

**EFFECTS OF ORGANISATIONAL, SOCIAL AND
PERSONAL FACTORS ON PSYCHOLOGICAL
STRESS, WMSDS AND WORK PERFORMANCE: A
CASE OF INDIAN MIDDLE-LEVEL MANAGERS**



**Thesis submitted towards the partial fulfilment
for the Award of Degree of**

Doctor of Philosophy

by

PRIYA SINGH

under the guidance of

Prof. Prabhas Bhardwaj

Mechanical Engineering Department
Indian Institute of Technology
(BHU) VARANASI-221005

Prof. Sushil Kumar Sharma

Mechanical Engineering Department
Indian Institute of Technology (BHU)
VARANASI-221005

**DEPARTMENT OF MECHANICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY
(Banaras Hindu University)
VARANASI – 221005**

Roll No. 15101501

2022

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It is certified that the work contained in the thesis entitled as "Effects of Organisational, Social and Personal Factors on Psychological Stress, WMSDs and Work Performance: A Case of Indian Middle-Level Managers" by Mrs Priya Singh (Roll No. 15101501) has been carried out under our supervision and that this work has not been submitted elsewhere for the award of any degree or diploma.

It is further certified that the student has fulfilled all the requirements of Comprehensive Examination, Candidacy, State of Art seminar and Open seminar for the award of PhD. Degree.

Supervisor



Prof. Prabhas Bhardwaj
Mechanical Engineering Department
Indian Institute of Technology (BHU)
VARANASI-221005

Co-Supervisor



Ex. Prof. Sushil Kumar Sharma
Mechanical Engineering Department
Indian Institute of Technology (BHU)
VARANASI-221005

DECLARATION BY THE CANDIDATE

I, **Priya Singh**, certify that the work embodied in this thesis is a bonafide research work carried out by me, under the supervision of **Prof. Prabhas Bhardwaj** and **Prof. Sushil Kumar Sharma** from Dec 2015 to July 2022, at the Department of Mechanical Engineering, Indian Institute of Technology (BHU) Varanasi. The matter embodied in this thesis has not been submitted elsewhere for the award of any other degree or diploma. I declare that I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not willfully copied any other's work, paragraphs, text, data, results, etc. reported in journals, books, magazines, reports, dissertations, theses, etc., or available at websites and have not included them in this thesis and have not cited as my own work.

Date:

Place: IIT (BHU) Varanasi
(Priya Singh)

CERTIFICATE BY THE SUPERVISORS

It is certified that the statement made above by the student is correct to the best of our knowledge.

Supervisor



Prof. Prabhas Bhardwaj
Mechanical Engineering Department
Indian Institute of Technology (BHU)
VARANASI-221005

Co-Supervisor



Ex. Prof. Sushil Kumar Sharma
Mechanical Engineering Department
Indian Institute of Technology (BHU)
VARANASI-221005



Prof. Santosh Kumar
The Head
Department of Mechanical Engineering
IIT (BHU) Varanasi

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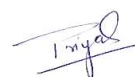
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Date: 5-08-022

Place: Varanasi



Priya Singh

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LIST OF ABBREVIATIONS

ANOVA	Analysis of the Variance
BLR	Binary Logistics Regression
BS	Behavioural Stress
CFI	Comparative Fit Index
CMIN	Chi-Square Minimum
CoT	Control-Over-Work-Time
CoT1	Control Over Working Hours
CoT2	Control Over Working Days
CoW	Control-Over-Work
CS	Cognitive Stress
DF	Degree of Freedom
EFA	Exploratory Factor Analysis
HWHC	High Workload High Control
HWHC	High Workload High Control
HWHC	High Workload High Control
HWLC	High Workload Low Control
HWLC	High Workload Low Control
HWLC	High Workload Low Control
HWMC	High Workload Medium Control
HWVHC	High Workload Very High Control
HWVLC	High Workload Very Low Control
JC	Job Control
JCD	Job Demand-Control
JD	Job Demand
JDC(S)	Job Demand-Control and Job Demand-Control-Support
JDCS	Job Demand-Control-Support
JS	Job Satisfaction
KMO	Kaiser-Meyer-Olkin
LWHC	Low Workload Low Control
LWHC	Low Workload High Control
LWHC	Low Workload High Control

LWLC	Low Workload Low Control
LWLC	Low Workload Low Control
LWLC	Low Workload Low Control
LWMC	Low Workload Medium Control
LWVHC	Low Workload Very High Control
LWVLC	Low Workload Very Low Control
MLMs	Middle Level Managers
MWHC	Medium Workload High Control
MWLC	Medium Workload Low Control
MWMC	Medium Workload Medium Control
NASA TLX	NASA Task Load Index
OR	Odds Ratio
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modelling
SF	Support from Family and Friends
SS	Somatic Stress
SW	Support at Work
TLI	Tucker-Lewis Index
VHWHC	Very High Workload High Control
VHWLC	Very High Workload Low Control
VHWVHC	Very High Workload Very High Control
VHWVLC	Very High Workload Very Low Control
VLWHC	Very Low Workload High Control
VLWLC	Very Low Workload Low Control
VLWVHC	Very Low Workload Very High Control
VLWVLC	Very Low Workload Very Low Control
WMSDs	Work-related musculoskeletal disorders
WP	Work Performance

ABSTRACT

Work has always been a significant part of life for most adult people. Working people spend a large amount of their life at the workplace. Employee well-being has become important for organisations/employees to have a highly productive workforce. Well-being in terms of occupational stress and Work-related Musculoskeletal Disorders (WMSDs) are among the most discussed health-related issues in the workplace. Numerous factors affect occupational stress and WMSDs. The association between organisational factors and 1) psychological well-being and 2) WMSDs has been studied in the past. A literature survey revealed that Job Demand Control (JDC) model and its extended version Job Demand Control Support (JDCS) model are the most cited and used models to explain such associations. These models have been used in studies to predict various dimensions of stress, psychological well-being, WMSDs and other outcomes related to employee health, job satisfaction and work performance. In the present work also, JDC and JDCS models have been used. Various studies related to JDC and JDCS models predicted different effects of demand, control and support on outcomes in different occupations, so a general overview can not be derived. Also, such research studies had focused mainly on the western and European working populations. There are very few studies that were based on the Indian working population. Also, this gap widens more in the case of Indian Middle-Level Managers (MLMs) working primarily in telecommunication organisations. This research is an effort to bridge this research gap in the present work focusing on analysing the effect of organisational, social and personal factors on psychological stress, WMSDs, and the work performance of the MLMs of an Indian telecommunication organisation. For this purpose, the following objectives were identified:

1. To check the validity of the job demand-control (support) model and analyse the direct and indirect effect of job demand, job control and “support at work” on psychological stress and job satisfaction.
2. To analyse the effect of job control dimensions on psychological stress.
3. To analyse the effect of organisational factors on psychological stress and WMSDs.
4. To analyse the direct and indirect effects of organisational, social, and personal factors and physical and psychological stress on work performance.

Based on the study’s objectives, a questionnaire was designed to collect the data on various variables used in the study. 250 MLMs of a case organisation, i.e., a public telecommunication organisation in India, were contacted for data collection. Out of 250, 210 MLMs responded. The response rate of the questionnaire was 84%. For the data collection, the validity and reliability of the questionnaire were checked using Exploratory Factor Analysis (EFA) and Cronbach’s α , respectively. The results of EFA confirmed the validity of the questionnaire using factor loadings. However, It was found that two observed job control variables did not load significantly and were considered separate dimensions of job control. Reliability analysis of the questionnaire determined the value of Cronbach’s α , which was greater than 0.7. So, the questionnaire was found to be reliable.

First, the validity of the JDC and JDCS models was checked. Three dimensions of psychological stress visualised as 1) behavioural stress, 2) somatic stress and 3) cognitive stress and job satisfaction were considered as outcome variables. For this purpose, the job categories defined by Karasek (1979) were created using six different cut-off approaches. One-way ANOVA and Three-way ANOVA using six different cut-offs were used for the analysis. However, the results of ANOVA could not provide a concrete conclusion. So,

Structural Equation Modelling (SEM) was used to analyse the direct and indirect effect of workload, control and “support at work” on psychological stress and job satisfaction. The results showed no association of workload with psychological stress and job satisfaction. These results suggest that the MLMs of the case organisation can take additional responsibilities at the workplace. However, there is a need to confirm that the additional responsibilities are not overwhelming or create an unnecessary burden that would result in a situation of psychological stress and job dissatisfaction. The results showed partial support for the direct hypothesis of the JDCS model. Job control and “support at work” significantly affected psychological stress and job satisfaction, suggesting that increasing job control and “support at work” can reduce psychological stress and increase job satisfaction of the MLMs. The buffer hypothesis of the JDC model was supported for the MLMs of the case organisation. JDC and JDCS models only consider the “control over work” dimension of the job control. However, two separate dimensions of job control visualised as 1) “control over working hours” and 2) “control over working days” were identified during the EFA.

An effort was made to see the effect of all three dimensions of job control on psychological stress. For this purpose, Binary Logistics Regression (BLR) was used. Age, gender, experience in the organisation and experience in the current position were considered as control variables. The analysis showed that MLMs with low “control over work” and “control over working days” were at more risk of having psychological stress. However, for “control over working hours”, MLMs in the high control group had more chances of psychological stress. The results suggest that providing more “control over work” and “control over working days” can reduce psychological stress. However, caution should be made before deciding on “control over working hours” as it negatively affects psychological well-being. It can be provided to employees with some conditions, such as

setting deadlines for work and timely reporting of a project/task progress or continuous “work progress” auditing.

The effect of workload, control, and age on the WMSDs was also analysed using SEM. The results suggested that workload did not affect WMSDs and psychological stress. As the job responsibilities of the MLMs of the present case organisation require low physical activity, a non-significant association of WMSDs with workload can be possible. The results of this SEM model also showed that “control over work” was the most critical factor affecting WMSDs and psychological stress. Age had a significant effect on the pain in the knee and upper back, but other WMSDs or psychological stress. This suggests that MLMs suffering from pain in the knees and back due to age may have good physical well-being by providing more control. This would help the organisation as these experienced MLMs can contribute much towards the growth and development of the organisation and can also mentor the younger generation of MLMs.

A comprehensive SEM model was developed to determine the effect of organisational factors, social factors, personal factors, WMSDs and psychological stress on work performance. The analysis showed that alcohol consumption and tobacco usage were positively associated with behavioural stress. Tobacco consumption was also significantly related to job satisfaction. Tobacco use reduces job satisfaction and increases behavioural stress, and vice-versa. The results showed that organisational factors were more significantly associated with work performance than social and personal factors. Work performance was significantly associated with job control but workload. Results suggested that increased “control over work” would improve work performance, increase job satisfaction, and decrease psychological stress and WMSDs. Similarly, more “control over working days” would increase work performance and decrease cognitive stress. However, “control over working hours” was negatively

associated with work performance suggesting a decrease in work performance with an increase in “control over working hours”. These results of the SEM model were very similar to the results of the BLR model and verified the results of BLR. The negative effect of “control over working hours” can be reduced if it is provided with a possible restriction. For example, providing the option to choose between various reporting times of the day with fixed working hours. This will make employees feel of having control without overburdening, thus, resulting in better work performance and increased psychological well-being and job satisfaction.

The findings of the present work determine that job control is the most significant factor that is associated with psychological stress, WMSDs, job satisfaction and as well as with work performance for the case organisation. This suggests that workplace flexibility is the crucial factor that influences employees’ well-being and job satisfaction and improves their work performance. However, increasing job control without analysing its dimensions can have a negative effect on well-being and work performance. So, job control should be provided with caution so that it will improve the psychological and physical health and work performance of employees and the organisation. The findings of this work are more suitable for male employees as 91% of respondents were male. Also, the finding of this research is more suitable for telecom organisations. The organisational structure of public and private organisations differ, so proper caution must be taken in implementing such findings.