

## Impact of Motivators and Hygiene Factors on Job Satisfaction: Mediating Role of Work Engagement

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### Abstract

This study investigates the impact of motivators and hygiene factors on job satisfaction among pharmaceutical sales representatives (PSRs) in Pakistan, with work engagement examined as a mediating variable. Drawing on Herzberg's Two-Factor Theory, the research explores how intrinsic motivators (e.g., recognition, career advancement) and extrinsic hygiene factors (e.g., pay, working conditions) influence satisfaction in a highly competitive and ethically sensitive sector. Data were collected from 319 respondents across multinational and local pharmaceutical firms using a structured questionnaire. Structural equation modeling (SEM) confirmed that motivators significantly influence job satisfaction directly and indirectly through engagement, while hygiene factors showed a weaker direct effect but contributed indirectly through engagement. Findings provide theoretical validation of Herzberg's framework in a Global South context and offer practical insights for human resource policies aimed at reducing turnover, improving employee well-being, and ensuring ethical sales practices.

**Keywords:** Motivators, Hygiene Factors, Job Satisfaction, Work Engagement, Pharmaceutical Sales, Herzberg's Theory

### Article Details:

Received on 15 Aug 2025

Accepted on 12 Sept 2025

Published on 14 Sept 2025

Corresponding Author\*:

## 1. INTRODUCTION

Employee motivation and satisfaction remain critical drivers of organizational effectiveness, particularly in high-pressure industries such as pharmaceuticals. Sales representatives in this sector face unique challenges, including stringent regulatory requirements, intense competition, and high ethical expectations. Ensuring their satisfaction and engagement is therefore not only an HR imperative but also a determinant of organizational sustainability. Herzberg's Two-Factor Theory distinguishes between motivators (intrinsic factors such as recognition and achievement) and hygiene factors (extrinsic conditions such as salary and policies). While motivators are believed to enhance satisfaction, hygiene factors prevent dissatisfaction rather than generating positive motivation. However, contemporary scholarship has challenged the universality of this dichotomy, highlighting contextual variations across industries and cultures (Yusoff et al., 2023; Suleiman et al., 2022).

The pharmaceutical sales force in Pakistan provides a compelling context for examining this theory. Sales representatives are often the face of companies, building long-term client relationships while balancing commercial objectives with ethical responsibilities. Yet, studies on how Herzberg's factors interact with job satisfaction in this setting remain scarce. Moreover, the role of **work engagement**—defined as the vigor, dedication, and absorption employees bring to their roles—has been underexplored as a mediating mechanism.

This study addresses these gaps by empirically testing the influence of motivators and hygiene factors on job satisfaction, with work engagement as a mediator. The objectives are threefold:

1. To assess the direct effect of motivators and hygiene factors on job satisfaction among pharmaceutical sales representatives.
2. To evaluate the mediating role of work engagement in these relationships.
3. To provide contextual evidence from Pakistan's pharmaceutical sector, contributing to both theory and practice.

By situating Herzberg's framework within a developing country context, this study advances theoretical discourse while providing actionable recommendations for reducing attrition and fostering sustainable human resource practices.

## 2. LITERATURE REVIEW

### 2.1 Herzberg's Two-Factor Theory

Herzberg's (1959) theory posits that job satisfaction is driven by two sets of factors: motivators and hygiene factors. Motivators include achievement, recognition, and opportunities for advancement, while hygiene factors comprise salary, working conditions, and job security. Satisfaction arises primarily from motivators, while dissatisfaction stems from inadequate hygiene factors. While widely influential, the theory has been criticized for cultural bias, sample limitations, and blurred distinctions between the two categories (Deci & Ryan, 2001; Bassett-Jones & Lloyd, 2005). Recent research advocates re-examining the model in sector-specific and cultural contexts (Ali et al., 2023; Suleiman et al., 2022).

### 2.2 Motivators and Job Satisfaction

Motivators are intrinsic drivers that enhance employees' sense of accomplishment and professional growth. Empirical studies confirm that recognition and career advancement strongly predict job satisfaction, particularly in knowledge-intensive and high-performance roles (Khan et al., 2021). In the pharmaceutical sector, recognition of sales achievements and opportunities for professional development are critical motivators, given the demanding nature of the role.

## 2.3 Hygiene Factors and Job Satisfaction

Hygiene factors reduce dissatisfaction but do not necessarily enhance satisfaction. Salary, job security, and organizational policies fall under this category. While competitive compensation and supportive work environments are essential in retaining employees, their absence leads to dissatisfaction and turnover (Ahmed & Saeed, 2023). Recent evidence suggests that in developing economies, hygiene factors may hold greater salience due to economic instability (Suleiman et al., 2022).

## 2.4 Work Engagement as a Mediator

Work engagement, defined by vigor, dedication, and absorption (Schaufeli, 2021), has emerged as a critical construct in organizational psychology. Engagement enhances performance, reduces turnover intentions, and fosters well-being. The Job Demands–Resources (JD-R) framework suggests that both motivators and hygiene factors can act as job resources, stimulating engagement that subsequently enhances satisfaction (Bakker & Albrecht, 2018). Empirical studies in healthcare and retail sectors have validated engagement as a mediator (Anwar & Shukur, 2020), but limited research has tested this in pharmaceutical sales contexts.

## 2.5 Conceptual Framework and Hypotheses

Based on Herzberg's theory and engagement literature, the study proposes:

**H1:** Motivators positively influence job satisfaction.

**H2:** Hygiene factors positively influence job satisfaction.

**H3:** Work engagement mediates the relationship between motivators and job satisfaction.

**H4:** Work engagement mediates the relationship between hygiene factors and job satisfaction.

## 3. METHODOLOGY

### 3.1 Research Design

This study employed a **quantitative, cross-sectional, non-experimental design** to examine the impact of motivators and hygiene factors on job satisfaction with work engagement as a mediator. Structural equation modeling (SEM) was used to test the hypothesized relationships, enabling simultaneous assessment of direct and indirect effects.

### 3.2 Population and Sample

The population comprised pharmaceutical sales representatives (PSRs) in Pakistan, working in both multinational and local firms. The pharmaceutical industry in Pakistan consists of approximately 759 manufacturing units and 25 multinational corporations, with an estimated sales force of over 110,000 individuals.

Following Krejcie and Morgan's (1970) sample size determination, a target sample of 379 was established. A total of **319 usable responses** were obtained, representing a response rate of 84%. Of these, 167 respondents were from multinational firms (Category A) and 152 from large local firms (Category B).

### 3.3 Data Collection

Primary data were collected using a **structured, self-administered questionnaire** distributed to PSRs in Pakistan's northern region and to those indirectly covering Afghan territories. A **five-point Likert scale** (1 = strongly disagree to 5 = strongly agree) was used to capture perceptions of motivators, hygiene factors, work engagement, and job satisfaction.

Before full distribution, a pilot test (10% of respondents) was conducted to ensure clarity and reliability. Follow-up interviews with senior sales managers supplemented quantitative data to provide contextual insights.

### 3.4 Measurement of Variables

- **Motivators:** Adapted from Herzberg’s scale, covering recognition, achievement, and advancement opportunities.
- **Hygiene Factors:** Items included salary, job security, company policies, and working conditions.
- **Job Satisfaction:** Assessed through standard measures reflecting affective and cognitive evaluations of work (Locke, 1976).
- **Work Engagement:** Measured using the Utrecht Work Engagement Scale (UWES), covering vigor, dedication, and absorption (Schaufeli, 2021).

### 3.5 Data Analysis

Data were analyzed using **SmartPLS (SEM-PLS approach)** due to its suitability for complex models and smaller sample sizes. Reliability was assessed through Cronbach’s alpha and composite reliability, while validity was tested using average variance extracted (AVE). Hypotheses were evaluated through path coefficients and mediation analysis, following bootstrapping procedures.

## 4. RESULTS

### 4.1 Demographic Profile of Respondents

**Table 1: Demographic Characteristics of Respondents (n = 319)**

Variable	Categories	Frequency	Percentage (%)
Gender	Male	233	73.0
	Female	86	27.0
Age	20–30 years	112	35.1
	31–40 years	145	45.5
	41–50 years	62	19.4
Education	Pharmacy	151	47.3
	Business/Management	103	32.3
	Other (Science/Arts)	65	20.4
Work Experience	1–5 years	108	33.9
	6–10 years	127	39.8
	11+ years	84	26.3

Most respondents were male, in line with the male-dominated nature of pharmaceutical sales in Pakistan. The majority were in the 31–40 age group and had mid-level work experience (6–10 years). Educational qualifications were primarily pharmacy-related, reflecting industry requirements.

### 4.2 Reliability and Validity of Constructs

**Table 2: Reliability and Validity Results**

Construct	Cronbach’s Alpha	Composite Reliability	AVE
Motivators	0.83	0.88	0.59
Hygiene Factors	0.81	0.87	0.56
Work Engagement	0.85	0.90	0.63

Construct	Cronbach's Alpha	Composite Reliability	AVE
Job Satisfaction	0.86	0.91	0.61

All constructs demonstrated strong internal consistency (Cronbach's  $\alpha > 0.80$ ) and composite reliability ( $> 0.85$ ). AVE values exceeded the 0.50 threshold, confirming convergent validity. These results validate the measurement model for further SEM analysis.

### 4.3 Structural Model Results

**Table 3: Path Coefficients and Hypothesis Testing**

Hypothesis	Relationship	$\beta$	t-value	P-value	Decision
H1	Motivators $\rightarrow$ Job Satisfaction	0.42	8.23	0.000	Supported
H2	Hygiene Factors $\rightarrow$ Job Satisfaction	0.18	2.15	0.032	Supported
H3	Motivators $\rightarrow$ Work Engagement $\rightarrow$ Job Satisfaction	0.29	6.74	0.000	Supported
H4	Hygiene Factors $\rightarrow$ Work Engagement $\rightarrow$ Job Satisfaction	0.11	1.97	0.049	Partially Supported

- Motivators had a strong and significant positive effect on job satisfaction, supporting Herzberg's proposition.
- Hygiene factors had a weaker but statistically significant effect on job satisfaction.
- Work engagement significantly mediated the relationship between motivators and job satisfaction.
- The mediation between hygiene factors and job satisfaction was weak, indicating that hygiene elements do not substantially drive engagement.

### 4.4 Explained Variance

**Table 4: Coefficient of Determination (R<sup>2</sup>)**

Endogenous Variable	R <sup>2</sup> Value
Work Engagement	0.82
Job Satisfaction	0.97

The model explains 82% of variance in work engagement and 97% in job satisfaction, demonstrating high predictive power. This indicates that motivators and hygiene factors, along with engagement, account for nearly all variability in satisfaction levels among pharmaceutical sales representatives.

### 4.5 Mediation Analysis

**Table 5: Mediation Results (Bootstrapping Indirect Effects)**

Relationship	Direct Effect ( $\beta$ )	Indirect Effect ( $\beta$ )	Total Effect ( $\beta$ )	t-value	p-value	Mediation Type	Decision
Motivators $\rightarrow$ Work Engagement $\rightarrow$ Job Satisfaction	0.42	0.29	0.71	6.74	0.000	Partial Mediation	Supported
Hygiene Factors $\rightarrow$ Work Engagement $\rightarrow$ Job Satisfaction	0.18	0.11	0.29	1.97	0.049	Weak Partial Mediation	Partially Supported

- **(Motivators → Engagement → Job Satisfaction):**

The results indicate that work engagement partially mediates the relationship between motivators and job satisfaction. Motivators had a strong direct effect ( $\beta = 0.42$ ) and a substantial indirect effect through engagement ( $\beta = 0.29$ ). This suggests that when employees experience intrinsic motivators such as recognition and advancement opportunities, they become more engaged, which in turn enhances satisfaction.

- **(Hygiene Factors → Engagement → Job Satisfaction):**

Hygiene factors demonstrated a weaker mediation effect. Although they directly influenced satisfaction ( $\beta = 0.18$ ), their ability to stimulate engagement was limited (indirect effect = 0.11). This implies that while salary, job security, and working conditions reduce dissatisfaction, they do not significantly enhance engagement levels. Nevertheless, the indirect pathway remained statistically significant ( $p < 0.05$ ), confirming weak partial mediation.

## 5. DISCUSSION

This study set out to examine the effects of motivators and hygiene factors on job satisfaction, with work engagement as a mediating mechanism, among pharmaceutical sales representatives in Pakistan. Using Herzberg's Two-Factor Theory as a theoretical foundation, the findings provide several important insights.

### 5.1 Theoretical Implications

First, the study confirms that **motivators are stronger predictors of job satisfaction** compared to hygiene factors. This aligns with Herzberg's original proposition that intrinsic elements such as recognition, achievement, and advancement foster satisfaction more effectively than extrinsic conditions. The results also resonate with recent studies in emerging economies, where intrinsic motivators remain critical to sustaining employee satisfaction in challenging work environments (Ali et al., 2023; Yusoff et al., 2023).

Second, the study highlights the **central role of work engagement** as a mediator. Engagement significantly strengthened the relationship between motivators and job satisfaction, suggesting that intrinsic factors enhance satisfaction not only directly but also indirectly by fueling employees' energy, dedication, and absorption. This finding contributes to the **Job Demands-Resources (JD-R) theory**, extending it by showing that motivators can be conceptualized as job resources that activate engagement, which in turn promotes satisfaction.

Third, while hygiene factors had a significant direct effect on satisfaction, their mediation through engagement was weak. This indicates that **hygiene factors act more as enablers than drivers of engagement**. In other words, adequate pay, job security, and working conditions prevent dissatisfaction but do not deeply energize employees. This finding reinforces critiques of Herzberg's theory, which argue for contextual variations in the strength of hygiene effects across industries and cultures (Suleiman et al., 2022).

Collectively, these findings enrich the debate on the universality of Herzberg's framework by demonstrating its applicability in the pharmaceutical sector of a developing economy, while also revealing the nuanced role of engagement in linking motivational factors to satisfaction.

### 5.2 Practical Implications

For managers in the pharmaceutical industry, these results carry several implications:

1. **Prioritize intrinsic motivators:** Recognition of performance, opportunities for career advancement, and provision of meaningful work should be central to HR policies. These factors have the strongest influence on satisfaction and retention.

2. **Foster employee engagement:** Training programs, supportive leadership, and flexible work arrangements can enhance vigor and dedication, thereby amplifying the positive effects of motivators.
3. **Maintain hygiene standards:** While not the strongest drivers of engagement, hygiene factors such as fair pay, job security, and safe working conditions remain critical to preventing dissatisfaction and turnover.
4. **Tailor policies for the sales force:** Given the stressful and target-driven nature of pharmaceutical sales, a balanced approach combining competitive compensation with intrinsic recognition is necessary to sustain both satisfaction and ethical behavior.

### 5.3 Limitations and Future Research

This study has several limitations that provide avenues for future research. First, the cross-sectional design limits causal inferences; longitudinal studies would better capture the dynamic nature of satisfaction and engagement. Second, the data were drawn from sales representatives in Pakistan, which may restrict generalizability. Comparative studies across industries or regions could test the robustness of these findings. Finally, the model examined engagement as a single mediator; future research could incorporate moderators such as leadership style, organizational culture, or digital transformation to deepen understanding.

## 6. CONCLUSION

This study empirically tested Herzberg's Two-Factor Theory in the context of Pakistan's pharmaceutical sales sector, incorporating work engagement as a mediating variable. The results confirm that motivators significantly drive job satisfaction, both directly and indirectly through engagement, while hygiene factors exert weaker but still significant effects. By demonstrating the central role of engagement, the study advances theoretical understanding of how intrinsic and extrinsic factors interact in shaping satisfaction.

Practically, the findings emphasize the importance of designing HR strategies that move beyond compensation to include recognition, growth opportunities, and engagement-enhancing practices. Such approaches not only improve employee well-being but also ensure sustainable organizational performance in a competitive and ethically sensitive industry.

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