
Qualitative study on Stressors- Stresses- Absenteeism pattern among Indian construction professionals

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ABSTRACT:

Construction is a diverse activity which involves a plethora of resources for its completion thereby making it the most stressful industry. This study aims to bring insight into the stressful condition of Indian CPs. The main objective of this study to identify various work stressors present in the construction industry, examine prevailing emotional and physiological stresses in the construction industry. It was observed personal stressors (behavioral traits, work-life imbalance); Task stressors (unsafe working condition, work overload, poor work environment, role conflict, and work under load), organizational stressors (Poor work culture, effort-reward imbalance and low organizational support) and interpersonal stressors (Boss stress, Team stress) were identified as key stressors. Physiological and emotional stresses such as fatigue, irritation, constant worry, depression, frustration, more aged appearance are reported more common stresses faced by CPs. Overall it was observed that due to the various stressors present in Indian construction industry number of days lost by CPs were 9.6 days per year which indirectly affects negatively to the productivity of construction project.

Keywords: *construction professionals (CPs), stressors, physiological stresses, emotional stresses.*

INTRODUCTION:

The human resource is the prime and utmost important resource that plays an important role in the success of any construction project. Globalization of economy, Ever-changing demand, pace, technological advancements, work complexity, cost-cutting, maximum profit approach, performance-based appraisal attributes severe challenges to the CPs to its physiological, physical, emotional, cognitive well-being for their stable endurance in a cut-throat competitive market. CPs are expected to be more flexible by their employers with regard to Job location, personal life, monetary facets, job timing and workload than ever before. However, this challenges reportedly known as work stressors results in work-related stresses to the CPs for their emotional, cognitive, physiological well-being.

Work-related stress describes the physical, mental and emotional reactions of CPs who perceive that their work demands exceed their abilities and/or their resources (such as time, help/support) to do the work (Queensland, Workplace Health and Safety 2017) in other words it is stress is the deviation between individuals expected and actual ability to deal with a task (Leung, et al., 2015, Cox, 1993). Stress is not limited to any particular profession (Ng, et al. 2005), but extreme, persistent and unrelieved pressure can lead to stress which undermines performance and affects negatively in terms of absenteeism, illness, accidents, low productivity rate. This is the reason why Construction industry is noted as the third most stressful profession after mining and police work (Statt, 1994).

According to a study by the Chartered Institute of Building (CIOB 2006), 68.2% CPs had suffered from stress, anxiety or depression as a direct result of working in the construction industry. 84% of CPs polled felt that stress in the construction industry was a factor for poor retention levels. HSE estimates that 12.8 million working days were lost to stress, depression and anxiety in 2004/5. Each new case of stress leads to an average of 31 days off work (HSE, Beacons of excellence in stress prevention 2003). According to Labour Force Survey, the total number of working days lost due to this condition in 2016/17 was 12.5 million days. In

2016/17 stress, depression or anxiety accounted for 40% of all work-related ill health cases and 49% of all working days lost due to illhealth (Labour force survey 2017).

Indian construction industry is largely unorganized because of uniqueness in its feature and provides employment to 7% of total world employment (U.V.Kiran and devi 2013) or 16% of India's working population depends on building construction for its livelihood people and creates assets worth over Rs 2,10,000 crores annually (The Gazette of India 2008). However, the importance of stress management in the construction industry has hardly been regarded as an issue so far. The amount of work done in India is quite less in the area of stress management as compare to other parts of world that half of the work on work related stress was from Hong Kong (50%), with the remaining research distributed between Europe (22%), Australia (15%), Africa (11%), and United States (2%) (Chen, McCabe and Hyatt 2017)

RESEARCH METHODOLOGY:

The target population for the study was Construction professionals (CPs) all across the country working as junior site Engineers, Senior site Engineer, Quantity surveyors, Structural Engineers, Project managers, Architects, Technical consultants. This CPs were working in government statutory bodies, private civil contracting firms, developers/ builders and technical consultancy work with varying work experience in the different functional area of work. The questionnaire has been designed and disseminated to CPs in India working in various states with varying experience and expertise. Total 200 online questionnaires were distributed and 70 responses were retrieved indicating a response rate of 35%. This survey was conducted between October 2017 to February 2018.

DEVELOPMENT OF QUESTIONNAIRE:

Questionnaire was prepared with the help of past literature Bowen, et al., 2013, CIOB, 2006, Chen, et al., 2017, Djibrani, 1996, Haynes, et al., 2010, Ibem, et al., 2011, Leung, et al., 2015, Wahab, 2010, Tiwary G, et al., 2011, Shrivastava, 2012, Adnan, et al., 2013, various Statutory body checklists such as International labour organisation, 2016, National Institute for Occupational Safety and Health (NIOSH), Employer Checklist on Workplace Environment and Satisfaction (new brunswick 2009) at work so as to form a one comprehensive questionnaire applicable to Indian condition. The questionnaire was designed into two sections. Work stressors present in the construction industry such as personal stressors, task stressors, organizational stressors, interpersonal stressors were involved in the first part of questionnaire. The second part of the questionnaire had stresses faced by Indian CPs. The factors were tabulated into a questionnaire form. For each factor, the reply was categorized on a five point likert scale as shown in Table 1.1. Respondents were asked to give their responses on Likert scales ranging from 1 to 5.

Table 1.1 Five point likert scale for importance index

Scale	Degree of Importance
1	Very less importance
2	Less importance
3	Medium Importance
4	High Importance
5	Very High Importance

The data collected has been analysed using SPSS-20. Descriptive statistical tools including cross tabulation, frequency, mean, standard deviation (S.D), count and ranking were used in the analysis.

Relative importance index (RII) has also been utilized to investigate the importance of each individual factor. RIIs are calculated for each factor as in eq. below

$$R = \frac{\sum W}{A}$$

Where RII = relative importance index; W = weighting given to each factor by respondents (ranging from 1 to 5); A = highest weight (i.e., 5 in this case); and N = total number of respondents. The RII value had a range of 0 to 100% (0 not inclusive); the higher the RII, the more important was the factor.

RESULTS AND DISCUSSION:

DEMOGRAPHY OF THE RESPONDENTS

The analysis of results showed that only 9.9% female whereas 88.7% were male for the survey indicating clear male dominance over the industry which resembles the study conducted by Saikala, et al., 2015, Ibem, et al., 2011. The majority of the responses were collected from Maharashtra (18.57%), Gujarat (17.14%), Bihar (12.85%), Haryana (11.42%), Jharkhand (8.57%), Madhya Pradesh (7.14%), New Delhi (7.14%), Karnataka (8.57%), Orissa (5.71%) and Rajasthan (2.85%). Out of all the respondents, 67% CPs were Site Engineers, 17% were project managers, 10% were project technical consultants and 6% were structural engineer. Almost 34% CPs were working in larger companies having employee strength more than 1000 and almost the same amount of CPs were working in the firms which had less than 100 employees strength, remaining 32% were operating in middle level companies having 100 to 1000 employees strength indicating involvements of CPs from small, medium and larger firms. 75% respondents were between 20-30 years of age. The results have represented maximum involvement of site engineer and mainly involved in building works and their average salary was around 35000 Indian rupees indicating lowest among all. More than 75% people had experience between 0 to 8 years in this survey as indicated below.

Table 1.2. General profile of the respondents

Construction Professionals	%age of population	Nature of work			Education level			Avg. salary
		All types of Work	Building	Public infra works	Bachelor Degree	Diploma	Master Degree / PGDM	
Consultants	10%	1.44%	1.44%	7.25%	4.35%	0	6.00%	45000
Project Manager	17%	4.35%	8.70%	4.35%	2.90%	0	15.00%	59000
Site Engineer	67%	1.44%	44.93%	20.30%	47.83%	4%	14.00%	35000
Structural Manager	6%	0	4.35%	1.45%	2.90%	0	3.00%	53000
In percentage (%)	100%	7.23%	59.42%	33.35%	57.98%	4%	38%	

DESCRIPTIVE RESULT OF WORK STRESSORS:

Individuals with Type A behaviour are considered to be most impulsive, aggressive and hasty and may be prompted by emulation. Moreover, they are impatient and much more focused towards meeting the deadline. However they are least capable in relaxing themselves when a situation goes out of control (leung, Skitmore and Chan 2007). In this study among all stressors, **Type A behaviour (76.41%)** has been ranked first resembling the results of (Adnan and Eman 2013).

The most significant stressors identified by CPs have been work overload, family life imbalance, work complexity, role conflict, effort-reward imbalance, work environment, , work under load, low organisational support, limited and insufficient resources, interpersonal conflict, boss stress, team stress, inadequate staffing (CIOB, 2006,Wahab, 2010, Djebrani, 1996, Eziyi , et al., 2011, Saikala , et al., 2015,Adnan , et al., 2013).

As the Construction works requires extreme amount of safety in regards to working at the top heights of building construction or the construction of public works such as road, bridges under running traffic always pose severe threat to their life in view of that **unsafe working condition(74.77%)** has been regarded as the second stressor by respondents.

Work overload has been the significant feature in most of the studies conducted by the past researchers. Since, construction works are always time stringent and delivery of work within the time span directly deal with the indirect and direct cost of the project. CPs always feel overloaded with the work as the construction is complex and on-going activity almost to the end of the project. **Work overload (69.48%)** has been ranked at the third place and **work complexity (68.17%)** at the fourth place.

The construction works often requires migration of CPs to different places or sometimes workstation becomes too far away for them to commute every day, construction works run throughout the year and excessive workload often demands them to put extra effort in terms of working on weekends and given the amount and the hard work that construction work requires, CPs often feels that they are underpaid for the work they do as reported highest subgroup factor followed by work on weekends and workstation too far away. This dissatisfaction with salary often comes in conflict with family needs as they often sacrifice personal and family life for meeting the deadline working weekends. CPs reported

Family-life imbalance (66.98%) at fifth place.

Role conflict (59.07%) has been ranked sixth among all the stressors. Many a times CPs comes in working environment where they have to report two or many bosses. Their decision comes across or contradiction with each other as one might accept and another reject or they may start to give them instruction and orders for the work which results in out of control to the CPs actual ability.

Poor work environment (57.92%) reported being at the seventh place. CPS responded extreme and harsh weather, improper staffing, lack of skilled peoples and adequate equipment's and machinery to do the work, no proper arrangement of changing room, lunch area, washroom are the key subgroup stressors to poor work environment as the construction works are not stationary and CPs has to be stationed at workstation.

Subsequently, **Low organisational support (57.03%)** and **Effort-reward imbalance (55.03%)** rated eighth and ninth place. Construction works are mostly owner (contractor/ developer) driven and earning a profit is their utmost interest. This criterion leaves very less or no space for training and developing the skill set of employees. Delay in salary, no incentives for working late, unsatisfactory increment is common phenomena as the Indian construction industry is largely unorganised (U.V.Kiran and devi 2013).

Work overload creates burn out stresses whereas work under load creates rust out stresses among employees. People don't often feel interested in working repetitive work or the work which doesn't let them utilise their skills. Construction works are unique yet repetitive in nature for multiple stages. This is the reason **work under load (54.97)** ranked at the tenth place.

Good relationships with the employee and their seniors have positive result on the project. Djebrani, 1996 reported that people who considered their superior as unfriendly reported more work pressure than others. Peo-

ple don't often feel comfortable in sharing their opinion in a group as they feel that this might be taken in other terms. **Team stress (51.3%)** and **Boss stress (50.3%)** has been ranked at eleventh and Twelfth rank.

Poor work culture (43.03%) has been rated as the last stressor which includes unfair treatment to women's, nepotism, favouritism and disparity, illegal and unethical ways to earn money from the employer.

Table 1.3. Work stressors in Indian construction Industry

Stressors		Characteristics of stressors	S.D	RII	Rank
Personal Stressors	Type A Behavior	Achievement oriented, say yes to all the responsibilities, hasty and impulsive.	0.65	76.41	1
	Family- life imbalance	Dissatisfaction with salary, work on weekends, work station too far away	0.77	66.98	5
Task stressors	Work overload	Unrealistic and stringent target, no time to relax, multitasking, too much effort in guiding subordinates, continuous phone calls	0.58	69.48	3
	work complexity	High concentration and focus required for the work, extreme dynamism of the work	0.78	68.17	4
	Role conflict	Too many bosses to report(one accepts another reject)	1.3	59.07	6
	Work Under load	Repetitive work, less involvement in decision making, skills are not being used	0.82	54.97	10
	Poor work environment	Work under extreme environment, improper staffing and work distribution, lack of skilled people, lack of sanitation and hygiene	0.68	57.92	7
	Unsafe working condition	Severity of work in regards to accidents and injuries	1.37	74.77	2
	Poor work culture	Nepotism, favouritism and disparity, illegal and unethical ways to earn money, Women's are treated prejudiced to stereotypes societal norms	0.69	43.03	13
Organizational stressors	Effort reward imbalance	Unsatisfactory Increment & Promotion, No incentives for working late, Delay in salary, Recognition and appreciation for the work	0.78	55.3	9
	Low organizational support	Low Team bonding activities, Not asked for the needs of any training requirement	0.65	57.03	8
	Boss's Stress	Boss bullying, misuse of appraisal by the seniors, boss doesn't grant leaves.	0.71	50.09	12
Interpersonal Stressors	Team Stress	Blame game mechanism, No team support.	0.85	51.3	11

Where, S.D. represents standard deviation and RII represents relative importance index.

STRESSES AMONG CPS

Stresses faced by CPs are mostly physical or physiological and sometimes behavioural and emotional (leung, Liu and wong 2007). In this study, CPs has responded fatigue such as body pain, eye shore, being the highest cause of stress with almost 59.89% stress level. Irritation among the CPs reported second common stress faced by CPs with 56.56% stress level. Constant worry about the work and depression being the common among Indian CPs reported to be third highest with 52.5% of stress level followed by loss of appetite(51.88%) or skipping lunch frequently, more aged appearance (51.25%), frustration and unhappiness (50.49%), skin problems (47.93%) are being the last.

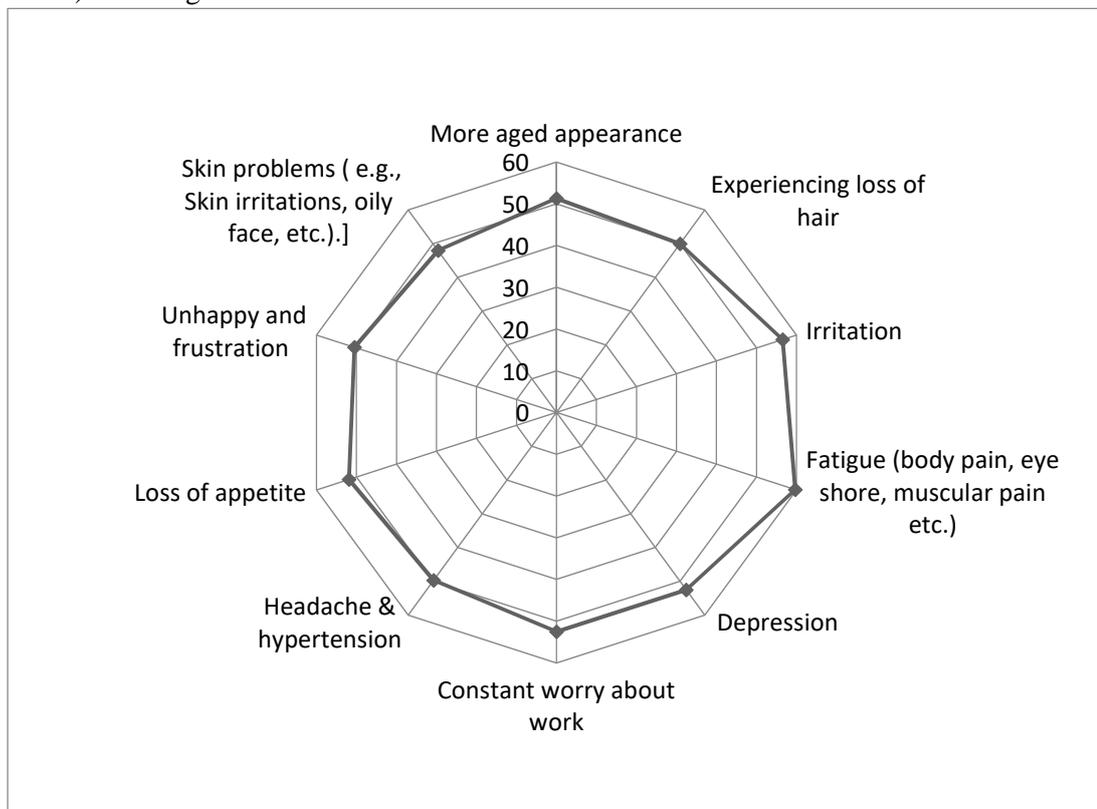


Figure 1.1. Various stresses faced by Indian Construction Professionals

PRODUCTIVITY LOSS DUE TO ABSENTEEISM

Stresses present in construction industry result in absenteeism when CPs find they are unable to cope with the stresses. Construction works can't be done by any individual alone, hence it requires team works. The employer faces both direct costs from the lost production of the absent worker and indirect costs arise from disruption to the work patterns and productivity (Rebecca and Bates 2011). It disturbs the efficiency and discipline on-site consequently, production on site is reduced. (Bhosale and Biswas 2015). This study reveals that total 9.83 days in a year is lost because of emotional and physiological stresses present in the industry. The loss of 9.83 days causes employer and employee to suffer directly and indirectly in financial terms. According to Global benefits survey, absence levels are also influenced by stress with highly stressed employees taking an average of 4.6 sick days per year; however, this study has taken almost all the work industry into the consideration. This also indicates an almost double rate of absenteeism in Indian construction industry.

CONCLUSION:

This study reveals the presence of numerous work stressors in the construction industry which results in physiological and emotional stresses amongst the CPs. The impact of stresses causes absenteeism in the industry thereby reducing the work performance and productivity. The consequences of absenteeism suffer employers in terms of low productivity due to the disruption of work. Excessive leaves or absenteeism affects employee performance of the work, it affects negatively during the appraisal or promotion and also it creates a bad impression on the seniors. This study emphasizes the needs of stress preventive program, counseling at the workplace so that the workplace stress does not hamper individuals personal and social life.

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