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# A Multi-Method Approach Towards Identification of Key Occupational Stressors Among Women Employees working in Manufacturing Firms.

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***Abstract***

*Occupational stress is increasingly recognised as a major factor contributing to employee dissatisfaction and organisational inefficiency. This study investigates the disruptive work environment and multifaceted causes, ranging from work overload, overtime, role disputes, to work and family life mismanagement. The study incorporated a multi-method approach, which consisted of three stages. Qualitative study through in-depth interview in the first stage, Focus group discussion in the second stage and quantitative study through survey method conducted on 477 women employees of manufacturing firms in India in the third stage. The multi-method approach identified fifty predictors of occupational stress, out of which 34 factors were retained by the exploratory factor analysis as the most important factors of stress among women employees. These overlooked factors can be helpful to reduce and control stress by formulating targeted strategies and also by ensure inclusive workplace policies in the context of manufacturing sectors.*

***Key words:*** *Occupational stress, female employees, manufacturing, industry, EFA, multi-method*

## 1. Introduction

The organisation of the 21st century aims to provide employees with a comfortable and decent work environment to balance their work and personal life. With the accelerating use of technology, dynamic working models, and the latest tools and techniques, companies are embracing these innovations to manage their routine activities efficiently (Lakra & Dubey, 2025). With this dynamic work environment, employees are expected to be versatile and capable of performing to standards and remaining competitive in this dynamic work environment.Due to this rapidly changing environment, the lifestyle and workstyle of today's employees have also changed drastically, affecting their social networking and work-life balance (Borgia et al., 2022). As a result of these evolving demands, occupational stress has become a prominent issue among employees. It occurs when job expectations surpass an individual's capabilities, resources, or personal needs, resulting in psychological strain (Lazarus & Folkman, 1984).

This form of stress can significantly impair employees' physical and emotional well-being, reduce productivity, and hinder overall organisational performance. Recognised as a major concern in both organisational behaviour and workplace health, understanding the causes and consequences of occupational stress have therefore become essential. While occupational stress affects all employees, women often face additional and unique challenges stemming from both professional responsibilities and societal expectations. Female employees frequently juggle dual roles, balancing job demands with domestic commitments, which give rise to fatigue and stress (Cooper & Marshall, 1976). This issue is very evident in male-dominated industries such as manufacturing, where physically demanding work conditions and persistent gender disparities continue to pose significant challenges. Women employees in these professions frequently face role conflict, scarce opportunities for

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progression, gender-based discrimination, and a lack of supportive amenities (Srija & Vijay, 2021).

These hardships are further worsened by issues such as inadequate pay structure, poor safety measures, and conventional patriarchal norms, which disrupt the work dynamics (Srija & Vijay, 2021). Bearing these conditions in mind, the study objective is to explore the underlying causes of occupational stress among women employees, especially in manufacturing sectors where their numbers is notably growing but at the same time are overlooked and secondly to help industrial psychologist and management to focus on these identified stressors and frame targeted strategies that promote a more supportive, equitable and inclusive work environment.

## 2. Literature Review

Occupational stress has been of great interest to scholars and organisations around the world for decades, consistently recognised as an important factor affecting employees' psychological and physical well-being (Beehr & Newman, 1978). It generally occurs when the coping ability exceeds the individual's capacity (Lazarus & Folkman, 1984). The severity of stress is assessed based on how individuals perceive and evaluate a given situation. This individual perception plays a crucial role in analysing the level of stress experienced. Misjudgment of stress may lead to fatigue, tension, anxiety, and depression. Beehr and Newman (1978) illustrated occupational stress as a mismanagement between the individual and their work environment. Hameed & Khwaja (2023) stated that work pressure is not the sole factor of stress, but it's the availability of resources and the abilities of individuals that lead to occupational stress affecting work performance and overall well-being.

Occupational stress is ubiquitous it is not bound to any sector or profession. Employees mostly get stressed due to biased workload allocation, overburdened organisational roles (Abdel-Halim, 1978), relationships with subordinates and superiors (Akanji, 2018), urgency of deadlines (Vischer, 2007), absence of recognition (Mosadeghrad, 2014) and lack of organisational support.Occupational stress becomes particularly complex when analysed through the lens of gender and industry composition. Nguyen, L. et al. (2018), in their studies on gender sensitivity, pointed out stress fluctuation among genders, particularly in male-hegemonic industries like manufacturing.Women employees in these environments are more vulnerable to occupational stress due to the confluence of physical workload, socio-cultural expectations, and gender-based workplace inequality (Chaudhary et al., 2025). As India is consistently advancing in the manufacturing sector and aims to expand the female workforce, studying occupational stress among women employees of manufacturing firms becomes highly relevant and important to identify gender-specific stressors to foster sustainable development.A critical examination of these stressors can provide meaningful insights, enabling organisational psychologists, policymakers and employers to design equitable and supportive workplace environments that enhance women's well-being and retention in the manufacturing sector.

To investigate occupational stress, a comprehensive literature review was done to explore the factors of occupational stress. History reveals that Hans Selye was the first to present the concept of 'Stress' in 1936. Gradually, with time, many researchers have expanded on this concept. Cooper and Marshall (1976) are regarded as pioneers in the area of occupational stress. They developed a foundational model that identifies five primary sources of workplace stress: factors intrinsic to the job, the individual's role in the organisation, career development, workplace relationships, and the overall organisational climate or structure.

Occupational stress models are essential tools to analyse and examine the causes, mechanisms and outcomes of stress experienced by employees at the workplace. For example, the Job Demand-Control Model of Karasek (1979) suggests that work strain results from high demands paired with low decision-making authority. Building on this, Siegrist (1996) introduced the Effort–Reward Imbalance Model, highlighting the stress caused by

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a lack of proportional rewards (e.g., pay, esteem, job security) in relation to work effort. Additionally, earlier Kahn et al. (1964) developed Role Stress Theory, identifying role ambiguity and role conflict as key sources of work-related stress.

Lazarus and Folkman's (1984) Transactional Model of Stress further emphasises the importance of individual cognitive appraisal in evaluating environmental demands and available coping resources, stressing that stress is not solely dependent on external conditions but also on perception and adaptability.

Occupational stress models provide a conceptual construct for understanding the causes and effects of workplace stress, while the development of occupational Stress Index (OSI) is equally important as it quantifies these stressors.The OSI is a standardised questionnaire to quantify the stressors encountered by employees (Srivastava & Singh, 1984). It highlights the high-risk stressors within the organisation and helps the management to formulate interventions, directives, and promote employee wellness programs. OSI was first introduced by Srivastava and Singh (1984), particularly for Indian organisations, to understand and manage stress where identifying stressors becomes very difficult due to their multicultural workplace environments and diverse socio-cultural factors. Srivastava and Singh (1984) OSI consists of 46 items across 12 dimensions, including working conditions, role ambiguity, overload and group pressure. Another significant contributor in this domain was R. S. Pareek (1981), who designed the Organisational Role Stress (ORS) Scale (1981–1983), which includes ten dimensions such as resource inadequacy, expectation conflict and role stagnation.Further, Shukla et al. (2015) blended the job stress questionnaire and presented a tailored OSI for Indian working conditions, including factors like colleagues support, workplace anxiety, time related stress, role disputes, and work–life balance. Kaluzniacky (1999) also identified the unrealistic deadlines and high expectations as the key contributors to employee stress. In recent times, research focus has shifted from the identification of occupational stress to addressing and mitigating stress. Personal coping strategies, social support and organisational assistance have all been identified as important mediators against the adverse effects of stress. In light of the above discussion, recurring themes and the most cited variables from these studies have confirmed that occupational stress is multi-dimensional. Cause and effect vary from person to person, and hence, the Beehr and Newman Facet Model (1978) can be used as a conceptual framework for the current research.

## 3. Research framework based on Beehr and Newman Facet Model

Occupational stress has gained interest over the decades, and identifying the root cause has been a difficult task for industrial and organisational psychologists. Various models have been developed to better understand the complexities of occupational stress, each offering a unique perspective on how stress affects individuals and organisations.

For this empirical study, the Facet Model have been considered. The facet model for occupational stress assumes that causes of stress are multidimensional aspects. This means that the spatial domain of occupational stress is from various environmental factors, and to better understand this, it is partitioned into connected regions called facets. According to Foa (1968), Facet is a conceptual dimension underlying a set of variables considered relevant for the domain to empirically conduct the research. Terry A. Beehr and John E. Newman introduced the Facet Model of Job Stress in their work "Job stress, employee health and organisational effectiveness: A Facet analysis, model and literature review" in 1978. The model provides a broad view in understanding occupational stress by categorising stressors into different facets. According to the model, stressors occur when interacting with these seven facets, which are mentioned below.

Firstly, the environment facet involves social, psychological and physical aspects of the work organisation, which include role tasks, environment constraints while performing their work. Secondly,

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the Personal Facet includes the perception of people while getting exposed to stressful events at work. Individual differences and characteristics determine the tolerance of stress in the organisation. Thirdly, process facets emphasise the physical and psychological aspects of people while processing a stressful situation. It basically deals with the adaptive behaviour and decision-making that goes through a person's mind. The fourth is the organisational consequences facets that list the consequences of job stress on an organisation's productivity. Turnover, absenteeism and tardiness are some of the elements studied under these facets. Fifth, the human consequences facet focuses on human health, which deteriorates while dealing with stress at work. People's health is basically analysed through physical, psychological and behavioural aspects to analyse the severity of job stress. Sixth, the adaptive response facets discuss about the strategic actions the organisation and individual take to handle job stress. The last facet is the time facets, which focus on the time frame, an important aspect to study stress. Time facets incorporate all the other facets as the effects and eradication of job stress progress over time.

The present study focuses on identifying the various facets of stress in manufacturing firms in India. This facet model serves as a foundation for examining occupational stress from different angles. This model helps to clarify conceptual issues and foster more systematic empirical research. A relatively Facet approach to occupational stress can highlight the grey areas or practices of the organisation. Thus, it helps managers and researchers to consider those areas and design a constructive plan to help the employees.

## 4. Research Methodology

The present research used a mixed-methods research design, which combines qualitative and quantitative research approach. Three stages of data collection technique are used: In the first stage, in-depth interviews were conducted on 30 employees of a manufacturing firm. Stage two employed a focus group to collect and examine the prominent stress-inducing variables. The stage three study employed a structured survey design, and data were collected from a total of 477 female respondents working in manufacturing firms across India. The participants aged between 18 and 60 years and represented all hierarchical levels within their respective organisations, ensuring a comprehensive understanding of occupational stress across roles.

The collected data of stages one and two, were carefully examined, and prominent stress factors were recorded and were clubbed with the survey questions. The synthesised stress factors were put under different facets to understand the relevance.

Before collecting data for the preceding study, a pilot study was conducted with 50 female employees to assess the clarity, reliability, and effectiveness of the survey instrument. Feedback from both subject matter experts and pilot respondents was taken into consideration, leading to necessary modifications in the final version of the questionnaire. This validation process enhances the overall quality and applicability of the survey tool.

## 5. Research Study

### 5.1 Study 1: Qualitative study using In- depth Interviews

Study 1 employed a qualitative research approach using a deductive method. The structure of deductive analysis in this study is based on the Facet model of occupational stress. To identify the construct pertaining to the Facet Model, we reviewed the existing literature on occupational stress to design the study questionnaire to conduct in-depth interviews. Purposive and snowball sampling methods were used to obtain inclusive information about occupational stress. The inclusion criteria for participation were having 4 years of work experience in manufacturing firms. The sample included 10 female workers, 10 middle managers and 10 executive managers from manufacturing units, using purposive and snowball sampling. The participants' age range between 18 and 60. With an average age of 39.86 years. Table 1 & 2 presents the Interviewees' details.

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**In-Depth Interviewees Profile**

Table 1: Interviewees Age Profile

| Age Group | Number of Participants |
|---|---|
| 18-28 | 1 |
| 29-39 | 14 |
| 40-50 | 11 |
| 51-60 | 4 |
| Total | 30 |

Table 2: Interviewees Designation Profile

| Designation | Number of Participants |
|---|---|
| Executive Manager | 10 |
| Manager | 10 |
| Supervisor | 10 |
| Total | 30 |

Source: Author's compilation

Open-ended questions were asked to share their experiences with the work culture of their organisation. We established an interview protocol to collect the qualitative data by analysing the Facet model and occupational stress literature extensively relevant to their profession.Their participation in the interview was voluntary, no incentives were given for participation, and their identity were not be disclosed in any manner. Data and all information that they shared were only for academic purposes, as they were informed well in advance.Participants were interviewed physically. The interview was conducted with a brief introduction about the interviewer (about herself) and explained the topic and purpose for the study.

The interview began with a brief introduction of the interviewer (about herself), and she explained the topic and purpose of the study. The collected data were analysed, and determinants were identified and put under relevant facets. Under Environmental facets, work overload, resource scarcity, excessive overtime, insufficient professional training, excessive role demand, and frequent tech updates were found. Moving further to the second facet, Personal, poor health, job insecurity, prolonged standing, and strained posture were identified. Under the Process facet, workplace discontent, lack of confidence and Low morale were clubbed. The human consequences facet included personality, headache, and fatigue. Organisational consequences facet identified rigid working hours, making mistakes and office politics. Under the Time facet, privacy violations, personal family issues, and unrealistic time were found. And the last facet, i.e., Adaptive response, included no wellness program, feeling isolated, favouritism, and Career stagnation.The identified facets were further included in subsequent survey questions to gain a deeper understanding of the stress.

**5.2 Study 2: Qualitative study using Focus Group Discussion**

For Study 2, a Focus group discussion was selected to identify occupational factors among female employees. A focus group is a tool where participants are brought together in small groups, and the topic is discussed, and key points are noted down.

The study involved experienced female workers of a textile factory, a heavy metals, dairy manufacturing and automobile manufacturing unit, aged between 25 and 45 years. A batch consists of 6 graduate women randomly selected who could throw some light on their work experiences. A single moderator administered each session. Before starting the discussion, the topic was introduced, and an open discussion was facilitated where every employee was given an equal chance to speak

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about their experience in a work culture. A conference room was selected where no external member, except the group members and the moderator, was allowed. A comfortable environment was made where they can freely speak their heart out about the stresses they encounter at the place. The discussion started with very basic questions about them and the organisation, and gradually, when they were comfortable with the moderator core questions related to occupational stress, factors of stress and its impact on their health and family life were asked. The group discussion lasted for 30 to 45 minutes. The moderator made sure that the participant didn't get bored and stop interacting once found so. All the points were carefully recorded on paper on the spot, making sure no key points were missed. No personal questions related to their family background were asked. Pseudonyms were used for this study. Table 3 presents the profile of the focus group participants.

Table 3: Participant Profile of Focus Group

| Group | Age | Number of Participants |
|---|---|---|
| 1 | 25 – 35 | 3 |
| | 36 – 45 | 3 |
| 2 | 25 – 35 | 3 |
| | 36 – 45 | 3 |
| 3 | 25 – 35 | 5 |
| | 36 – 45 | 1 |
| 4 | 25 – 35 | 1 |
| | 36 – 45 | 5 |

**Summarised Quanlitative study result**

The conceptual framework for the qualitative study was based on the Facet Model by Beehar and Newman (1978). After careful analysis of stage one in-depth interview and stage two focus group discussion, thirty-five key stressors of occupational stress were pointed out by women employees are presented in Table 4.

Table 4: Key Determinantsand Literature support

| Sl. No. | Determinants | Authors |
|---|---|---|
| 1. | Unfavorable physical work environment | Vischer, 2007; |
| 2. | Urgency of deadlines | Vischer, 2007; |
| 3. | Health and safety risks | Narban et.al., 2016; |
| 4. | Resource scarcity | Hong et.al.,2022; |
| 5. | Workplace congestion | Abdel-Halim, 1978 |
| 6. | Excessive role demands | Akanji, 2018; |
| 7. | Organisational restructuring | Makhija et al., 2016; |
| 8. | Role immobility | Makhija et al., 2016; |
| 9. | Role demands | Hameed & Khwaja, 2023; |
| 10. | Poor Increment Policy | Mosadeghrad, 2014; |
| 11. | Absence of recognition | Hameed & Khwaja, 2023; |
| 12. | Insufficient professional development | Akanji, 2018; |
| 13. | Difficulty in Interpersonal Relations | Hong et.al.,2022; |
| 14 | Adversity in delegating responsibilities | Hong et.al.,2022; |
| 15. | Cultural Shift | Narban et.al., 2016; |
| 16. | Office politics | Amiri, 2018; |
| 17. | Absence of emotional support | Amiri, 2018; |
| 18. | Continuous work without respite | Hong et.al.,2022; |
| 19. | Rigid working hours | Genaidy et al.,1994; |
| 20. | Personal family issues | Genaidy et al.,1994; |
| 21. | Excessive overtime | Denis et al., 2006 |
| 22. | Privacy violations | Hong et.al.,2022; |

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| | | |
|---|---|---|
| 23. | Operational difficulties | Hameed & Khwaja, 2023; |
| 24. | Job insecurity | Hameed & Khwaja, 2023; |
| 25. | Workplace discontent | Vischer, 2007; |
| 26. | Lack of confidence | Mosadeghrad, 2014; |
| 27. | Low Morale | Mosadeghrad, 2014; |
| 28. | Dynamic work culture | Amiri, 2018 |
| 29. | Prolonged Standing | Denis et al., 2006 |
| 30. | Strained work posture | Denis et al., 2006 |
| 31. | No mobility | Denis et al., 2006 |
| 32. | Repetitive task | Hong et.al.,2022; |
| 33. | Inadequate amenities | Sahoo et.al., 2015; |
| 34. | No fringe benefits | Hong et.al.,2022; |
| 35. | No wellness program | Hong et.al.,2022; |

Source: Prepared by Author

### 5.3 Study 3: Quantitative study using survey method

#### 5.3.1 Questionnaire Design and Item Development

For the development of the questionnaire, the results of the stage one and stage two studies, traditional stressors, and newly identified stressors are included, following the guidelines for scale development (Thomas, S. et al., 2022).

These identified stressors were clubbed under their similar characteristics for structure and clarity. A 5-point Likert scale was arranged on the spectrum from ' Strongly Disagree' to 'Strongly Agree'. The final questionnaire consists of 50 items to assess the relevance of the investigation's objective.

#### 5.3.2 Data Collection

A stratified convenience random sampling technique was employed to ensure representation across various types of manufacturing firms in India. The sample consisted of 477 female employees from different job roles and hierarchical levels within the manufacturing sector. The aim was to capture a broad and diverse understanding of occupational stress factors. Data were collected over a period, from September 1, 2025, to March 1, 2026.

The questionnaire included an overview of the topic, explaining the intention of the study and the concept of occupational stress. Data were gathered through online and offline modes. Online responses were validated using a forced-response design, ensuring all questions were completed before submission. Offline responses were manually checked at the time of submission to eliminate missing data and maintain completeness.

#### 5.3.3 Study 3. Results and Discussion

**Factor Analysis**

Exploratory factor analysis (EFA) was performed using SPSS software (version 27.0) to identify the underlying factors contributing to occupational stress. Since factor analysis is a tool suited to for reducing large redundant variables and grouping them under factors having same qualities.

Table 5: KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Mayer-Olkin Measure of Sample Adequacy | | .947 |
| Barlett's Test of Sphericity | Approx. Chi-Square | 1.792E4 |
| | Df | 1225 |
| | Sig. | .000 |

Source: Prepared by Author

Barlett's test of Sphericity was applied to examine the appropriateness of the factor analysis.

To measure the sample adequacy, the Kaiser-Meyer-Olkin (KMO) test was used to analysed the relationship between various interrelated variables, which were listed accordingly to their appropriate

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factors. Significance level 0.05 in Bartlett's test indicate the suitability of data for factor analysis, while KMO above 0.50 denotes sample adequacy (Kaiser,1974). These tests are used to determine the factorability of the matrix. The analysis shows that value of chi-square statistic which is 1.792E4 with 1225 degrees of freedom, which is significant at 0.000 level. Therefore it can be concluded that the sample is adequate and fit for factor analysis.

'Total Explained Variance' lists the squared factor loading indicating the percentage of the variance explained by each factor (Hair et al., 2018). As per Hair et al. (2018), for a sample size of 350 or more, a factor loading of 0.30 or higher is considered practically significant. However, this study adopts a more stringent threshold of 0.50. To reduce the data and identify key underlying dimensions, the Principal Component Analysis with Varimax rotation was applied. Factors with Eigenvalues equal to or greater than 1 were retained for further analysis. Based on this criterion, 34 out of 50 variables were extracted. These variables were then clustered into groups based on strong inter-correlations and categorized under broader factors. The selected 34 variables were identified as key contributors to occupational stress. These were further grouped into nine overarching factors influencing occupational stress among female employees of the Indian manufacturing sector. Collectively, these nine factors account for 68.344% of the variance related to occupational stress, referred to as OSAFE, Table 6. provides a detailed summary of the exploratory factor analysis.

**Cronbach's Alpha Test**

To evaluate the reliability and the questionnaire consistency, Cronbach's alpha was employed. This test determines how consistently all the items within a scale measure the intended construct. The Cronbach's alpha values for the factors ranged between 0.50 and 0.80, which falls within the acceptable range for exploratory research (Hair, 2018). For the purposes of this study, a threshold of 0.50 or higher was deemed sufficient. Out of 50, 34 variables recorded alpha values above 0.50, they were kept for further analysis. Table 8. presents the factor loadings of the variables, along with the percentage of variance explained by each factor and their corresponding Cronbach's alpha values.

Table 6: Factor Loading of Variables with Percentage of Variance Explained and Cronbach's Alpha

| Sl. No. | Factors | Variables | Factor loadings | Percentage of variance explained | Cronbach's Alpha value |
|---|---|---|---|---|---|
| 1. | Career Stagnation | Lack of reward<br>Thwart ambition<br>Delayed in promotion<br>Lack of specialized training<br>Poor increment policy | .711<br>.709<br>.693<br>.683<br>.667 | 42.495 | .876 |
| 2. | Role in the organisation | Role overburden<br>Role conflict<br>Lack of resources<br>Role expectation<br>Unfair distribution of work | .728<br>.674<br>.610<br>.561<br>.550 | 5.113 | .865 |
| 3. | Postural Problems | Strained work posture<br>Constant long standing and sitting<br>Repetitive task<br>Fast- Paced work<br>Less mobility | .780<br>.767<br>.739<br>.735<br>.645 | 4.400 | .884 |

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| | | | | | |
|---|---|---|---|---|---|
| 4. | Professional Relationship | Workplace bullying<br>Poor interpersonal relations<br>Discrimination<br>Cultural shift<br>Poor relations with boss<br>Adversity in delegating responsibilities | .661<br>.642<br>.572<br>.572<br>.561<br>.528 | 3.682 | .886 |
| 5. | Workplace Hygiene & Employee well-being | Low standard sanitation<br>Inadequate toilet and wash facilities<br>Inadequate amenities<br>No health facilities | .791<br>.772<br>.739<br>.735 | 3.331 | .875 |
| 6. | Extra Organisational Issues | Fear of Layoffs<br>Family problem<br>Maintenance complication<br>Discouraged taking responsibility | .726<br>.693<br>.654<br>.533 | 2.640 | .839 |
| 7. | Individual psychology | Incapable to adapt dynamic work culture<br>Individual personality<br>Intoxication | .765<br>.626<br>.604 | 2.539 | .779 |
| 8. | Organisational structure and climate | Restrictions on budget<br>No breaks during work | .583<br>.528 | 2.098 | .659 |
| 9. | Intrinsic to job | No flexi Time<br>Poor work conditions | .473<br>.404 | 2.048 | .591 |

Source: Prepared by Author

**6. A Brief Description of Factors identified on the basis of Factor Loading Results**

1. Career Stagnation

Career stagnation refers to a situation in which employees feel trapped in their current positions due to the organisation's failure to provide adequate growth opportunities, recognition, or career advancement over an extended period. Hurst (2017) suggests that obstacles to career progression can result in disengaged behavior and hinder performance development. Monotonous or routine work often lack clarity about their professional goals and challenges, which in turn leads to reduced workplace effectiveness.

2. Role in the Organisation

According to Pareek (1981), a role in an organisation is designated as the position held by an individual, which comes with associated responsibilities, functions, and expectations. While fulfilling various roles, employees are subject to performance expectations from management.

Dual role, role conflict, and role stagnation are some of the probable stressors in the organisation contributing to fatigue, job dissatisfaction and eventually burnout (Beehr & Newman, 1978).

3. Postural Problems

Poor posture is significantly recognised as an important physical stress factors in the industrialised world. A study by the National Institute for Occupational Safety and Health (NIOSH) on posture stated that prolonged standing, sitting, or being in strained, awkward working positions increases the risk of musculoskeletal pain in employees (Mohd Makhbul, 2012). Working in the same posture for hours and days may lead to chronic disease and physical problems in future.

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4. Professional Relationships

Studies by Kang & Singh (2006) and Keshavarz & Mohammadi (2011) highlighted that poor relationships with superiors and colleagues are significant factors of stress in the organisation. Interpersonal conflicts, cultural dissonance and bullying, difficulty in delegating responsibility aggravate stress and anxiety among the employees (Leka & Jain, 2010).

A feeling of isolation in a culturally diverse work environment builds tension and anxiety, affecting the overall motivation, concentration and prompt decision-making (Leka & Jain, 2010).

5. Workplace Hygiene and Employee Well-being

Workplace hygiene and employees' well-being are the fundamental priorities for an organisation. Failing to provide adequate access to sanitation facilities and necessary physical and mental health support elevates occupational stress (Chaudhary et al., 2025). Employee well-being encompasses not just physical and mental health but also emotional and economic stability, shaped by workplace conditions, resources, and interpersonal dynamics. Organisations that invest in well-being initiatives, such as transportation, healthcare, and housing support, can improve job satisfaction and performance.

6. Extra-Organisational Issues

Modern organisational goals are increasingly centered on market competitiveness, often leading to extended working hours and additional responsibilities. While technological advancements aim to enhance productivity, they can also heighten cognitive demands, resulting in mental fatigue, stress, and related health issues.

Employees are frequently expected to engage in activities beyond their regular job roles, burdening themselves with extra-organisational commitments, at the expense of their family and personal time. Such expectations blur the boundaries between work and life, disrupting work-life balance and causing emotional exhaustion (Occupational Medicine, 2000).

7. Individual Psychology

Individual personality plays a crucial role in how employees cope with workplace stress. Ganster et al. (1991) suggest that personality traits significantly influence stress perception and coping mechanisms. Since personality varies from person to person, not everyone experiences stress in the same situations.

Research indicates that individuals appraise stressful circumstances differently. While some may perceive challenges as opportunities for personal growth, others may interpret them as threats, which can lead to heightened stress levels (Watson & Pennebaker, 1989).

8. Organisational Structure and Climate

According to Cooper and Marshall (1976), organisational structure and climate significantly contribute to occupational stress. Poorly designed shifts, unclear roles and insufficient breaks hamper the employees' health and moral (Motowidlo et al., 1986). Furthermore, unfavourable policies related to sick leave, lack of authority, no hearing of grievances and non-involvement in the organisational decision-making process create a feeling of undervaluation among staff, thereby reducing their dedication towards the organisation (Lakra & Dubey, 2025).

**7. Quantitative & Quantitative Study Results**

The primary aim of the study was to explore and identify the occupational stressors impacting female employees in various manufacturing units across India. Data was collected from 477 respondents representing all hierarchical levels, ranging from top management to shop-floor workers. Demographic profile such as age, marital status, and job designation were gathered as part of the participants' profiles.

The data was collected through both online and offline methods and subsequently analysed using SPSS Version 27.0. Exploratory Factor Analysis (EFA) was performed to reduce the large number of observed variables by grouping them based on common underlying factors.

A total of 50 questionnaire items were subjected to EFA. The Principal Component Analysis (PCA)

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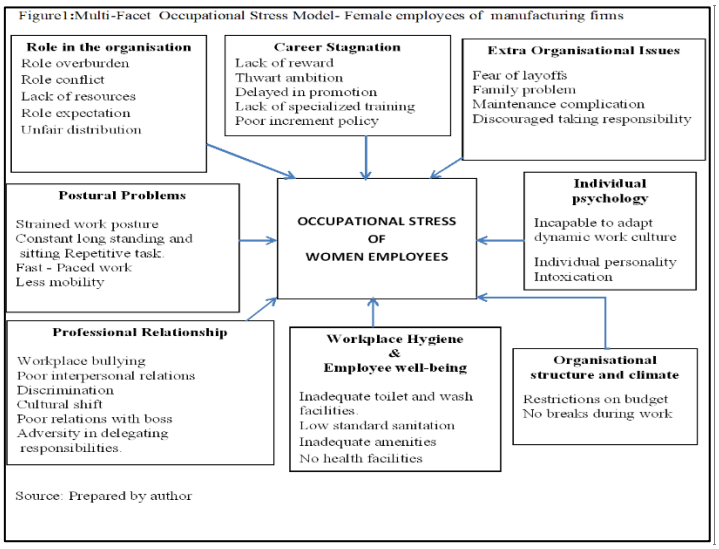
method was used for factor extraction, and the Varimax rotation method was employed with Kaiser Normalization, as recommended for clearer interpretation (Hair et al., 2018). Factors with Eigen values greater than 1 were retained, resulting in the extraction of 9 factors, which collectively explained 64.88% of the total variance.

Factor loadings below 0.50 were excluded from further analysis. This process resulted in 34 valid items, with 16 items being discarded for falling below the loading threshold. The final interpretation of factors was based on the Rotated Factor Matrix**,** as presented in Table 6, whereas Figure 1 provides an extensive view of the Facet model of occupational stress, based on the research study**.**

Figure1:Multi-Facet Occupational Stress Model- Female employees of manufacturing firms




Source: Prepared by author

## 8. Conclusion, Limitations, and Future Research Directions

Occupational stress has increasingly emerged as a significant contributor to employee dissatisfaction within organisations. Empirical evidence indicates that stress in the workplace can lead to heightened absenteeism, reduced productivity, interpersonal conflicts, and declining employee morale, posing serious risks to organisational health and effectiveness.

This study incorporated three stages mix-method approaches and identified nine major factors contributing to occupational stress among female employees in the Indian manufacturing sector. The identified stressors provide a basic framework that can be incorporated to further investigate Multiple Regression Analysis (MRA) to determine the most prominent factor influencing stress levels among this population segment.

Even though the study gives valuable insights, it has certain impediments. It focused primarily on identifying the causes of occupational stress without exploring coping strategies, interventions, or remedial measures in depth. Additionally, given India's vast geographical diversity, it was not feasible to collect data from all regions or manufacturing units, which may affect the applicability of the conclusion.

Nevertheless, the research contributes significantly to the existing body of knowledge by highlighting key stressors faced by women in manufacturing, a traditionally male-dominated industry.

Looking forward, as Indian manufacturing continues to evolve with the adaptation of advanced technologies and greater global integration, the workplace dynamics are likely to shift. Future research should examine organisational support systems, gender-sensitive interventions, and technological adaptations that may mitigate occupational stress.

Understanding and addressing these stressors proactively can help create a more supportive and

equitable work environment, enhancing employee well-being, retention, and organisational performance.

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