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A Study on Job Stress and Productivity of Women Employees Working in the IT Sector: A Structural Model

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Abstract - **The role of women has changed from homemakers to working women, and the beautiful sector is the IT sector. This sector has about 1/3rd of women employees among 4 million IT employees. The present study identifies the 8 factors influencing Job Stress and four aspects of the Productivity of women employees in select IT companies by EFA and CFA. The Job Stress factors identified through CFA are Workload, Role Ambiguity, Job Security, Gender Discrimination, Interpersonal Relationships, Resource Constraints, Job Satisfaction, and Organizational Support. The Productivity factors are Timing, Competence of Supervisors, Compensation, Systems and Procedures. An attempt has been made by the researcher to frame the Job Stress and Productivity using the SEM model, where the model shows a good fit.**

Keywords: **Women Employees, Productivity, Job Stress, SEM**

I. INTRODUCTION

There are more than 3.8 million employees employed in the IT sector in India. The GDP contribution from the IT sector is 7.7% of the economy. The IT sector has paved the way for more women to join this sector. The female workers contributed 24% in the year 2017. The IT sector is providing equal employment opportunities to both men and women. Women employees play a major role in providing technical assistance in this sector.

The role of women has increased, and Job stress has become a part of IT employees' Job culture (Aguila et al., 2024). The factors influencing stress can be physiological or psychological, but it is prevalent in any form. Employees feeling stress due to work and related factors are called Job Stress. Job stress arises due to work-related issues. Hoboubwe et al., (2017), Mousavwe, (2021) identify the stress factors as Role Overload, Role Insufficiency, Role Ambiguity, Role Boundary, Responsibility and Physical environment (Najm, 2023).

The studies have recognized job stress factors as poor working conditions, bullying/harassment, increased workload, hostile working environment, and downsizing (Khyade, 2019). The Stress factors influencing productivity are overwork, excessive responsibility, poor relationships, meeting deadlines, and harassment, as stated, Ahmad et al., (2023). Researched Role Ambiguity, role overload, underutilization of skills, and resource inadequacy (Madathil Sasi & Priya, 2016).

II. REVIEW OF LITERATURE

Sakshwe Sharma, (2015) explores the factors that influence the Stress of Indian army soldiers. Data is collected from 415 soldiers through structured interview schedules. Through exploratory factor analysis, 9 variables like Role conflict, Role ambiguity, Workload, Lack of control at work and job pressure, inadequate awareness about the profession, inadequate training, indifferent organizational attitude, Ineffective leadership style, and Unsupportive colleagues were identified. CFA was done to check the applicability of

the scale (Janani et al., 2023; Mahabub et al., 2024). From CFA, 8 variables were confirmed: Role conflict, Role ambiguity, Lack of control at work, Workload and job pressure, inadequate training, indifferent organizational attitude, Ineffective leadership style, and Unsupportive colleagues (Rabaeka Rachael & Mini Devi, 2019). After removing the factor of inadequate awareness about the profession, the model fit indices are χ^2 (18)= 59.8, p<.01; GFI=.965; CFI=.973; TLI= .958 and RMSEA= .075. The Average Variance that is explained was above .50, and composite reliability is at .92. So, eight factors are confirmed for Stress in Indian army soldiers.

Higgins et al., (2013) conducted studies on the Work Stress of correctional officers at security prisons in Kentucky. 228 staff have participated in the survey. The items for the study are, When I'm at work, often feel tense or uptight (w1); A lot of the times, my job makes me very frustrated or angry (w2); Most of the time when WEam at work, WEdon't feel that WE have much to worry about (w3); WE are usually calm and at ease when WEam working (w4); WEusually feel that WEam under a lot of pressure when WEam at work (w5); There are a lot of aspects about my job that can make me pretty upset things (w6) has factor loadings of 0.62 (w1), 0.69 (w2), 0.36 (w3), 0.75 (w4), 0.74 (w5) and 0.71 (w6). The item (w4) has the highest factor loading of 0.75, which contributes more to Stress. The Chi-square value is 22.40, RMSEA is 0.08, CFWE is 0.97, and SRMR is 0.04. The study helps in understanding work stress and also for the betterment of correctional facilities and organizations.

Tabachenik & Fidel, (2012) conducted a factor analysis for Stress on 710 teachers in Malta & Gozo, a Mediterranean island. The EFA identified 4 items. The items which had low loading (less than .30) are not considered. These items were removed, and items with more variance (.6) are accounted for in the study. The CFA supports five factors, they are: Professional recognition needs, Workload, Time/Resource difficulties, Student misbehavior, and Poor Colleague Relations. The χ^2 is 171.14(70), AGFWE is .911, and RMR is .057, where the hypothesized model in SEM confirms that Workload and Student misbehavior are significant to Stress.

Chen, (2011) has employed SEM to examine the turnover intentions of employees and Job Stress. A sample of 255 respondents was selected for the survey. The CFA has confirmed 9 factors for the study, they are: Superior support, Co-worker support, Autonomy, Role Ambiguity, Role Overload, Fairness of rewards, Role Conflict, Job Stress, and Turnover Intentions. The Chwesquare/df is 1.51, RMSEA is .04 lesser than 0.05, GFWEis .90, CFWEis .97, NFWEis .92 and NNWEis .96 (greater than .90) and AGFWEis .87 (greater than .80). The squared multiple correlations (R^2) of the proposed structural model explains 72% of the variance (Sri Hari et al., 2024).

Lennox et al., (2010) uses the National Study of Postsecondary Faculty dataset of 2004 for their study. The study examines Productivity and Job satisfaction. The base for the study is derived from expectancy-based theories of motivation on self-determination. Their findings indicate the negative significance of productivity and Job Satisfaction among faculty members. They suggest that higher education institutions should think of reward structures, value systems, and expectations.

Kalyan et al., (2023) studied teachers' Job Satisfaction. 351 school teachers in Kaunas are selected for the study. The survey on Job Satisfaction developed by Paul Spector (JSS; Spector 1985) is used to find the Job Satisfaction model proposed by P. Spector by using SEM. The 9 facets of the first order are pay, fringe benefits, promotion, contingent rewards, supervision, operating conditions, nature of work, coworkers, and communication. The CFA data did not fit the primary model of Job Satisfaction. The second (modified) models with 3 facets are considered: Supervision, Promotion, and nature of work based on the highest Cronbach alpha coefficients. CFA data showed a good fit of this model, Goodness of fit indices. It also confirmed the adequacy of the model.

Enders & Bandalos, (2001), Kavishwar et al., (2012) examine the missing data methods' performance in SEM: Full information maximum likelihood (FIML), list-wise deletion, pair-wise deletion, and similar response pattern imputation. The influence of independent variables on factor loading magnitude, sample size, and missing data rate on outcome measures: parameter estimate bias, convergence failures, parameter estimate efficiency, and model goodness of fit was studied. The study results show that FIML estimation was considered a higher supervisor across all conditions. Also, FIML yields the lowest proportion of convergence failures and proves near-optimal Type 1 error rates with both simulations.

Akdemir, (2016) conducted an EFA and CFA to develop and validate the Willingness-to-Listen in a Second Language: L2 (WTL) Scale. The sample consists of 335 students for the first application and 96 students for the second application. To validate the scale, EFA & CFA have been conducted. The study focuses on the English language teaching department in a public university in Turkey. A 67-item scale was developed initially. The factor loads less than .30, and items that do not have .100 differences are removed from the loading. The CFA observed values are C2/d<3, 0, <RMSEA < .05; OS- RMR .05; .97 NNFWE1, .97 CFI; .95 GFWE1, .95 AGFWE1 and .95 IFWE1 indices perfect fit. The reliability and validity analyses indicate that WTL in the L2 scale is a valid and reliable scale.

Research Objectives

1. To identify the factors that cause Job stress among women employees.
2. To identify the factors affecting the Productivity of women employees.
3. To propose a model for Job stress and Productivity of women employees working in the IT Sector.

Problem Statement

Job stress is evident in the IT Sector because of work demands and nature. The study is an attempt to identify the Job stress factors and Productivity factors. Some studies have been identified on Job stress models but Job stress and Productivity models are very few. The study focuses on framing the Job stress and Productivity model so that it is useful for further studies in this area.

Scope of the Study

The study includes the top 10 IT companies in India. Women employees working in these companies are selected for the study. Employees at all levels are included as samples for the study.

III. RESEARCH METHODOLOGY

The descriptive research is used to identify the factors of Job stress and Productivity. The sample size includes 605 employees working in the top 10 IT companies in India. The top IT companies are derived from a market capitalization of the year 2017. The sample is collected from the IT sector, and the women employees at all levels are considered for the study. The technique to collect samples is non-probability sampling, convenience sampling is considered to pick the samples and Judgmental sampling is done to select IT companies. The collected data is analyzed by using exploratory factor analysis (EFA), which helps to identify the factors for the study; confirmatory factor analysis (CFA) is done to confirm the factors, and Structural Equation Modeling (SEM) is used to develop the model to establish a relationship between Job Stress and Productivity.

IV. RESULTS AND DISCUSSION

The 74 variables of Job Stress are condensed to form 13 factors, and the 34 variables of Productivity are condensed to form 7 factors. The factors are extracted by using the Varimax Rotation Method. The SPSS software is used for analysis. The variables that have Eigen eigenvalue of 1 or above are retained, also the Communalities above .50 are considered. Communalities are the proportion of variance that one variable has over the other variable (Singh et al., 2023). The KMO value above .50 is considered. (Refer to Table I). Factor loadings of above .50 of Variance explained are considered for the study. The Cronbach's alpha, a measure of the internal consistency of the data, is .60 and above (Malhotra, 2007) is acceptable.

Objective 1:

The factors extracted for Job Stress are Workload, Role Ambiguity, Job Security, Gender Discrimination, Interpersonal Relationships, Change of Job, Resource Constraints, Role Fit, Job Satisfaction, Organizational Commitment, Job Involvement, Organizational Support, and Work-life Balance. The Study is carried out to identify the major factors of Job Stress affecting IT Women Employees. From the exploratory factor analysis, 13 factors are considered for the study. The extracted factors are discussed below,

Workload: The four variables for Workload are, WEam able to reach the target on a specified time, WEam given extra work to perform always, WEam given work as per my capabilities, Suddenly WE will be burdened with more work without giving sufficient time to complete has the factor loadings of .74, .89, .87, .84 (Table I). The mean score of Workload is 3.71. The variable, WEam, given extra work to perform always (factor loading is .89), contributes significantly to the factor Workload.

Role Ambiguity: The five variables for Role Ambiguity are, Sufficient and clear information is provided to perform the task, we get a chance to try our way to do the job When changes are made at work, we WEam clear about it, we have opportunity to clarify with manager about the changes or anything related to work, WE get enough supervision to complete my task has the factor loadings of .82, .84, .85, .75 and .75, (Table I). The mean score of Role Ambiguity is 3.78. The variable, when changes are made at work, WEam clear about it (factor loading is .85), contributes significantly to the factor Role Ambiguity.

Job Security: The four variables for Job Security are, feeling security in my job, sometimes fear of losing a job because of either a change in technology or change in management, My job needs special skills that can be gained only through rigorous, continuous training and practice, we feel secure, as we possess all the necessary skills and capabilities to perform the job has the factor loadings of .69, .86, 86 and .90 (Table I). The mean score of Job Security is 3.47. The variable, feel secure, as WE possess all the necessary skills and capabilities to perform the job (factor loading is .90), contributes significantly to the factor Job Security.

Gender Discrimination: The five variables for Gender Discrimination are that employees are treated equally about job/targets, The company offers flexible working hours irrespective of gender, Equal opportunities are provided for career growth without gender bias, Gender is not a constraint to perform complex tasks, Women will be allowed to leave office on time even if the tasks are pending to be fulfilled for the day has factor loadings of .64, .69, .62, .68 and .58 (Kotti et al., 2024). The mean score of Gender Discrimination is 3.83. The variable, the company offers flexible working hours irrespective of gender (factor loading is .69), contributes significantly to the factor Gender Discrimination.

Interpersonal Relationships: The six variables for Interpersonal Relationships are, Relationship among people at all levels is good in the organization, I get the necessary assistance from my boss when required, Knowledge sharing happens properly because of good interpersonal relationships, WE get timely assistance and support from my colleagues, The company encourages to develop good interpersonal relations to work in teams, Team conflicts are resolved by proper communication and deliberate important issues that affect the performance has factor loadings of .51,

.83, .80, .62, .52 and .54 (Jalaja et al., 2024). The mean score for Interpersonal Relationships is 2.96. The variable, WE get the necessary assistance from my boss when required (factor loading is .83), contributes significantly to the factor Interpersonal Relationships.

Change of Job: The four variables for Change of Job are, accepting change based on priorities of my work, being flexible and open to new ideas, encouraging others to value change, WE feel stressed if there is a change in roles and responsibilities has factor loadings of .53, .83, .60 and .63 (Table I). The mean score for Change of Job is 2.59 (Dawra et al., 2024). The variable, WEam, is flexible and open to new ideas (factor loading is .83) and contributes significantly to the factor Change of Job.

Resource Constraints: The six variables for Resource Constraints are, WEam provided enough time to perform the tasks, My supervisor is effective in allocating the resources to employees, Manpower with suitable skills is provided to work in teams, Infrastructure is maintained effectively, Infrastructure is updated for smooth flow of tasks, Resource allocated becomes inaccessible at times because of protocols has factor loadings of .91, .65, .88, .63, .71 and .81 (Table I). The mean score for Resource Constraints is 2.36. The variable, WEam, provided enough time to perform the tasks (factor loading is .91) and contributes significantly to the factor Resource Constraints.

Role Fit: The four variables for Role Fit are, learning from peers about how to handle new roles, WEam clear about my roles and responsibilities, understanding my work fits in achieving organizational goals, WE update my skills and knowledge to fit myself for the change in job requirements has factor loadings of .66, .71, .67 and .51 (Kotti et al., 2024). The mean score for Role Fit is 2.31. The variable, WEam clear about my roles and responsibilities (factor loading is .71), contributes significantly to the factor Role Fit.

Job Satisfaction: The six variables for Job Satisfaction are, WEam satisfied with my workload, WEam satisfied with the work conditions, WEam satisfied with the respect WE get from colleagues, WEam satisfied with the way company policies are framed and put into practice, WEam satisfied with the health and safety practices, WE feel happy after accomplishing my tasks has factor loadings of .77, .78, .54, .62, .79 and .62 (Table I). The mean score for Job Satisfaction is 2.16. The variable WEare satisfied with the health and safety practices (factor loading is .79), contributes significantly to the factor Job Satisfaction.

Organizational Commitment: The seven variables for Organizational Commitment are, will recommend my workplace to the capable one, WE intend to stay in the company for a longer period, will extend my help to others in knowledge sharing, will perform any task assigned beyond my work targets also if required, WE give preference to my work rather than my commitments when required, WE strongly believe and accept the values and goals of the company, WEam inspired by the leadership skills possessed by my boss has factor loadings of .69, .61, .71, .62, .67, .62 and .77 (Table I). The mean score for Organizational Commitment is 2.42. The variable, WEam, inspired by the leadership skills possessed by my boss (factor loading is .77), contributes significantly to the factor of Organizational Commitment.

Job Involvement: The seven variables for Job Involvement are, My job is the most important part of my life, feel emotionally involved in my job, would feel guilty if leave my tasks incomplete, always enjoy doing my job, WE get opportunity in decision making related to tasks/job, WEam involved in improving the ways/methods of doing job, WEam involved in motivating others to reach the targets has factor loadings of .62, .79, .82, .63, .53, .66 and .70 (Table I). The mean score for Job Involvement is 2.39 (Rana et al., 2024). The variable, WE would feel guilty if WE leave my tasks incomplete (factor loading is .82), contributes significantly to the factor of Job Involvement.

Organizational Support: The eleven variables for Organizational Support are, The company has policies that drive individual growth (Sarkar et al., 2024; Jalaja et al., 2024), The company has policies that drive organizational growth, There is a facility to take care of children, Effective training is provided regularly, Health care assistance is provided, Employees counseling is done effectively when required, The company organizes health awareness programs, My company encourages career development activities, Workforce diversity encourages synergy and learning from each other, If we decide to quit, the employer would try to persuade me to stay, The supervisors are proud that WEam a part of this organization has factor loadings of .52, .51, .82, .52, .62, .77, .67, .71, .73, .68 and .63 (Table I). The mean score for Organizational Support is 2.27. The variable, there is a facility to take care of children (factor loading is .82), contributes significantly to the factor of Organizational Support.

Work-life Balance: The five variables for Work-life Balance are, feeling my company is a friendly place to work, having enough time to do my office and personal work as well, My work schedule is flexible enough to meet my work/personal needs, Work completion is more important than personal things, Work culture promotes balance between work and family life has factor loadings of .66, .89, .62, .84 and .63 (Table I). The mean score for Work-Life Balance is 2.51. The variable WE have enough time to do my office and personal work as well (factor loading is .89) contributes significantly to the factor Work-Life Balance.

TABLE I DESCRIPTIVE STATISTICS OF JOB STRESS

Factors	Mean	S.D	F.L.	Com	V.E.%	Cronbach's Alpha
Workload					69.97	0.854
We can reach the target on the specified time	3.58	0.99	0.74	0.54		
WEam given extra work to perform always	3.85	1.04	0.89	0.80		
Am given work as per my capabilities	3.86	1.03	0.87	0.76		
Suddenly will be burdened with more work without giving sufficient time to complete	3.55	1.08	0.84	0.70		
Role Ambiguity					64.41	0.86
Sufficient and clear information is provided to perform the task	3.55	1.18	0.82	0.67		
We get a chance to try my methods of doing the job	3.48	1.18	0.84	0.70		
When changes are made at work, WEam clear about it	3.46	1.17	0.85	0.73		
We have the opportunity to clarify with the manager about the changes or anything related to work	4.21	0.92	0.75	0.56		
We get enough supervision to complete my task	4.18	0.97	0.75	0.56		
Job Security					62.71	0.79
We have a sense of security in my job	3.74	1.09	0.69	0.24		
We sometimes fear losing our jobs because of either a change in technology or a change in management	3.28	1.16	0.86	0.74		
My job needs special skills that can be gained only through rigorous, continuous training and practice	3.60	1.02	0.86	0.73		
We feel secure, as WE possess all the necessary skills and capabilities to perform the job	3.26	1.16	0.90	0.80		
Gender Discrimination					72.08	0.67
Employees are treated equally about job/targets	3.79	0.96	0.64	0.85		
The company offers flexible working hours irrespective of gender	3.75	0.98	0.69	0.86		
Equal opportunities are provided for career growth without gender bias	4.02	0.78	0.62	0.58		
Gender is not a constraint to performing complex tasks	4.03	0.80	0.68	0.62		
Women will be allowed to leave the office on time even if the tasks are pending to be fulfilled for the day	3.53	0.91	0.58	0.70		
Interpersonal Relationships					67.23	0.60
The relationship among people at all levels is good in the organization	3.87	0.89	0.51	0.82		
We get necessary assistance from my boss when required	3.78	0.89	0.83	0.80		
Knowledge sharing happens properly because of good interpersonal relationships	2.20	1.10	0.80	0.70		
We get timely assistance and support from my colleagues	2.62	1.08	0.62	0.67		
The company encourages to development of good interpersonal relations in working in teams	2.79	1.05	0.52	0.69		
Team conflicts are resolved by proper communication and deliberate important issues that affect the performance	2.53	1.02	0.54	0.35		
Change of Job					61.19	0.69
We accept change based on the priorities of our work	2.63	1.01	0.53	0.41		
WEam flexible and open to new ideas	2.45	1.07	0.83	0.70		
encourage others to value change	2.67	1.04	0.60	0.63		
We feel stressed if there is a change in roles and responsibilities	2.61	1.04	0.63	0.71		
Resource Constraints					65.07	0.61
WEam provided enough time to perform the tasks	2.39	1.04	0.91	0.72		
My supervisor is effective in allocating resources to employees	2.30	1.07	0.65	0.69		
Manpower with suitable skills is provided to work in teams	2.36	1.02	0.88	0.72		
Infrastructure is maintained effectively	2.46	1.06	0.63	0.62		
Infrastructure is updated for a smooth flow of tasks	2.21	1.05	0.71	0.44		
Resource allocated becomes inaccessible at times because of protocols	2.41	1.05	0.81	0.72		
Role Fit					51.20	0.52
Learn from peers about how to handle new roles	2.34	1.06	0.66	0.43		
I am clear about my roles and responsibilities	2.34	1.08	0.71	0.51		
Understanding my work fits in achieving organizational goals	2.39	1.04	0.67	0.45		
Updated my skills and knowledge to fit the change in job requirements	2.17	1.06	0.51	0.26		
Job Satisfaction					51.11	0.65
I am satisfied with my workload	2.26	1.03	0.77	0.59		
WEam satisfied with the working conditions	2.34	1.05	0.78	0.61		
I am satisfied with the respect we get from my colleagues	2.08	1.09	0.54	0.57		
WEam satisfied with the way company policies are put into practice	2.13	1.06	0.62	0.60		

WEam satisfied with the health and safety practices	1.94	1.08	0.79	0.57		
We feel happy after accomplishing our tasks	2.20	1.06	0.62	0.13		
Organizational Commitment					57.50	0.64
We will recommend my workplace to the capable one	2.05	1.06	0.69	0.56		
WEintend to stay in the company for longer period	2.44	1.09	0.61	0.49		
Can extend my help to others in knowledge-sharing	2.40	1.07	0.71	0.56		
Will perform any task assigned beyond my work targets also if required	2.51	1.08	0.62	0.51		
Give preference to my work rather than my commitments when required	2.62	1.03	0.67	0.54		
We strongly believe in and accept the values and goals of the company	2.66	1.06	0.62	0.75		
I am inspired by the leadership skills possessed by my boss	2.25	1.08	0.77	0.62		
Job Involvement					76.49	0.68
My job is the most important part of my life	2.21	1.04	0.62	0.28		
We feel emotionally involved in my job	2.58	1.05	0.79	0.62		
We would feel guilty if we left my tasks incomplete	2.82	1.06	0.82	0.69		
We always enjoy doing my job	2.31	1.02	0.63	0.43		
WEget opportunities in decision-making related to tasks/job	2.26	0.99	0.54	0.44		
WEam involved in improving the ways/methods of doing the job	2.25	1.02	0.66	0.42		
WEam involved in motivating others to reach the targets	2.26	1.01	0.70	0.38		
Organizational Support					52.60	0.64
The company has policies that drive individual growth	2.26	1.05	0.52	0.22		
The company has policies that drive organizational growth	2.29	1.04	0.51	0.50		
There is a facility to take care of children	2.12	1.03	0.82	0.78		
Effective training is provided regularly	2.36	1.01	0.52	0.47		
Healthcare assistance is provided	2.25	1.04	0.62	0.73		
Employee counseling is done effectively when required	2.12	1.03	0.77	0.69		
The company organizes health awareness programs	2.26	1.03	0.67	0.80		
My company encourages career development activities	2.24	1.04	0.71	0.37		
Workforce diversity encourages synergy and learning from each other	2.13	1.03	0.73	0.44		
If I decide to quit, the employer would try to persuade me to say	2.50	1.06	0.68	0.48		
The supervisors are proud that I am a part of this organization	2.50	1.04	0.63	0.47		
Work-life Balance					72.89	0.64
We feel my company is a family-friendly place to work	2.66	1.09	0.66	0.16		
We have enough time to do my office and personal work as well	2.67	1.06	0.89	0.26		
My work schedule is flexible enough to meet my needs	2.37	1.18	0.62	0.35		
Work completion is more important than personal things	2.43	1.13	0.84	0.42		
Work culture promotes balance between work and family life	2.41	1.04	0.63	0.43		
S.D- Standard Deviation; F.L- Factor Loading; Com- Communality; V.E- Variance explained						

To check the scale applicability CFA is done after factors confirmation in EFA. EFA has identified 13 factors for Job Stress but CFA has confirmed only 8 factors to indicate Job Stress among IT women employees. In Table I the factors confirmed after CFA are Workload, Role Ambiguity, Job Security, Gender Discrimination, Interpersonal Relationships, Resource Constraints, Job Satisfaction, and Organizational Support. The $\chi 2$ Value is 904.25 (pdf: 226), where P< .001(level of significance), GFI= .908, CFI= .911, TLI= .889 and RMSEA= 0.081.

The standardized regression weights for Change of Job, Role Fit, Organizational Commitment, Job Involvement, and Work-life Balance are less than .5 hence they are not confirmed as factors. The validity of the measurement model is established as standardized regression weights and Average Variance Explained (AVE) is more than .50 and Composite reliability is above .7. Thus, the CFA confirms a total 8 factors for Job Stress. The significance of standardized regression weights shows that the 8 factors contribute to the overall Job Stress model where (p<.001). The measurement model shows that the Job Stress of women employees in the Indian IT sector is due to Workload, Role Ambiguity, Job Security, Gender Discrimination, Interpersonal Relationships, Resource Constraints, Job Satisfaction, and Organizational Support (Almashaqbeh et al., 2024).

The results from CFA support the EFA analysis, where all the 8 factors derived from CFA contribute to the Job Stress factors.

Objective 2:

The factors extracted for Productivity are timing, Competence of Supervisors, Compensation, Systems & Procedures, Group Dynamics, absenteeism, and Presentism. The Study is conducted to identify the major factors of Productivity that affect IT Women Employees. From the exploratory factor analysis, 7 factors are considered for the study. The extracted factors are discussed below,

Timings: The four variables for Timings are that, I will not sit idle even if complete my tasks well ahead of the working hours, I work for extra hours to reach my targets, I plan my activities at work to utilize my time properly, WE maintain time to come and leave the office has the factor loadings of .83, .89, .86, .73 (Table II). The mean score of Timings is

3.72. The variable, working for extra hours to reach my targets (factor loading is .89) contributes significantly to the factor timing.

Competence of Supervisors: The six variables for Competence of Supervisors are, My supervisor renders necessary help and support for my work when needed, Supervisor assigns jobs as per team members' capabilities (knowledge, skills, and ability), Supervisor communicates with team members properly, Supervisors considers team members opinions for work-related issues, Supervisor motivates team members to perform their tasks, Supervisor resolves the problems of the employees has the factor loadings of .79, .82, .83, .75, .76 and .74 (Table II). The mean score of Competence of Supervisors is 3.76. The variable, Supervisor communicates with team members properly (factor loading is .83) contributes significantly to the Competence of Supervisors.

Compensation: The four variables for Compensation are, WEam are satisfied with the salary package, WE get increment or incentive based on my performance, Critical tasks are considered for financial rewards, will be paid salary regularly has the factor loadings of .85, .87, .86 and .80 (Table II). The mean score of Compensation is 3.51. The variable WE get increment or incentive based on my performance (factor loading is .87) contributes significantly to Compensation.

Systems & Procedures: The five variables for Systems & Procedures are, The company has a standard procedure/process to complete the tasks, The standard procedure enables me and my team members to deliver quality work, The Information on the status of work is documented regularly to ensure smooth flow of work, The system is easy to understand, The procedures are easy to understand and apply while doing work has the factor loadings of .29, .78, .71, .75 and .72 (Table II). The mean score of Systems & Procedures is 3.84. The variable, The standard procedure enables me and my team members to deliver quality work (factor loading is .78) and contributes significantly to Systems & Procedures.

Group Dynamics: The five variables for Group Dynamics are, Group members help each other to accomplish the tasks, Group members communicate properly to all others in the group, Group consists of skilled members, Group consists of unskilled members, Group members motivate other members in the team has the factor loadings of .50, .66, .57, .66, .65 (Table II). The mean score of Group Dynamics is 2.80. The variables, Group members communicate properly to all others in the group and Group consisting of unskilled members (factor loadings are .66 and .66) contributes significantly to Group Dynamics.

Absenteeism: The five variables for Absenteeism are, failure to complete my task due to personal problems, Personal problems making me late for work, leaving the office early due to Personal problems, Personal problems have Pulled me away from the normal work location to complete my tasks, Personal problems made me be on the phone, e-mail, or internet while at work has the factor loadings of .57, .91, .73, .63 and .82 (Table II). The mean score of absenteeism is 2.56. The variable, Personal problems made me late for work (factor loading is .91) contributes significantly to absenteeism.

Presentism: The five variables for Presentism are, had a hard time doing work because of personal problems, My problems kept me concentrating on my work, Because of my problems I was not able to enjoy the work, My problems made me worry about completing my tasks, we could not do my job well because of my problems has factor loadings of .77, .79, .60, .74, .62 (Table II). The mean score of Presentism is 2.34. The variable, My problems kept me from concentrating on my work (factor loading is .79) contributes significantly to Presentism.

TABLE II DESCRIPTIVE STATISTICS OF PRODUCTIVITY

Factors	**Mean**	**S.D**	**F.L.**	**Com**	**V.E.%**	**Cronbach's Alpha**
Timings					68.52	0.84
Will not sit idle even if complete my tasks well ahead of the working hours	3.60	0.97	0.83	0.69		
Work for extra hours to reach my targets	3.85	1.04	0.89	0.79		
Plan my activities at work to utilize my time properly	3.88	1.03	0.86	0.74		
WE maintain time to come and leave the office	3.55	1.05	0.73	0.53		
Competence of Supervisors					61.51	0.81
My supervisor renders necessary help and support for my work when needed	3.56	1.17	0.79	0.63		
Supervisor assigns jobs as per team members' capabilities (knowledge, skills, and ability)	3.47	1.20	0.82	0.68		
Supervisors communicate with team members properly	3.45	1.17	0.83	0.69		
Supervisors consider team members' opinions on work-related issues	4.21	0.92	0.75	0.56		
Supervisor motivates team members to perform their tasks	4.17	0.99	0.76	0.57		
Supervisor resolves the problems of the employees	3.73	1.10	0.74	0.55		
Compensation					71.51	0.87
WEam are satisfied with the salary package	3.31	1.17	0.85	0.73		
Get an increment or incentive based on my performance	3.63	0.99	0.87	0.75		

Critical tasks are considered for financial rewards	3.29	1.14	0.86	0.74		
Will be paid salary regularly	3.83	0.94	0.80	0.64		
Systems and Procedures					75.45	0.66
The company has a standard procedure/process to complete the tasks	3.77	0.97	0.29	.521		
The standard procedure enables me and my team members to deliver a quality work	4.03	0.76	0.78	0.60		
The information on the status of work is documented regularly to ensure a smooth flow of work	4.02	0.84	0.71	0.53		
The system is easy to understand	3.52	0.90	0.75	0.56		
The procedures are easy to understand and apply while doing work	3.88	0.86	0.72	0.53		
Group Dynamics					48.92	0.49
Group members help each other to accomplish the tasks	3.79	0.86	0.50	0.25		
Group members communicate properly with all others in the group	2.19	1.09	0.66	0.45		
The group consists of skilled members	2.68	1.07	0.57	0.66		
The group consists of unskilled members	2.80	1.06	0.66	0.65		
Group members motivate other members of the team	2.53	1.01	0.65	0.43		
Absenteeism					50.08	0.31
Failed to complete my task due to personal problems	2.66	1.01	0.57	0.68		
Personal problems made me late for work	2.43	1.09	0.91	0.82		
Leave office early because of Personal problems	2.71	1.05	0.73	0.54		
Personal problems have Pulled me away from my normal work location to complete my tasks	2.62	1.05	0.63	0.68		
Personal problems made me be on the phone, e-mail, or the internet while at work.	2.37	1.03	0.82	0.72		
Presenteeism					54.27	0.48
We had a hard time doing my work because of my problems.	2.24	1.08	0.77	0.60		
My problems kept me from concentrating on my work.	2.34	1.03	0.79	0.65		
Because of my problems, WE was not able to enjoy my work.	2.49	1.06	0.60	0.48		
My problems made me worry about completing my tasks.	2.21	1.05	0.74	0.40		
We could not do my job well because of my problems.	2.43	1.06	0.62	0.58		
S.D- Standard Deviation; F.L- Factor Loading; Com- Communality; V.E- Variance explained						

CFA is done to check the scale applicability after factors confirmation in EFA in Table II. EFA has identified 7 factors for Productivity but CFA has confirmed only 4 factors to indicate Productivity of IT women employees. The factors confirmed after CFA are timing, Competence of Supervisors, Compensation, and Systems & Procedures. The $\chi 2$ Value is 511.002 (pdf: 129), where P< .001(level of significance), GFI= .90, CFI= .90, TLI= .86 and RMSEA= 0.081.

Thus, the CFA confirms a total of 4 factors for Productivity. The significance of standardized regression weights shows that the 4 factors contribute to the overall Productivity model (p<.001). The measurement model shows that the Productivity of women employees in the Indian IT sector is due to timing, Competence of Supervisors, Compensation, and Systems & Procedures. The results from CFA support the EFA, where all these 4 factors are derived from CFA and contribute to the Productivity factors.

Objective 3:

To propose a model for Job stress and Productivity of women employees in the IT Sector

Structural Equation Modeling is done to test the proposed theoretical models (Kline, 2005). To test SEM, hypotheses have been framed and tested to understand the relationship between the constructs.

TABLE III HYPOTHESES FOR SEM

Hypotheses	Statement	Result
H1	Workload has a relationship with Job Stress	Reject
H2	Role Ambiguity has a relationship with Job Stress	Reject
H3	Job Security has a relationship with Job Stress	Reject
H4	Gender Discrimination has a relationship with Job Stress	Reject
H5	Interpersonal Relationships have a relationship with Job Stress	Reject
H6	Resource Constraints has a relationship with Job Stress	Reject
H7	Job Satisfaction has a relationship with Job Stress	We fail to reject
H8	Organizational Support has a relationship with Job Stress	We fail to reject
H9	Timings have a relationship with Productivity	Reject
H10	Competence of Supervisors has a relationship with Productivity	Reject
H11	Compensation has a relationship with Productivity	Reject
H12	Systems & Procedures has a relationship with Productivity	Reject

The SEM analysis reveals in Table III that job satisfaction and organizational support significantly impact job stress, while factors like workload, job security, and gender discrimination do not show a direct relationship. Similarly, productivity is not significantly influenced by timings, supervisor competence, compensation, or systems & procedures. These findings highlight the importance of fostering a supportive work environment and enhancing employee satisfaction to effectively manage stress and improve workplace efficiency.

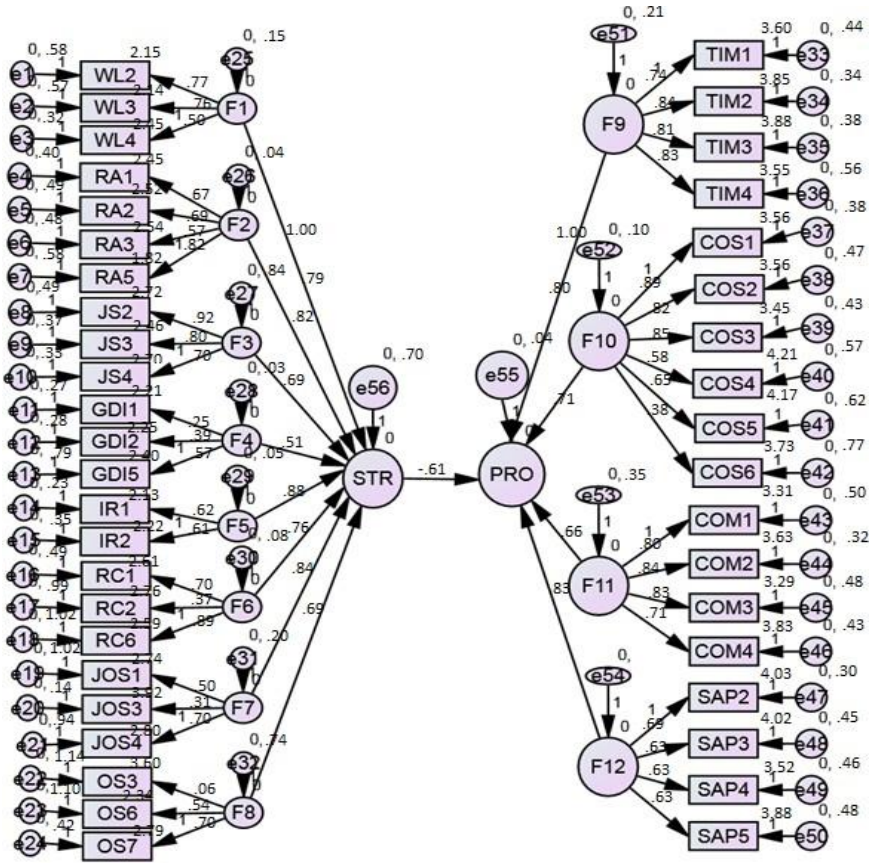

Fig. 1 Structural Equation Modeling (SEM) for Job Stress and Productivity

For fig. 1, SEM indices show χ^2= 582.112(129), GFI= .933, TFI= .971, CFI= .950, RMSEA= .070, CMIN/Df = 3.321 where the recommended value for GFWEis > .9, CFWEis >.9, TLWEis >.9, RMR= .081, RMSEA= .08 to 1.0, CMIN/Df = <5 is considered good for the study. All the indices of SEM like GFI, CFI, TFWE and RMSEA satisfy the threshold value, which is statistically significant. The negative value of -.61 of Job Stress on Productivity proves that Job Stress factors influence Productivity to an extent of 61% and there is a negative impact between the two.

The squared multiple correlations (R^2) of the proposed structural model explain -61% of the variance in Job Stress. The major contributor to Job Stress is the factor of Gender Discrimination and the major factor contributing to Productivity is Systems & Procedures.

V. Implications

Research on Job Stress helps in understanding the causes of stress in the IT sector and the strategies that can be framed to overcome this to improve productivity. More number of women employees joining this sector will help in the economic development in terms of gender equality and add to improve the lifestyle of people in an economy. So, women employees should be encouraged to take up jobs and help balance work and life so that Job Stress can be managed.

VI. Limitations and Scope for Further Research

The study is limited to the top ten IT companies based on Market Capitalization and the women employees are selected for the study.

The study can cover comparative study for both genders where our study has covered only women employees.

The study is conducted in the IT sector whereas stress is seen in other sector employees like School teachers, Banking employees (Chovwen, 2013), Nurses (WUH, CHWET-S., 2010), Manufacturing sector (Ram et al., 2011) so studies can be made in these sectors.

VII. Conclusion

This study investigated job stress and productivity among women employees in the Indian IT sector, identifying eight key job stress factors—Workload, Role Ambiguity, Job

Security, Gender Discrimination, Interpersonal Relationships, Resource Constraints, Job Satisfaction, and Organizational Support—and four productivity factors—Timings, Competence of Supervisors, Compensation, and Systems & Procedures—through EFA and CFA, with a sample of 605 women from the top 10 IT firms based on 2017 market capitalization. The SEM model confirmed a strong interrelationship between these factors, showing a good fit (job stress: $\chi^2 = 904.25$, df = 226, $p < .001$, GFI = .908, CFI = .911, RMSEA = 0.081; productivity: $\chi^2 = 511.002$, df = 129, $p < .001$, GFI = .90, CFI = .90, RMSEA = 0.081). These findings highlight the critical role of addressing stress-related issues to enhance productivity in a sector employing over 3.8 million people and contributing 7.7% to India's GDP. The validated model offers a practical framework for IT organizations to improve workforce well-being and performance, with the potential for future research to expand its scope.

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