

Analysis of the Psychosocial Work Environment in the Jordanian Construction Sector

Sharaf Al-Deen Waleed A.Rahman Al-Smadi¹, Rakan Al mnaseer², Zaid Ibrahim Ahmad Al-Sheyab³, Abdalrahman Hammoudah Yousef Alhndawi⁴ and Amjad Shafiq Mahmoud Husienat⁵

1,4,5

Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.

2

Department of Civil Engineering, Faculty of Engineering, Al-Balqa Applied University, Al-Salt 19117, Jordan.

3

Department of Civil Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor Darul Ehsan, Malaysia.

ABSTRACT

Because of the following reasons, the study of psychosocial is highly relevant for project-based industries such as construction: workforce mobility, constant change of place of work, diversity of work performed, physically demanding, high health and safety risk, strict deadlines, financial restrictions, and predominantly male business. Each of these considerations lead to the sector developed different and diverse sets of psychological concerns impacting the workplace. A critical assessment is to focus on the psychological issues impacting the management team and construction workers. The variations in psychological difficulties faced by these two groups will be studied extensively.

In this paper the authors analyzed the role of psychosocial factors impacts among these two separate stockholders, site managers and workers from a construction firm, using standard interviews and questionnaires to detect and investigate workplace concerns challenges.

In general, the statistics show that high percentage of contractors, administrative staff and site engineers and little bit of construction site workforces think that the psychosocial working environment is adequate. The study assists in identifying the psychological issues encountered by both the management team and the construction workers.

Keywords: Construction Management, Safety in construction sites, Physical health, Psychological and Mental health, Engineering Management, Mental assessment, Work Environment.

Date of Submission: 12-06-2022

Date of acceptance: 27-06-2022

I. INTRODUCTION

Many theoretical approaches have been developed in an attempt to achieve a better understanding of the specific relationship between work-related psychosocial risks and employee physical and mental health. This is obvious from study conducted among workers who have reported being exposed to psychosocial stresses at work (Andrejiova, Pinosova, & Badida, 2021), which leads in health difficulties such as cumulative traumatic disorders, Musculoskeletal Disorders or MSDs are injuries and disorders that affect the human body's movement or musculoskeletal system (Muscle strains and low back injuries, tendinitis, carpal tunnel syndrome and rheumatoid arthritis (RA)), chronic diseases like (heart disease, cancer, stroke, respiratory disease, injuries, diabetes, Alzheimer's disease, influenza and pneumonia, kidney disease, and septicemia), family contact disease, burnout, reduces quality of life, sickness absence, decrease motivation and productivity (Aulin, Pemsel, & Eliasson, 2009). Historically, these difficulties impacting the construction industry were kept silent on the

workplace, but they are now receiving considerable attention in order to address the causes of psychological issues. (Salem et al., 2008)

According to Jongel and Kompier (1997), 35 percent of the total of workers said they would still be working if preventative measures were implemented earlier. As a result, the purpose of this research paper is to look at the psychological issues that construction workers and managers face. Furthermore, the study will look at whether these demographic groups have the same or different psychological concerns at work.

As a result, evaluating psychosocial aspects and their influence on the health of construction workers is a very important topic. According to study of (De Jonge & Kompier, 1997) 35 percent of the total of workers said they would still be working if preventative measures were implemented earlier. As a result, the goal of this paper is to explore at the psychological issues that construction workers and managers face. Furthermore, the study will look at whether these cohort groups have same or different psychological concerns at work.

II. RESEARCH BACKGROUND

Workplace Environment in Construction sector

Construction sector is always associated with being messy, risky, and demanding. The impression presented is always of a terrible work atmosphere. As a result, it is critical to develop a healthy working environment in the construction industry, which entails providing a safe physical and psychological workplace environment. The physical work environment is concerned with how the job is done, whereas the psychological work environment is concerned with the working atmosphere, comfort, and things that impact the work. (AL-Smadi, Supeni, & Voon, 2021; Bahr, 2014).

It is the employer's obligation to provide a safe workplace and a rehabilitation program for employees on the job (Greenwood & Johnson, 1987). Preventive, systematic work environment management promotes a positive work environment that serves employees. According to the Systematic Work Environment Provisions, (AFS 2001), the following constitutes a decent working environment on a worksite: minimum risk of falling; adequate working conditions for personal safety, low noise and proper lighting, workload and ergonomic considerations; good in-house temperature; proper handling of dangerous substances and mobbing management. (Gunnarsson, Andersson, & Rosén, 2010).

According to (Othman, Kamil, Sunindijo, Alnsour, & Kineber, 2020) Jordan's construction industry is regarded as an important and contributing component of the Jordanian economy. Regardless of the passage of time, the government is attempting to enhance its structure in the construction industry. Inadequate infrastructure and a scarcity of health-care facilities have also had a part in obscuring the existing building structures. The Jordan construction project has had several failures. Several issues may be identified in Jordan's construction industry, where it has been seen that moving machines produce accidents, contact with electrical discharges causes loss of life, exposure to the sun and hot or hazardous substances, and so on, pose the greatest danger at building sites. During the research process, the researchers encountered many challenges that resulted in the creation of the following variables that hampered the construction working environment. The economic backdrop and the traditional approach at work make the laborer's face several difficulties that lead to a lot of psychological and physical issues. (Ashour & Hassan, 2019)

Psychological Workplace Environment in Construction sector

Psychosocial defined as "the effect of social aspects on an individual's mind or behavior, as well as the interrelationship between behavioral and social factors." Psychosocial variables include exposures that are assumed to have an influence on employees' well-being and health outcomes such as temporal aspects of employment and the work itself, aspects of work content, work-group, supervision, organizational conditions. (Blyth, Macfarlane, & Nicholas, 2007). Tension and strain like employees' psychological and physiological reactions to stresses such as anxiety, anger, increased blood pressure, excessive smoking, coping techniques, and high absenteeism and verbal abuse can also be included in an analysis. (Bickford, 2005). Several theories and models have been designed to explain how psychosocial considerations might influence workplace stress and lead to a variety of health impacts such as

- The work compatibility model (WCM): is described as an engineering technique that attempts to integrate preceding job and organizational design elements. The WCM looks for a balance between energy expenditure and replenishment. The Work Compatibility Improvement Framework describes the deployment of the WCM in industrial contexts. (Genaidy, Salem, Karwowski, Paez, & Tuncel, 2007)
- Transactional model: This approach stresses the individual's cognitive and coping aspects and how they might influence the result of stressor exposure. (Quine & Pahl, 1991)
- demand/control/model: This model focuses on work-related factors, including psychosocial pressure, decision latitude, and social support, in predicting stress consequences. (Koh et al., 2004)
- Person-environment theory: Person-situation interaction and how well a person fits into the circumstance at the employee level, the approach may be regarded in terms of employee needs and job

suppliers, and it can be addressed in terms of needs-suppliers. It may also be seen and addressed at the work level in terms of job needs and worker capabilities.(Edwards, Caplan, & Van Harrison, 1998)

In general, we can say that an optimal psycho - social environment for workers is distinguished by demands that are tailored to an individual's abilities (psychological demands), a satisfactory level of influence (decision latitude), adequate social support from superiors and colleagues, and a balance between expanded work efforts and interactions with clients.(Salem et al., 2008).

Attitude, motivation, stress, working groups, gender perspective, leadership, and communication are among the major risk factors that have a significant impact on the psychosocial working environment.(Nyberg, Bernin, & Theorell, 2005). Attitude is a mental position relative to a way of thinking or being. It relates to a person's predisposition to think, feel or behave in certain defined targets. Every individual has unique attitude toward various issues, such as job organization or fresh ideas. To determine out this attitude, a person must first establish what ideas he or she links with it (beliefs) and how he or she feels about it (physiological emotional or intuitive response).A positive working attitude results in improved work inputs, whilst a bad attitude results in the opposite outcome.

Employees who experience higher psychosocial risk factors, such as work overload, time constraints, and boring work, must feel motivated at all times. These risk factors will influence their reaction to work and the workplace, as well as their relationships with managers and team members. These risk factors can cause stress-related changes in the body, making employees more prone to sleeplessness, memory loss, attention loss, elevated anxiety, and discomfort in the body.(Mohajan, 2012).

Latest studies have linked these symptoms to common psychosocial characteristics such as inadequate job control, high job expectations, and low employee support in a variety of occupational groups.(Theorell & Karasek, 1996)

The psychological work environment is heavily influenced by members of the team. The working atmosphere on site is reflected in how the team communicates, handles disputes, deals with relationships among members and the management team, and controls security(West, Patera, & Carsten, 2009).Furthermore, the management team should be well-versed in recognizing and managing psychological problems at work before they intensify. An effective management team is one that is capable of listening to others, managing conflict, and controlling difficulties.

Effective communication is a necessary tool for teamwork both inside and across organizations. Communication can take many forms, including spoken, oral, and physical language.(Rosen et al., 2018).There is also the concern of a male-dominated industry in construction industry. Gender harassment is a typical workplace stress factor that requires urgent consideration since it can have negative psychological implications as well as affect job effectiveness(Arriola, 1990).These gender-related personal offenses appear to have a detrimental impact on important factors for health and a positive work environment, such as control over work, influence, meaningfulness, support, and professionalism(Bergman & Hallberg, 2002).

III. METHODOLOGY

A questionnaire was designed to analyzing the psychological effects of work environment in the Jordanian construction sector which is identified from the literature review the target respondents were selected randomly from clients, contractors and consultants at the Hashemite kingdom of Jordan. The number of respondents for this study was set at 250 respondents. However, 300 sets of questionnaires were distributed among respondents. This is to eliminate the risk of not-fully filled questionnaires and respondent turn down. Upon receiving the complete set of questionnaires, the score was analysis and understand of the psychosocial work environment in the Jordanian construction sector.

The questions are focused on the main issues facing the construction sector workers and stakeholders leads to causing an unexpected physical and psychological damages and it's trying to evaluate the degree of commitment of the Jordanian construction firms in maintaining the employees and workers psychological and physical health. The Jordanian construction market have witnessed multiple issues due to the economic situation, surrounding political affairs and covid-19 pandemic, which reveal obstacles, preventing safety performance and effective implementation of laws, regulations and recommendations, and leads to increasing physical and psychological accidents toward alarming levels.(Assbeihat, 2015)

The data obtained from the evaluations and observations is categorized and formatted as open-ended questions, which are then thoroughly explored with the employers via questionnaires and interviews.

The population of this study is the contactors, engineers, employees and site workers. (300) questionnaires were distributed, with a proportion of around (16.5%) of the questionnaires for contractors and administrative staff, (16.5%) for engineers and (67%) for construction site workers because they are the most group facing a physical and psychological problems at the workplace. The questionnaire has been distributed by email for administrative staff and hand to hand for contractors, engineers and workforce after phone call and permission asked.

IV. RESULTS AND DISCUSSION

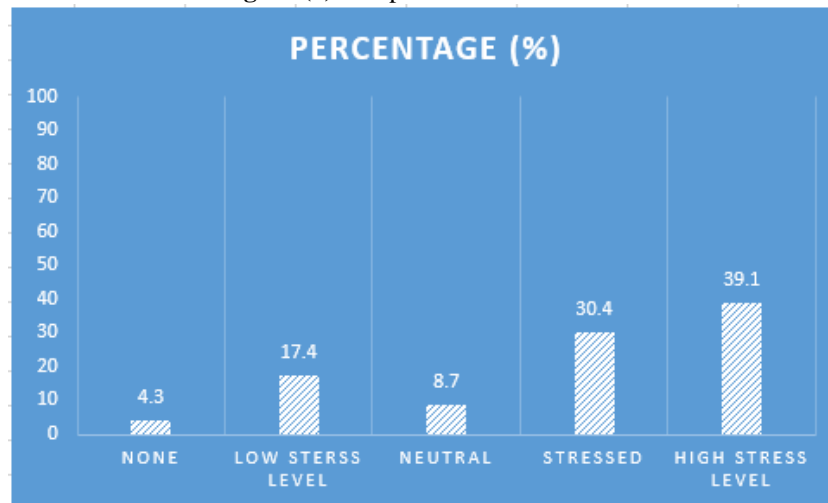
The Respondents As shown in table 1, (41) of the questioned contractors and administrative staff replied, with a respondent rate of (82%) with average experience of the respondents was (12) years. And (39) of the questioned engineers replied with a respondent rate of (78%) with average experience of the respondents was (7) years, and finally (170) of the questioned of construction site workforce replied, with a respondent rate of (85%) with average experience of the respondent was more than (10) years.

Table (1): Distribution of the respondents: numbers and rates.

Item	Contractors and Administrative staff	Engineers	Construction site Workforce
No. of Sample	50	50	200
No. of Respondent	41	39	170
Responding Rate	82%	78%	85%
Avg of Expeirience (year)	12	7	10

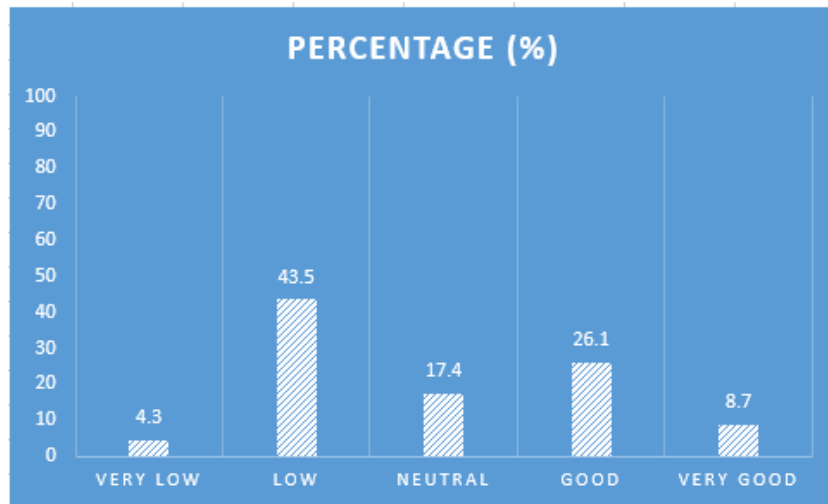
Based on the questionnaire results as shown in the figure (1), the majority of respondents declared that they have a high level of stresses when they were at work.

Figure (1): Respondents Stress Level.



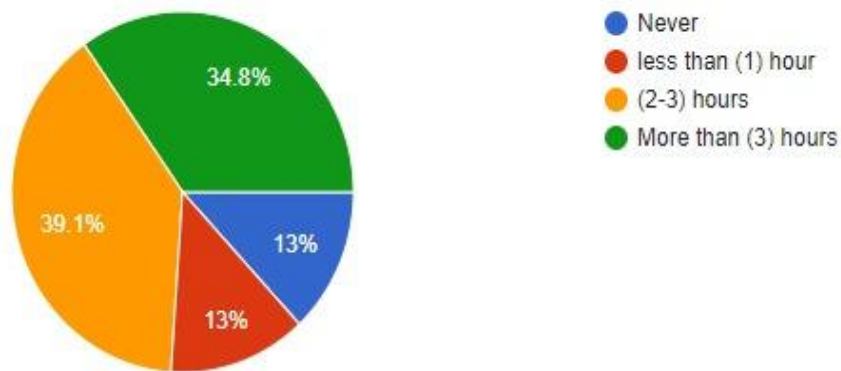
And they suffering almost the same when they off work during their own life as shown in figure (2) which describe the respondents work-life balance.

Figure (2): Respondents work-life balance.



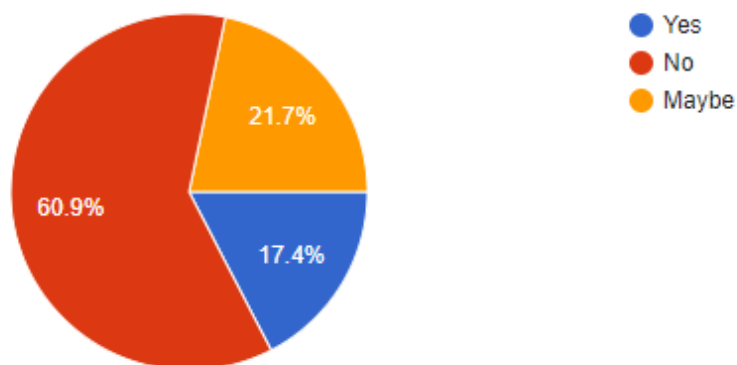
Due to high level of stresses on all parties and stakeholders related to construction process more than (85%) of respondents admitted that they consuming at least (1 hour per day) devote to thinking about the work projects outside the office as shown in figure (3).

Figure (3): Respondents thinking about the work projects outside the office.



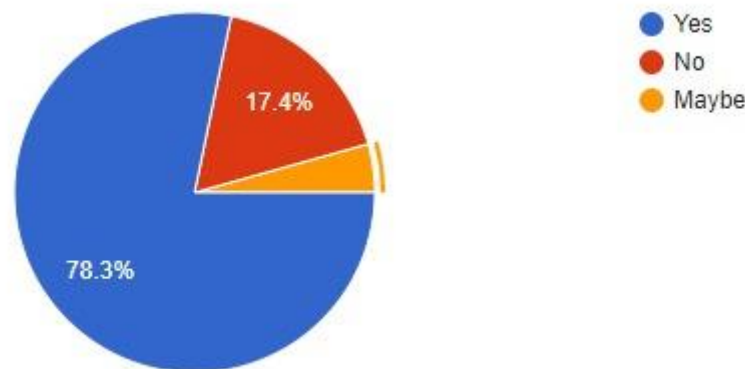
As a result for this (60.9%) of the respondent don't believe that their companies aid to manage the stresses they are exposed to as shown in figure (4).

Figure (4): Respondent satisfaction on firms stress management.



For this reasons more than (78%) are interested in having access to more mental health resources at their companies (Such as mindfulness classes, meditation, stress reduction workshops, etc.)

Figure (5): Ratio of respondent interest of having access to more mental health resources.



V. CONCLUSION

The study has shown some positive results reflecting the psychosocial factors affecting both the management team and the construction site workforces.

From (80) respondent of contractors, engineers and administrative staff more than (81%) experienced a good psychological situation at work environment, on the contrary of construction site workforces given that more than (150 out of 200) respond which is represent (75%) of respondent they said that they facing a very tuff psychological conditions and mental issues due to a high work environment stress and pressures

Overall, the management team (contractors, engineers and administrative staff) is having a better experience in working environment from the site workforces.

Creating a positive work atmosphere should be a key component of your company's long-term strategy. After all, it's one of the most effective ways to invest in your employees and ensure that they can perform at their best in order to increase employee happiness, prevent or reduce long-term sick leave, improve productivity, creativity, and profitability, reduce employee turnover, and increase business profits.

Creating a culture that enables employees to chat honestly with their coworkers and line managers about how they are feeling. Talking about mental health in the workplace can go a long way toward making employees feel supported and joyful. Keep mental health out of the shadows. (Mishra, Boynton & Mishra, 2014)

REFERENCES

- [1]. AL-Smadi, S. A.-D. W., Supeni, E. E., & Voon, W. S. (2021). A Study on Safety and Health Good Practices at Construction Sector in Jordan. *East African Journal of Engineering*, 3(1), 57-71.
- [2]. Andrejiova, M., Pinosova, M., & Badida, M. (2021). Occupational Disease as the Bane of Workers' Lives: A Study of Its Incidence in Slovakia. Part 2. *International journal of environmental research and public health*, 18(24), 12990.
- [3]. Arriola, E. R. (1990). What's the Big Deal-Women in the New York City Construction Industry and Sexual Harassment Law, 1970-1985. *Colum. Hum. Rts. L. Rev.*, 22, 21.
- [4]. Ashour, A., & Hassan, Z. (2019). The Role of the Work Environment on the Safety Performance and Safety Management Practices: Its Influence on the Attitudes of Nurses in the Jordanian Hospitals. *American Journal of Applied Sciences*, 16(11), 314-326.
- [5]. Assbeihat, J. M. (2015). Construction Safety in Jordan-Conditions and Obstacles. *Management*, 4(3), 193-203.
- [6]. Aulin, R., Pemsel, S., & Eliasson, R. (2009). Measuring psychosocial work environment in construction. © Copyright the Authors, 2009 No paper in this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the respective author (s). 71.
- [7]. Bahr, N. J. (2014). *System safety engineering and risk assessment: a practical approach*: CRC press.
- [8]. Bergman, B., & Hallberg, L. R.-M. (2002). Women in a male-dominated industry: Factor analysis of a workplace culture questionnaire based on a grounded theory model. *Sex roles*, 46(9), 311-322.
- [9]. Bickford, M. (2005). Stress in the Workplace: A General Overview of the Causes, the Effects, and the Solutions. *Canadian Mental Health Association Newfoundland and Labrador Division*, 44.
- [10]. Blyth, F. M., Macfarlane, G. J., & Nicholas, M. K. (2007). The contribution of psychosocial factors to the development of chronic pain: the key to better outcomes for patients? *Pain*, 129(1), 8-11.
- [11]. De Jonge, J., & Kompier, M. A. (1997). A critical examination of the demand-control-support model from a work psychological perspective. *International journal of stress management*, 4(4), 235-258.

- [12]. Edwards, J. R., Caplan, R. D., & Van Harrison, R. (1998). Person-environment fit theory. *Theories of organizational stress*, 28(1), 67-94.
- [13]. Genaidy, A., Salem, S., Karwowski, W., Paez, O., & Tuncel, S. (2007). The work compatibility improvement framework: an integrated perspective of the human-at-work system. *Ergonomics*, 50(1), 3-25.
- [14]. Greenwood, R., & Johnson, V. A. (1987). Employer perspectives on workers with disabilities. *Journal of rehabilitation*, 53(3), 37.
- [15]. Gunnarsson, K., Andersson, M., & Rosén, G. (2010). Systematic work environment management: experiences from implementation in Swedish small-scale enterprises. *Industrial health*, 48(2), 185-196.
- [16]. Koh, S. B., Son, M., Kong, J. O., Lee, C. G., Chang, S. J., & Cha, B. S. (2004). Job characteristics and psychosocial distress of atypical workers. *Korean Journal of Occupational and Environmental Medicine*, 16(1), 103-113.
- [17]. Mishra, K., Boynton, L., & Mishra, A. (2014). Driving employee engagement: The expanded role of internal communications. *International Journal of Business Communication*, 51(2), 183-202.
- [18]. Mohajan, H. (2012). The occupational stress and risk of it among the employees.
- [19]. Nyberg, A., Bernin, P., & Theorell, T. (2005). The impact of leadership on the health of subordinates.
- [20]. Othman, I., Kamil, M., Sunindijo, R. Y., Alnsour, M., & Kineber, A. F. (2020). *Critical success factors influencing construction safety program implementation in developing countries*. Paper presented at the Journal of Physics: Conference Series.
- [21]. Quine, L., & Pahl, J. (1991). Stress and coping in mothers caring for a child with severe learning difficulties: A test of Lazarus' transactional model of coping. *Journal of Community & Applied Social Psychology*, 1(1), 57-70.
- [22]. Rosen, M. A., DiazGranados, D., Dietz, A. S., Benishek, L. E., Thompson, D., Pronovost, P. J., & Weaver, S. J. (2018). Teamwork in healthcare: Key discoveries enabling safer, high-quality care. *American Psychologist*, 73(4), 433.
- [23]. Salem, O., Sobeih, T. M., Genaidy, A., Shell, R., Bhattacharya, A., & Succop, P. (2008). Work compatibility and musculoskeletal disorders in the construction industry. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 18(2), 230-252.
- [24]. Theorell, T., & Karasek, R. A. (1996). Current issues relating to psychosocial job strain and cardiovascular disease research. *Journal of occupational health psychology*, 1(1), 9.
- [25]. West, B. J., Patera, J. L., & Carsten, M. K. (2009). Team level positivity: investigating positive psychological capacities and team level outcomes. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 30(2), 249-267.