CAUSES AND CONSEQUENCES OF JOB STRESS IN CONSTRUCTION PROJECTS: LITERATURE REVIEW FROM 2000 ONWARDS

[1]HAMED RASHIDIAN, [2]TOWHID POURROSTAM

[1]Department of Civil Engineering, Faculty of Engineering, Islamic Azad University, Soushtar Branch, Shoushtar, Iran
[2]Associate Professor, Department of Civil Engineering, Faculty of Engineering Islamic Azad University, Central Tehran Branch, Tehran, Iran
E-mail: [1]hamed.rashidian@yahoo.com, [2]pourrostam@gmail.com

Abstract- In the past, review of literature on causes and effect of job stress in construction projects have been done by few authors. In this paper the literature related to causes and effect of job stress in construction projects practices and theory was reviewed during26 last years. Results of the reviewed papers show that such as important causes of stress were: work overload, job security, poor working environment, and inadequate salary they are the most important issues that lead to job stress in construction projects. In addition, the findings show that stress is one of the root causes of low efficiency of construction sites' workers. Moreover, workers have more stress at home than work environment and these effect on their health and efficiency at work environment negatively.

Keywords- Stress causes, Stress effects, Construction project

I. INTRODUCTION

In the present world, stress is known as one of the people's problems, and job stress regarded as a disturbing phenomenon by researchers and World Health Organization (WHO). Job stress is one of the important phenomenons in social life and serious threat to the work force health, so that International Labour Organization (ILO) state clearly job stress is the most important phenomenon which threat workers health. In addition, World Health Organization (WHO) affirms workers exposed to the job stress experience health risk, poor motivation for living, less production and safety at work environment and these workers' organization have less success comparing other production centres. Again, this organization mentions job stress imposes a lot of costs in governments and it's for absenteeism, repeated requests of workers for changing jobs and reduction of production and role in production (WHO, 2007).

So construction industry isn't excluded of job stress, as Lina et al (2003) believed working is a potential dangerous and stressful job. Nonetheless, more than 20 years, research on job stress shows that stressful conditions are related to the reduction of physical and mental health (Jexet al, 1991).Such effects can increase medical care costs (Mattesonet al, 1987).And in addition, it interferes in the functioning of workers (Motowidloet al, 1986). Due to the above, the present paper aims to investigate causes and effects of stress in construction projects.

II. METHODOLOGY

To review causes and effect of job stress in the construction literature, a search was carried out in various online databases. The scope of this review was identification of causes and effect of job stress in construction projects. It is necessary to limit the scope of the review in order to make it possible for researchers to analysis a reasonable number of papers, present explicable and objective findings and make recommendations for future work. Considering the criteria mentioned above, studies were further short listed resulting in a list of 23 articles from following journals: Construction Engineering and Management, Construction Management and Economics, Management in Engineering, Accident Analysis and Prevention, International Journal of Project Management, Engineering, Construction and Architectural Management, International Journal of Stress Management, Work & Stress, Engineering, Design and Technology, International Journal of Science and Engineering Research, International Journal of Engineering and Technology, Built Environmental Journal, Stress Medicine, Global Journal of Researches in Engineering, and Australasian Journal of Construction Economics and Building. Then, summary of causes of job stress from literature review is shown in Table 1. Moreover, important effects of job stress in construction projects have summarized and discussed.

III. DISCUSSION AND RECOMMENDETION

1.1. CAUSES OF JOB STRESS

To determine the ranking of different causes from Table 1. and compute the Relative Importance Index (I) by using the formulae as shown in Equation (1):

$$\text{Relative Importance Index} = \frac{\text{Frequency of the resoponse}}{\text{Total of response}} \times 100 \quad (1)$$

Summary of Relative Importance Index and rank for the causes of job stress in construction projects from literature review is shown in Table 2 and Figure 1. From the analysis of the results, it was found that work overload, poor working environment, and inadequate salary are high rankings in table (Rank1, 2). In other words most of the authors from literature reviewed are agreed about those factors. Shows that poor home environment, lack of feedback, sociological strain, work under load and poor safety equipment was ranked lower (Rank 8,9). Namely, these cases make less stress working on construction projects.

1.2. EFFECTES OF JOB STRESS

Since the man is known as the weakest member of the work environment system, the most common stress symptom is in some of the notable human reactions such as smoking, excessive Alcohol consumption (Bowen et al 2014), weep, fast talking, fear, anxiety, the sense of guilt, obvious anger, sadness and sorrow, depression disgust (Larzarus, 1966;Leung et al, 2005;Yip et al, 2005;Wahab, 2010).In addition, the findings show that stress is one of the root causes of low efficiency of construction sites' workers (Daintyet al, 1999; Vagg, 2002; Lingard & Francis, 2004; Wahab, 2010; Oyewobi, 2011).Moreover, workers have more stress at home than work environment and these affect on their health and efficiency at work environment negatively (Wahab, 2010; Halkos & Bousinakis, 2010).

CONCLUSION

In this study, several recent papers associated to the causes of stress and their effects on construction projects have been reviewed. All authors have done these researches in order to provide attitude to the growth and development of construction projects. Work overload, poor working environment, and Inadequate Salary are the most important issues that lead to job stress in construction projects. Findings also show that stress is known as a root cause of low efficiency of construction site's workers. Moreover, workers have more stress at home than work environment and these affect on their health and efficiency at work environment negatively. Therefore, to enhance productivity and job satisfaction and reduce behavioural and health-related problems, sources of stress in the workplace that occur with high frequency and that are perceived as at least moderately severe should be targeted by management for needed changes in the work environment.

TABLE 1. Summary of causes of job stress in construction projects from literature review

S. NO	Causes of job stress in construction projects	Sutherland & Davidson(1989)	Sutherland & Davidson(1992)	Peter et al (2002)	Linda et al (2003)	Leung et al (2005)	Thomas et al (2005)	Leung et al (2007)	Leung et al (2008)	Wahab (2010)	Leung et al (2010)	Offia Ibem et al (2011)	Oyewobi et al (2011)
1	work overload	*	*			*		*	*	*	*		
2	Job security		*		*					*		*	*
3	Poor working environment		*			*			*	*	*		
4	Inadequate Salary			*						*		*	*
5	lack of opportunity for advancement			*			*			*			
6	bureaucracy			*			*			*			
7	Harassment & discrimination				*							*	
8	Poor relationship with colleagues	*									*		
9	Lack of support colleagues											*	
10	Lack of support supervisor									*			
11	work-family conflicts						*	*		*	*		
12	Lack of autonomy							*	*		*		
13	lack of feedback							*					
14	Unfair reward and treatment							*	*	*			
15	Job demands				*								
16	job control				*								
17	Psychological strain												
18	Physical strain												
19	sociological strain												
20	Lack of training				*					*			
21	Poor safety equipment												
22	Poor organizational structure										*		
23	Work under load					*					*		
24	Role Ambiguity					*			*		*		
25	Role conflict	*				*				*	*		
26	Type A behavior								*		*		
27	Poor home environment												

Continue of Table 1.

S. NO	Causes of job stress in construction projects	Leung et al (2012)	Humphrey Danso (2012)	Leung et al (2012)	Paul Bowen et al (2013)	Tiwary et al (2013)	Paul Bowen et al (2014)	Paul Bowen et al (2014)	Paul Bowen et al (2014)	Paul Bowen et al (2014)	Leung et al (2015)	Premkumar&Rajkumar(2015)
1	work overload			*		*	*	*				*
2	Job security										*	*
3	Poor working environment	*	*									*
4	Inadequate Salary		*	*		*						*
5	lack of opportunity for advancement											
6	bureaucracy											
7	Harassment & discrimination				*	*			*			
8	Poor relationship with colleagues			*								
9	Lack of support colleagues							*			*	
10	Lack of support supervisor						*				*	
11	work-family conflicts						*	*				
12	Lack of autonomy											
13	lack of feedback											*
14	Unfair reward and treatment	*										
15	Job demands					*			*			
16	job control								*		*	
17	Psychological strain	*							*	*	*	
18	Physical strain	*							*	*	*	
19	sociological strain								*	*		
20	Lack of training	*										
21	Poor safety equipment	*										
22	Poor organizational structure			*					*			
23	Work under load											
24	Role Ambiguity											
25	Role conflict											
26	Type A behavior			*								
27	Poor home environment			*								

TABLE 2. Summary of Relative Important Index for the causes of job stress in construction projects from literature review

S. NO	Causes of job stress in construction projects	Index	Rank
1	work overload	11.32	1
2	Job security	6.6	3
3	Poor working environment	7.55	2
4	Inadequate Salary	7.55	2
5	lack of opportunity for advancement	2.83	7
6	bureaucracy	2.83	7
7	Harassment & discrimination	4.72	5
8	Poor relationship with colleagues	2.83	7
9	Lack of support colleagues	2.83	7
10	Lack of support supervisor	2.83	7
11	work-family conflicts	5.66	4
12	Lack of autonomy	2.83	7
13	lack of feedback	1.89	8
14	Unfair reward and treatment	3.77	6
15	Job demands	2.83	7
16	job control	2.83	7
17	Psychological strain	3.77	6
18	Physical strain	3.77	6
19	sociological strain	1.89	8
20	Lack of training	2.83	7
21	Poor safety equipment	0.94	9
22	Poor organizational structure	2.83	7
23	Work under load	1.89	8
24	Role Ambiguity	2.83	7
25	Role conflict	3.77	6
26	Type A behavior	2.83	7
27	Poor home environment	0.94	9

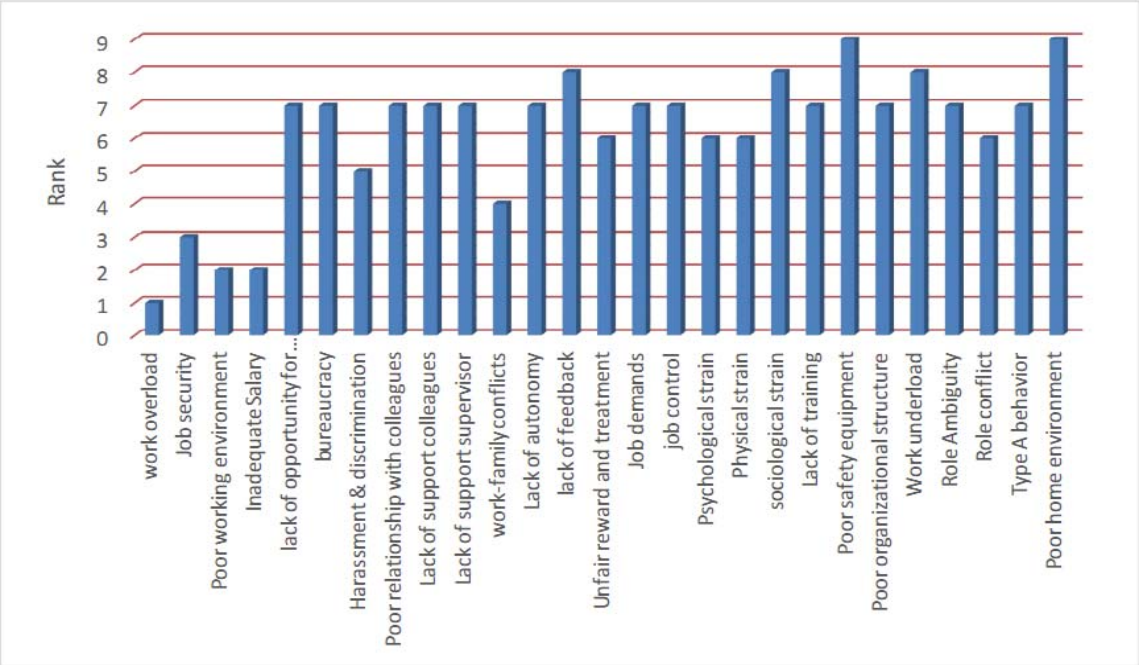


Figure 1.Ranking Causes Job Stress

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