

Impact of occupational stress on health and work outcomes of IT professionals in Coimbatore

Nahid Akter

Assistant Professor, Department of Business Administration, Kongu Arts and Science College (Autonomous), Erode, Tamil Nadu, India

Correspondence Author: Nahid Akter

Received 21 Feb 2025; Accepted 28 Mar 2025; Published 7 Apr 2025

Abstract

Stress is a pervasive aspect of modern life, impacting individuals across personal and professional domains. In the IT sector, high work demands, tight deadlines, night shifts, and heavy workloads contribute to elevated stress levels, which can adversely affect both mental and physical health. This study aims to examine the demographic profile of IT employees, assess their levels of job-related stress and quality of life, and identify prevalent health problems. Early detection of stress-induced health issues through assessment scores, combined with lifestyle modifications, dietary guidance, and psychological counseling, can mitigate health risks and improve workforce productivity and overall well-being in the IT industry.

Keywords: Job stress, Information technology, Business process outsourcing, Health, Workforce

Introduction

Stress

Definition and nature of stress

Stress is the body's response to any change that requires adjustment or adaptation. These responses can be physical, mental, or emotional. Stress is a normal and inevitable part of life, arising not only from adverse situations but also from positive life events such as a promotion, purchasing a home, or the birth of a child. It is the body's natural reaction to change, helping individuals adapt to new circumstances.

In modern lifestyles, workplace stress has emerged as a significant phenomenon. The term "stress" is derived from the Latin word *stringere*, meaning "to draw tight," and is often associated with hardship, strain, adversity, or affliction. Synonymous terms include anxiety, frustration, and pressure. Hans Selye (1936) defined stress as "the non-specific response of the body to any demand for change," while Kellie Marksberry (2017) noted that stress is highly subjective and difficult to define precisely.

Occupational stress

Occupational stress refers to stress experienced in the workplace. It manifests as mental, physical, or emotional strain and occurs when there is a mismatch between the demands of the job and an individual's ability to meet them. Stressors in the workplace can trigger physiological changes, resulting in both mental and physical strain.

Major sources of stress in the IT industry

Workplace stress varies among individuals, as perception of stressful situations is subjective. However, certain conditions commonly contribute to occupational stress, particularly in the

IT industry, where employees face high levels of pressure due to the nature of their work. Key stressors include:

- a) **Long working hours:** Employees often work 11–12 hours per day, with overtime increasing this to 14 hours in some organizations. Job insecurity drives employees to overperform, contributing to fatigue.
- b) **Technology pressure:** Rapid technological advancements require continuous skill updates, maintaining high workload and performance expectations.
- c) **Job insecurity:** Market competition, economic fluctuations, and organizational restructuring increase the fear of job loss, leading to stress and unhealthy workplace behaviors.
- d) **Discrimination:** Stress may arise from discrimination based on sex, race, religion, or nationality, with issues such as harassment being particularly prevalent in IT workplaces.
- e) **Economic factors:** Organizational pressures to improve productivity and financial performance increase stress levels among employees.
- f) **Harassment:** Personal financial pressures or workplace bullying further exacerbate stress.
- g) **Personality traits:** Individual characteristics such as authoritarianism, rigidity, emotionality, anxiety, and need for achievement influence susceptibility to stress.
- h) **Work overload:** Workforce reductions and task restructuring often result in excessive workloads for remaining employees.
- i) **Role conflict:** Stress occurs when employees face conflicting demands between different roles (interrole conflict) or personal values clash with organizational goals (personal conflict).

- j) Role ambiguity:** Uncertainty about job responsibilities, expectations, and authority leads to stress, particularly in new roles or assignments.

Warning signs of stress

Chronic stress can compromise the body's natural defenses, producing various physical and psychological symptoms, including:

- Dizziness or disorientation
- General aches and pains
- Teeth grinding or jaw clenching
- Headaches
- Indigestion or acid reflux
- Changes in appetite
- Muscle tension in neck, face, or shoulders
- Sleep disturbances
- Racing heartbeat
- Cold or sweaty palms
- Fatigue and exhaustion
- Trembling or shaking
- Weight fluctuations
- Digestive issues
- Sexual difficulties

Impact of stress on health

While stress can be positive, keeping individuals alert and motivated, prolonged stress without relief can lead to negative outcomes. Continuous exposure to stressors causes tension to accumulate, resulting in physical and psychological strain. The body's autonomic nervous system activates a stress response, producing physiological changes to cope with challenging situations. However, chronic stress can overwhelm these mechanisms, adversely affecting overall health and well-being.

Stress management techniques

Positive and negative coping methods

Stress management can involve both positive and negative coping strategies. While understanding positive coping is essential, awareness of negative coping mechanisms is equally important, as these can create a vicious cycle of stress. Common negative coping behaviors include:

- **Impulsive behavior:** Acting without considering consequences, leading to repeated troubles.
- **Compulsive behavior:** Addictive tendencies such as overeating, alcoholism, smoking, gambling, or excessive shopping.
- **Obsessive behavior:** Repetitive, rigid, or overly meticulous behaviors; inflexibility and perfectionism.
- **Vindictive behavior:** Seeking revenge or harboring grudges, stubbornness, or manipulative tendencies.
- **Blaming behavior:** Assigning fault to others, being overly critical or fault-finding.
- **Worrying:** Persistent anxiety and overthinking problems without resolution.
- **Anger:** Expressing hostility through temper tantrums, sarcasm, or verbal outbursts.

- **Withdrawal:** Denial of problems, passivity, isolation, or avoidance of responsibilities.
- **Depression:** Feelings of sadness, guilt, despair, or lethargy.
- **Stress-induced illnesses:** Physical manifestations such as headaches, back pain, gastrointestinal problems, hypertension, diabetes, and other psychosomatic conditions.

Nutrition and stress management

Food as Medicine

Proper nutrition plays a critical role in stress management. Food provides the energy required for daily activities and helps the body respond to stress. Key considerations include:

- Emotional satisfaction and stress coping
- Energy recovery
- Cultural customs and social occasions
- Personal preferences
- Accessibility and cost

Components of Food

A balanced diet includes:

- **Carbohydrates:** Preferably complex carbohydrates for sustained energy (up to 80% of caloric intake).
- **Proteins:** Essential for tissue repair and cell regeneration.
- **Fats:** Both saturated and unsaturated for energy and cellular function.
- **Vitamins (A, B, C, D, E, K) and Minerals (Calcium, Phosphorus, Iron, Iodine)** for growth, metabolic regulation, and energy.
- **Fiber and Water:** For digestion and hydration.

Physical activity and stress relief

Simple workplace exercises

- **Facial tension:** Simulate yawning, exhale while releasing tension.
- **Leg exercises:** Curl, stretch, rotate ankles and knees, loosen hips.
- **Arm/Hand exercises:** Stretch fingers, rotate wrists and elbows, make fists.
- **Shoulder movements:** Raise, tense, drop, and rotate shoulders; cross arms over chest.
- **Neck and Head movements:** Chin to chest, rotate head side to side, ear-to-shoulder stretches.

Other stress-reduction activities

- **Massage Therapy:** Relieves acute/chronic pain and psychological tension.
- **Progressive Muscle Relaxation:** Tense and relax 16 muscle groups systematically.
- **Swimming:** Ideal for low-impact full-body exercise.
- **Cycling:** Builds stamina and leg strength.

General stress-reduction tips

- Maintain a positive outlook and accept uncontrollable events.

- Assert feelings constructively rather than react aggressively.
- Practice relaxation techniques such as meditation, yoga, or tai chi.
- Exercise regularly and maintain a healthy diet.
- Manage time effectively and set boundaries to avoid overcommitment.
- Engage in hobbies and social interactions.
- Ensure adequate rest and sleep.
- Avoid reliance on alcohol, drugs, or compulsive behaviors.
- Seek professional mental health support when necessary.

Methodology

Objectives

- To analyse the socio-economic characteristics of IT professionals.
- To assess the level of job stress among respondents.
- To evaluate job satisfaction levels.
- To identify health problems experienced by employees.

Research design

Primary data were collected through a structured survey questionnaire administered to a random sample of 317 IT professionals across various positions. The questionnaire covered:

- Nature of work and employment status
- Job satisfaction and workplace environment
- Stress-inducing factors
- Working hours and workload
- Health-related issues

The collected data were systematically analyzed, and findings were presented to highlight the relationship between occupational stress, coping mechanisms, and health outcomes among IT professionals.

Review of literature

A comprehensive review of literature provides insight into the research already conducted and highlights potential areas for further study. In the context of occupational stress, numerous studies have explored its causes, effects, and management strategies.

Michie (2002) categorized workplace stressors and associated health risks into two broad types: factors intrinsic to the job and factors related to the social and organizational context. Job-intrinsic stressors include long working hours, work overload, tight deadlines, complex tasks, lack of breaks, monotony, and poor physical working conditions such as inadequate space, temperature, or lighting.

Olatunji (2014) and McCaffrey and Blanchard (1985) emphasized that in India, the growth of the Information

Technology (IT) sector significantly depends on the mental and physical well-being of employees. Persistent, moderate stress among software engineers may pose long-term health risks, potentially hindering organizational productivity. Preventive strategies, such as training in stress management, can equip IT professionals to manage occupational demands without compromising health or lifestyle.

The literature collectively suggests that occupational stress is multidimensional, involving personal, organizational, and environmental factors. Early intervention, stress awareness, and coping strategies are critical for maintaining workforce efficiency and individual well-being.

Theoretical aspects of the IT industry

The Indian IT industry has witnessed tremendous growth due to globalization and supportive government policies. IT professionals face constant pressure to deliver services efficiently and cost-effectively. Workplace stress arises when job demands exceed an employee's control over completing tasks. Typically, high demands coupled with low autonomy contribute significantly to stress.

Stress in the IT workplace may arise from multiple sources, including technological changes, tight deadlines, role ambiguity, and organizational expectations. Both employees and employers are affected, as chronic stress can reduce productivity, affect mental health, and lead to increased absenteeism.

The present study focuses on the interaction between job stress and other life stressors, considering psychological distress, sense of well-being, and organizational role stress among IT professionals. It examines how occupational stress, job satisfaction, mental health, and coping strategies differ across hierarchical levels within IT organizations, specifically between junior and senior managers.

In summary, the study adopts a holistic perspective on occupational stress, evaluating the combined impact of job demands, workplace environment, and individual coping resources. By exploring stress levels, coping mechanisms, and mental health outcomes, the research aims to provide actionable insights for improving employee well-being and organizational performance.

Analysis and interpretation

The demographic details

Table 4.1 (A): Number of male and female respondents

S. No.	Gender	No. of Respondents	Percentage
1.	Male	182	81.61
2.	Female	41	18.39
	Total	223	100

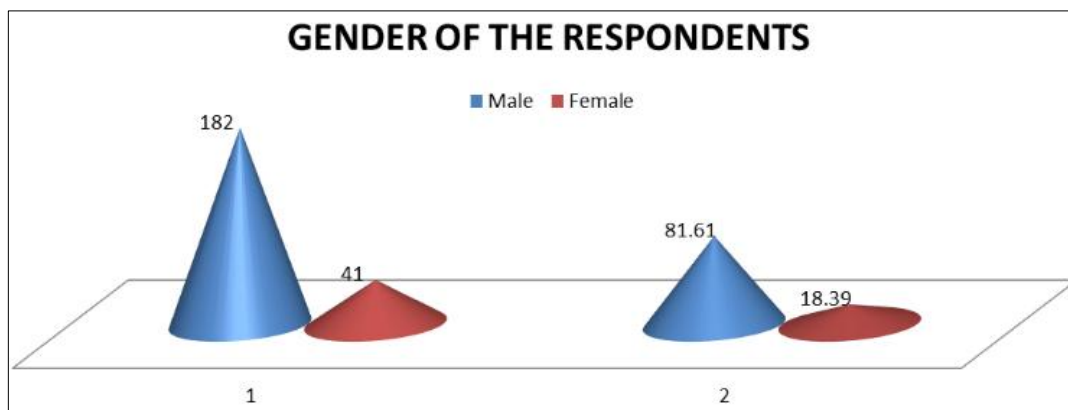


Fig 1

Table 4.2 (B): Age group of the respondents

S. No.	Age	No. of Respondents	Percentage
1.	21-25	45	20.19
2.	26-30	88	39.46
3.	31-35	42	18.83
4.	36-40	35	15.70
5.	41 & Above	13	5.82
	Total	223	100

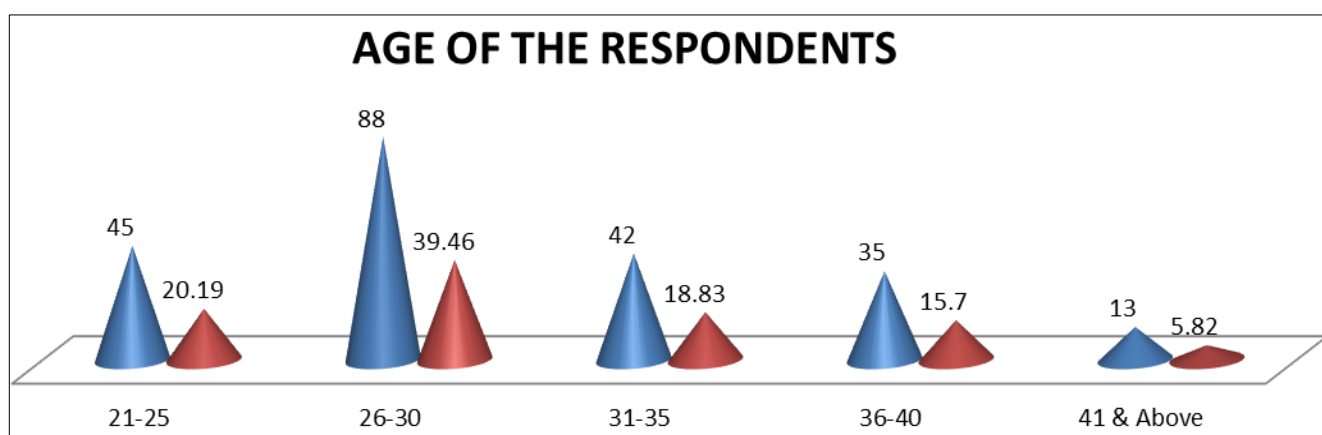


Fig 2

Interpretation

The survey conducted among IT professionals revealed several insights into their educational background, job level, and workplace stress. Among the respondents, 64% held undergraduate degrees, 26% were postgraduates, and 10% possessed diplomas. In terms of professional hierarchy, 44% were entry-level employees, 38% were at middle management level, and 18% occupied senior positions.

Regarding employment type, 50% of respondents reported being in temporary positions, 40% held permanent jobs, while a small proportion were unaware of their job status or were engaged in part-time work.

Job satisfaction varied among respondents: 36% expressed satisfaction with their current role, 40% remained neutral, and 24% reported dissatisfaction. Stressors were identified primarily in the physical work environment, with 60% citing increased workload, lack of recognition, and perceived biased treatment from superiors as significant contributors. Interaction

with superiors also contributed to stress: 40% reported frequent arguments, 36% rarely disagreed with superiors, and 24% never engaged in disputes.

Conclusion

The influence of information technology on daily life continues to expand, and as innovations accelerate, associated workplace stress—commonly referred to as “technostress”—also increases. IT professionals face ongoing pressure to adapt to technological advancements and update their skills continuously.

Implementing stress management strategies, such as yoga, meditation, aerobic exercises, and other recreational activities, can effectively reduce stress and its associated health risks. Encouraging such practices within IT organizations can improve employee well-being, enhance productivity, and foster a healthier and more resilient workforce.

References

1. Noblet AJ, Rodwell JJ. Integrating job stress. *J Public Adm Res Theory*. 2008;19(3):555-78.
2. Caplan RD, Jones KW. Effect of workload, role ambiguity and type of personality. *J Appl Psychol*. 1975;20(3):713-19.
3. Chandra Mohan A, Balaji KD, Kishore Kumar V. An empirical study on stress levels among software professionals in the city of Chennai, India. *Abhinav Natl Mon Ref J Res Commer Manage*, 2013, 2(5).
4. Ivanveich JM, Matteson MT, Preston P. Occupational stress. *Appl Manag J*. 1982;25(2):373-91.
5. Shanmugavadivu KV, Kalaimani G. An overview of stress management at work place. *Online Int Interdiscip Res J*, 2019, 9(Feb Special Issue 3).
6. Shanmugavadivu KV, Kalaimani G. An empirical study on occupational stress and managing techniques among software professionals in Chennai. *Sci Technol Dev J*, 2020, IX(Apr Special Issue IV).
7. Wikipedia. Occupational stress [Internet]. Available from: https://en.wikipedia.org/wiki/Occupational_stress
8. Dynamix Solutions. What is an IT professional and what does one do? [Internet]. Available from: <https://dynamixsolutions.com/what-is-an-it-professional-and-what-does-one-do/>
9. Harish Saras. Major causes of stress in the workplace [Internet]. Available from: <https://www.harishsaras.com/stress-management/major-causes-of-stress-in-the-workplace/>