

Research Paper

Job Control and Psychological Distress Among IT Professionals in India: An Adaptation of the Whitehall II Framework

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ABSTRACT

Psychosocial working conditions are widely recognized as key determinants of employee mental health. Among these, job control—defined as the degree of autonomy individuals have over the organization and execution of their work tasks—has been consistently associated with psychological well-being in occupational health research. The present study examines the relationship between job control and psychological distress among information technology (IT) professionals in India, a sector characterized by high performance demands and rapidly evolving work environments. The study is theoretically informed by findings from the Whitehall II Study and the Job Demand–Control model, which highlight the role of workplace autonomy in shaping stress-related outcomes. A cross-sectional survey design was employed, with data collected from approximately 100 full-time IT professionals across India. Job control was assessed using the Job Content Questionnaire, while psychological distress was measured using the 12-item General Health Questionnaire (GHQ-12). Data was analyzed using descriptive statistics, Pearson’s correlation, and multiple regression analysis. Results indicated a significant negative association between job control and psychological distress ($r = -.29, p = .022$). Regression analysis further revealed that job control significantly predicted psychological distress ($\beta = -.29, p = .022$), accounting for 8.6% of the variance. These findings support existing theoretical frameworks and highlight the importance of job autonomy in mitigating psychological distress among IT professionals.

Keywords: *Job Control, Psychological Distress, Occupational Stress, IT Professionals, Workplace Autonomy*

Psychosocial work conditions have long been recognized as significant determinants of employee health and well-being. Over the past several decades, substantial empirical attention has been devoted to understanding how workplace structures and job characteristics influence both physical and psychological health outcomes. Among these factors, job control—defined as the degree of autonomy individuals possess in organizing, scheduling, and executing their work tasks—has emerged as a critical component of occupational health research.

One of the most influential investigations into the relationship between workplace conditions and health outcomes is the Whitehall II Study, a longitudinal study conducted

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among British civil servants. In this research, it was demonstrated that psychosocial characteristics of work, including low job control, high job demands, and effort–reward imbalance, were significantly associated with adverse health outcomes such as cardiovascular disease, psychological distress, and increased mortality risk. The findings highlighted the importance of workplace hierarchy and autonomy in shaping long-term health trajectories.

Theoretical understanding of these relationships has been strongly influenced by the Job Demand–Control Model proposed by Robert Karasek. According to this model, psychological strain is most likely to occur when employees experience high job demands while simultaneously possessing low levels of decision-making authority or task autonomy. Jobs characterized by high demands and low control are therefore conceptualized as “high-strain jobs,” which are associated with elevated stress levels and a range of negative health outcomes. Subsequent empirical research has repeatedly supported the central premise of this model, demonstrating that limited decision latitude in the workplace is linked to increased psychological strain, reduced job satisfaction, and poorer overall well-being.

Within contemporary organizational contexts, the information technology (IT) sector has received increasing attention in occupational health research. Rapid technological change, high performance expectations, globalized work structures, and demanding project cycles have created environments in which employees frequently encounter significant psychological pressures. In many cases, reduced autonomy over work schedules, task execution, and decision-making processes has been identified as a contributing factor to occupational stress within this industry.

In the Indian context, the IT sector represents one of the most rapidly expanding professional domains and employs a large number of highly skilled workers. Despite its economic importance, concerns have been raised regarding the psychological well-being of employees in this field. Research conducted among Indian IT professionals has reported elevated levels of fatigue, sleep disturbances, anxiety, and work-related stress. Limited decision-making autonomy and constrained control over work processes have frequently been identified as factors that may contribute to these outcomes.

Given the growing importance of the IT workforce and the potential psychological implications of modern work structures, further empirical investigation into psychosocial work conditions within this sector is warranted. The present study therefore seeks to examine the relationship between job control and psychological distress among IT professionals in India. By focusing on workplace autonomy as a key psychosocial determinant, the study aims to contribute to the broader literature on occupational stress while providing context-specific evidence relevant to the Indian IT industry.

Objectives and Hypotheses:

The following objectives were formulated for the present study:

1. To quantify the level of job control experienced by information technology (IT) professionals in India.
2. To assess the prevalence and severity of psychological distress within this occupational group.
3. To examine the association between job control and psychological distress among IT professionals.

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Based on existing theoretical and empirical literature, the following hypotheses were proposed:

- **H1:** Lower levels of job control will be significantly associated with higher levels of psychological distress among IT professionals.
- **H2:** The association between job control and psychological distress will remain statistically significant.

METHODOLOGY

A quantitative, cross-sectional survey design was employed to examine the association between job control and psychological distress among information technology (IT) professionals in India. Cross-sectional designs are commonly used in occupational health research to evaluate relationships between psychosocial work conditions and health outcomes within specific populations.

Participants

Participants consisted of full time information technology professionals employed in various IT organizations across India. A target sample size of approximately 100 respondents was established to ensure adequate statistical power for correlation and regression analyses. Eligibility criteria included full-time employment in the IT sector and a minimum of six months of work experience within the organization. Participation in the study was voluntary, and responses were collected anonymously to ensure confidentiality.

Measures

1. **Job Control:** Job control was assessed using the Job Content Questionnaire (JCQ). The JCQ is a widely used instrument in occupational health research designed to measure psychosocial work characteristics. The job control scale evaluates the degree of decision latitude and autonomy that employees possess over their work tasks, including aspects such as decision-making authority and skill discretion. Responses were recorded using a Likert type scale, with higher scores indicating greater levels of perceived job control.
2. **Psychological Distress:** Psychological distress was measured using the 12 item General Health Questionnaire (GHQ-12). The GHQ-12 is a validated screening instrument used to identify symptoms of psychological distress and minor psychiatric morbidity in community and occupational samples. Participants were asked to indicate the extent to which they had experienced various symptoms, including anxiety, social dysfunction, and loss of confidence, over the preceding weeks. Higher scores on the GHQ-12 indicate greater levels of psychological distress.

Procedure

Data were collected through an online survey platform. The survey link was distributed through professional networks and online platforms commonly used by IT professionals. Prior to participation, respondents were provided with information regarding the purpose of the study, confidentiality assurances, and voluntary participation. Informed consent was obtained electronically before the questionnaire was completed.

Data Analysis

Data analysis was conducted using the Python programming environment with appropriate analytical libraries. Descriptive statistics were generated to summarize participant

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characteristics and the primary study variables. The internal consistency reliability of the measurement scales was evaluated using Cronbach's alpha. Pearson's correlation analysis was performed to assess the association between job control and psychological distress. Subsequently, multiple regression analysis was undertaken to determine whether job control significantly predicted psychological distress after accounting for potential confounding variables.

RESULTS

Reliability Analysis

Internal consistency reliability was evaluated using Cronbach's alpha. The job control scale demonstrated acceptable internal consistency ($\alpha = .75$), indicating that the items coherently capture the construct of decision latitude as conceptualised within the Job Demand–Control framework. The psychological distress scale exhibited excellent reliability ($\alpha = .90$), reflecting a high degree of internal consistency among the GHQ-12 items and supporting its robustness as a measure of general psychological morbidity.

These reliability values indicate that both instruments were appropriate for measuring the constructs of interest in the present study.

Table No. 1 Reliability Coefficients for Study Variables

Scale	Number of Items	Cronbach's α
Job Control	9	.75
Psychological Distress	12	.90

Descriptive Statistics

Descriptive analyses were conducted to characterize the distributional properties of job control and psychological distress within the sample. Participants reported moderately high levels of job control, suggesting that a substantial degree of perceived autonomy is present within the sampled IT work environments. Psychological distress levels were observed to be low to moderate, with adequate variability across participants.

This variability is critical for detecting meaningful associations and aligns with epidemiological observations from large-scale occupational studies such as the Whitehall II cohort, where gradients in psychosocial work characteristics correspond to variations in mental health outcomes.

Table No. 2 Means and Standard Deviations of Study Variables

Variable	N	Mean	SD
Job Control	100	3.60	0.40
Psychological Distress	100	1.35	0.51

Correlation Analysis

A Pearson correlation analysis was conducted to examine the relationship between job control and psychological distress. Statistically significant negative correlation was observed between job control and psychological distress ($r = -.29$, $p = .022$).

This finding indicates that higher levels of perceived autonomy are associated with lower levels of psychological distress. This result indicates that higher levels of freedom in

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managing work tasks are associated with lower levels of psychological distress among IT professionals.

Furthermore, the magnitude of the correlation, while moderate, is consistent with findings from large-scale epidemiological studies such as the Whitehall II study, where psychosocial work characteristics typically account for modest but meaningful proportions of variance in health outcomes.

Regression Analysis

To further examine the predictive role of job control, a linear regression analysis was conducted with psychological distress specified as the dependent variable. The regression model was found to be statistically significant, $F(1, 99) = 5.52$, $p = .022$, explaining approximately 8.6% of the variance in psychological distress. Job control emerged as a significant negative predictor of psychological distress ($\beta = -.29$, $p = .022$), indicating that increases in perceived autonomy are associated with reductions in distress levels.

Table No. 3 Linear Regression Predicting Psychological Distress from Job Control

Predictor	B	SE B	β	t	p
Constant	2.67	0.57	-	4.71	< .001
Job Control	-0.37	0.16	-0.29	-2.35	0.022

Table No. 4 Model Summary

R ²	Adjusted R ²	F	p
0.086	0.070	5.52	0.022

Hypothesis Testing

To evaluate the proposed hypotheses, both correlational and regression analyses were conducted.

- H1 posited that lower levels of job control would be significantly associated with higher levels of psychological distress among IT professionals. A Pearson correlation analysis revealed a negative relationship between job control and psychological distress ($r = -0.29$, $p = 0.022$). This indicates that individuals reporting lower job control tended to experience higher levels of psychological distress. Since the relationship was statistically significant ($p < .05$), H1 is supported.
- H2 proposed that job control will significantly predict psychological distress among IT professionals. A linear regression analysis was conducted to examine whether job control significantly predicts psychological distress among IT professionals. The results indicated that job control was a significant negative predictor of psychological distress ($B = -0.37$, $SE = 0.16$, $\beta = -0.29$, $t = -2.35$, $p = .022$). This finding suggests that higher levels of perceived job control are associated with lower levels of psychological distress. The model was statistically significant, explaining 8.6% of the variance in psychological distress ($R^2 = .086$). Therefore, H2 is supported.

DISCUSSIONS

Overview of Findings

The findings of the present study provide empirical support for the relationship between job control and psychological distress among IT professionals. A significant negative association was observed, indicating that individuals with higher perceived autonomy reported lower levels of distress.

These findings are consistent with the Job Demand–Control model, which posits that low decision latitude contributes to increased psychological strain. The results also align with evidence from the Whitehall II study, which demonstrated that reduced job control is associated with adverse health outcomes. The relatively modest variance explained suggests that while job control is an important predictor, psychological distress is influenced by multiple factors, including job demands, organizational culture, and individual differences. Nevertheless, the significance of job control highlights its role as a modifiable organizational factor.

Implications for the IT Sector

The findings are particularly relevant to the IT industry, where employees often face tight deadlines, complex projects, and rapidly changing technological demands. When employees lack sufficient flexibility in how they perform their tasks, these pressures may contribute to higher levels of psychological strain. Providing employees with greater freedom to structure their work may help organizations improve employee well-being. Examples include:

- Allowing flexibility in task management and work scheduling
- Encouraging participatory decision-making
- Providing opportunities for employees to apply creativity and problem-solving skills
- Promoting flexible work arrangements such as hybrid or remote work

Such practices can help organizations foster a healthier and more productive work environment.

Limitations of the Study

Several limitations should be considered when interpreting the results.

- First, the study employed a cross-sectional research design, which limits the ability to draw causal conclusions about the relationship between job freedom and psychological distress. Longitudinal studies would be necessary to examine how workplace autonomy influences mental well-being over time.
- Second, the study relied on self-reported data, which may be subject to response bias or social desirability effects. Participants may have underreported or overreported their stress levels.
- Third, the sample size was relatively modest, which may limit the generalizability of the findings to the broader IT workforce in India.

Future Research Directions

Future research should employ longitudinal designs, larger samples, and include additional variables such as job demands and social support to provide a more comprehensive understanding of occupational stress.

Future studies could expand on the present findings by examining additional workplace factors that influence psychological well-being, such as job demands, social support from

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colleagues, and organizational culture. Researchers may also explore how remote work arrangements, which have become increasingly common in the IT sector, influence employees' sense of autonomy and stress levels.

CONCLUSIONS

The present study contributes to the growing body of research on occupational stress by demonstrating that freedom in managing work tasks plays an important role in shaping the psychological well-being of IT professionals. The findings suggest that employees who experience greater autonomy in their work report lower levels of psychological distress.

These results highlight the importance of designing workplaces that support employee autonomy and flexibility. By promoting greater freedom in how tasks are managed, organizations may enhance both employee well-being and overall organizational effectiveness.

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Conflict of Interest

The author declared no conflict of interest.

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