EXPLORATORY FACTOR ANALYSIS OF JOB SATISFACTION DIMENSIONS AMONG HEALTHCARE WORKERS IN THE UNITED STATES

1. Background and Problem Statement

Healthcare institutions in the U.S. have been increasingly concerned with job satisfaction among medical staff due to its direct link to retention, performance, and patient care quality. While individual survey items help gauge satisfaction, they often fail to provide a structured understanding of the underlying dimensions contributing to satisfaction or dissatisfaction. This project aims to uncover latent constructs behind employee satisfaction using Exploratory Factor Analysis (EFA) on a 25-item job satisfaction scale administered to nurses and medical assistants.

2. Objectives

- Identify underlying latent factors influencing job satisfaction among U.S. healthcare workers.
- Reduce dimensionality from 25 Likert-scale items to fewer interpretable constructs.
- Interpret extracted factors to inform HR interventions in hospitals.
- Assess factor reliability and sampling adequacy using statistical diagnostics in SPSS.

3. Methodology

3.1 Data Collection

- **Respondents**: 600 healthcare professionals (nurses, nursing assistants, technicians)
- **Location**: 10 public and private hospitals across 4 U.S. states
- **Instrument**: 25-item Likert scale (1 = Strongly Disagree to 5 = Strongly Agree)
- **Domains Covered**: Work environment, supervisor support, recognition, autonomy, inter-team communication, stress

3.2 Analysis Steps in SPSS

- **Data Preparation**: Reverse-coded negatively phrased items, checked for missing values and outliers
- **Sampling Adequacy Tests**:

- *Kaiser-Meyer-Olkin (KMO)* = 0.882
- *Bartlett's Test of Sphericity*: $\chi^2 = 4825.44$, $p < 0.001$

- **Extraction Method**: Principal Axis Factoring (PAF)
- **Rotation**: Varimax (orthogonal)
- **Factor Retention Criteria**:
  - Eigenvalue > 1
  - Scree plot elbow
  - Minimum of 0.4 loading threshold
  - Minimum 3 items per factor retained

4. Results

4.1 Factor Structure

- **Factor 1: Recognition & Career Growth** (7 items, α = 0.84)
  - Includes items on promotion, skill recognition, and rewards.
- **Factor 2: Supervisor & Peer Support** (6 items, α = 0.79)
  - Items related to feedback, communication, support from supervisors and coworkers.
- **Factor 3: Autonomy & Control** (5 items, α = 0.76)
  - Emphasizes freedom to make decisions and flexibility in daily tasks.
- **Factor 4: Work Stress & Overload** (4 items, α = 0.71)
  - Captures long working hours, high pressure, and burnout symptoms.
- **Factor 5: Patient Interaction Quality** (3 items, α = 0.67)
  - Focuses on satisfaction with patient relationships and feedback.

4.2 Cumulative Variance

Explained: 69.3%

5. Interpretation and Insights

- Recognition and supervisor support are the dominant satisfaction drivers, especially in hospitals with formal performance evaluation systems.
- Stress-related items loaded as a separate factor, indicating that burnout is an independent construct and not just the inverse of satisfaction.
- Autonomy correlated moderately with satisfaction but showed weaker associations in high-regulation environments (e.g., ICU).
- Peer support and quality patient interaction are essential motivators, especially in units with high interpersonal demands (e.g., oncology wards).

6. Recommendations

- Introduce regular recognition programs tied to team-based performance metrics.
- Implement structured mentorship programs to reinforce supervisor support.
- Review shift scheduling to reduce overload factors and provide stress coping resources.
- Provide soft-skills training to enhance interpersonal satisfaction in patient-heavy units.
- Use factor structure to revise internal satisfaction assessments to reduce redundancy.

7. Deliverables

- Cleaned and labeled SPSS .sav file
- Full EFA output with KMO, Scree Plot, Rotated Component Matrix
- Report in APA style (20 pages) with sections on methodology, results, and implications
- PowerPoint slide deck (10 slides) for HR/stakeholder presentation
- Optional Excel sheet with final factor scores for each respondent

8. Stakeholder Relevance

Academic

- Useful for demonstrating practical use of EFA in organizational psychology, HR analytics, or nursing research
- Suitable as a case example in psychometrics or scale construction coursework

Corporate / Healthcare HR

- Helps identify root causes of staff dissatisfaction
- Can inform structural HR policies around rewards, rotations, and supervisor training
- Facilitates targeted retention efforts by linking satisfaction with actionable domains