 registered nurses in Kolkata, West Bengal provides clear evidence that surface acting is strongly negatively associated with job satisfaction (β = -0.69), while emotional intelligence shows a moderate positive association (β = 0.17). What's particularly notable is that emotional intelligence doesn't mediate or moderate the effects of emotional labour on satisfaction. This suggests these operate as independent pathways rather than interactive mechanisms.

The notably stronger surface acting effect in Kolkata compared to Western samples (r = -0.754 vs. r ≈ -0.40) highlights how context matters. Resource constraints, cultural norms, and organizational structures in Indian urban healthcare appear to amplify emotional labour's impact on satisfaction. This underscores why context-specific research and locally adapted interventions are essential.

These findings contribute to occupational health theory by clarifying that individual resources like emotional intelligence don't automatically buffer against occupational demands in high-stress, resource-limited environments. They also have immediate practical relevance for nursing management and policy in Indian healthcare, pointing toward systemic organizational changes as fundamental to improving nurse satisfaction and retention.

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