

ANTECEDENTS OF MIGRATED CONSTRUCTION WORKERS STRESS – AN INDIAN PERSPECTIVE

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Abstract – The purpose of this study is to examine the sources of migrated construction workers stress and their impact on the workers level of satisfaction, their health and relation with superiors. This study was conducted during the period of July 2016 to January 2017. The questionnaire was prepared and survey was conducted among experienced migrated Construction labors in and around Erode through interview scheduling. Data were collected and analyzed using SPSS (Statistical Package for the Social Sciences) software. The major dimensions of stressors among migrated workers are identified by Factor Analysis. The results of the study revealed a significant impact on Physiological stress, Performance Constraints, Interpersonal Relation, Organizational position, Organizational policy, Environment, Work Nature and Social Mistreatments. The findings of the study may help the construction companies in identifying the major stressors among migrated workers and minimizing them.

Key Words: stress, migrated construction workers, environment, employment, responsibilities

1. INTRODUCTION

Construction projects have a complex and dynamic nature along with the demanding behavior of its participants [6] leading to numerous major problems or difficulties which may cause physical and psychological stress to the persons involved [8]. Although too much stress has an unconstructive impact on human behavior, it was also found that insufficient stress leads to boredom, a lack of concentration, and a lack of inventiveness to make the best possible effort [4].

However, as construction workers are normally subjected to complicated construction projects involving demanding tasks and adverse environments, previous stress management studies of construction workers [7][9][15] have indicated that the associations amid stress and performance are predominantly negatively linear (i.e. deterioration of performance resulting from increase in stress level).

This study in particular aims at illuminating the stressors among migrant labors and their influence in the productivity.

2. LITERATURE REVIEW

Christian Yao et al (2015) revealed that apparent fit of organizational factors has a momentous impact on workplace stress outcomes including emotional comfort, occupational wellbeing, job performance and intention to give up. The research highlights the significance of understanding the factors that cause workplace stress, particularly with a culturally varied working population of Chinese migrants in New Zealand.

Yan-Hong Yao et al (2014) explored the influences of leadership and work stress on employee performance, and the moderating effects of transactional and transformational leadership on the relationship between work stress and employee negative behavior.

Mei-yung Leung et al (2011) classified stress as job stress (the difference between an individual's expected and actual ability on various tasks), physiological stress (the intellectual adjustments experienced by individuals under extreme conditions), and burnout (exhaustion, pessimism, reduced professionals efficacy, and depersonalization) and found that these three types of stress are associated with each others.

Yee-Shan Chan et al (2010) identified two types of stresses: occupational stress and psychological stress. Psychological stress can be predicted by work overload, inter role conflict, poor physical environment, unfair reward and treatment, and appropriate safety equipment. Occupational stress is predicted by deprived workgroup association, work surplus and inter role disagreement.

Jacqueline C. Vischer (2007) described that the physical environment of work affects both job performance and job satisfaction. This paper reviews theory and research bearing on stress in workplace and explores how current theory might be applied to the relationship between worker behavior and physical features of work environment.

With this background, the researchers intend to identify the causes of stress among the migrated construction workers.

3. RESEARCH GAP

There are significant numbers of studies conducted with regard to the stress among the migrated construction workers. However, most of the studies have been conducted in western perspective. Only few studies have been conducted in India. Therefore, the researchers intended to fill the gap by the way of studying the influence of migrated construction workers stress in construction industry.

4. METHODOLOGY

4.1 Scope

The scope of this study is confined only to the migrated construction workers based in and around Erode.

4.2 Sampling unit

Samples are collected from migrated construction workers in and around Erode.

4.3 Source list

The researchers obtained source list from Builder's association and Engineer's association.

4.4 Period of study

This study was conducted during the period of July 2016 to January 2017.

4.5 Sampling method

The researchers adopted convenience sampling method for collecting data from the respondents.

4.6 Data collection method

The researchers administered questionnaire method for obtaining required data from the respondent. Respondents were first asked to fill the general demographic questions including age, employment status and area of work and level of responsibility in order to ensure that the sample was representative of broader population. Screening questions were put in place to ensure that respondents all fitted the required criteria of being currently employed full time in the construction industry.

The questions are closed-ended and forced choice, requiring respondents to choose an answer from the available options. The questions are framed with the aim of covering all the areas of stress to which a migrated labor may likely be subjected to. Respondents were given space to discuss their views on the stress causing factors and stress managing

factors that had not been covered by the main body of the survey.

Table -1: Construction projects in Erode

The following table represents the construction activities that took place in Erode during the period of study:

S.No.	Taluk	No. of construction activities undertaken	No. of labors involved	Total No. of migrated labors
1	Erode	188	1980	769
2	Perundurai	154	1346	560
3	Modakurichi	56	985	497
4	Kodumudi	35	839	409
5	Gobichettipalayam	41	1024	739
6	Sathyamangalam	63	940	538
7	Bhavani	68	830	402
8	Anthiyur	22	603	357
9	Thalavadi	16	489	362
10	Total	643	9036	4633

The researchers approached 300 migrated construction workers. Even though the researchers made several efforts to collect the data from the respondents, the researchers could collect only 182 valid responses. Therefore the response rate of this study is 60.67.

4.7 Construct development

The variables relating to the present study are drawn from the previous works done by (Giri Jogaratnam & Polly Buchanan 2004), (S.Thomas Ng, R.Martin Skitmore, Tony K.C. Leung 2005), (Paul Bowen & Peter Edwards and Helen Lingard 2013), (Mei-yung Leung and Yee Shan Isabelle Chan & Chen Dongyu 2011), the suitable modification has been made in the existing Questionnaire to suit the requirement of the present study.

4.8 Descriptive Statistics

Self-administered questionnaires were distributed to a convenience sample of workers. The objective was to obtain 300 completed questionnaires. The questionnaire was initially written in English and translated to Hindi and other regional languages. 182 valid responses were collected. The majority of respondents were male (69.8 percent) and 33.5 percent of respondents had a work experience between 6 and 10 years and 29.1 percent had a work experience of 2 to 5 years. In terms of education, 71.4 percent of the respondents were illiterate and 24.7 percent had primary education.

5. ANALYSIS AND DISCUSSIONS

5.1 Reliability statistics

There are numerous methods towards evaluating reliability of a scale. In this study, the researchers utilized cronbach's reliability. Cronbach's α is the frequently used practice to estimate reliability. It is highly accurate and has the benefit of only requiring a single application of the scale. Hence cronbach's α was obtained and found to be of adequate magnitude as recommended by Nunnally (1978).

Table -2: Reliability Statistics

Cronbach's Alpha	N of Items
0.893	33

5.2 Exploratory factor analysis

The researchers studied the measured stress components by using exploratory factor analysis by means of principal component analysis to study whether the items in fact quantify the pre-specified constructs. Prior to conducting the factor analysis, two tests were carried out to check the possible existence of multi-collinearity or correlation among the items and the appropriateness of factor analysis.

Table-3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.662
Bartlett's Test of Sphericity	Approx. Chi-Square	6146.3
	Df	528
	Sig.	0.000

Table-4: Total Variance explained

S.No.	Factors	Initial Eigen Values	Variance Explained	Cumulative Percent
1	Physiological stress	2.849	8.634	8.634

2	Performance Constraints	2.401	7.274	15.909
3	Interpersonal Relation	2.077	6.293	28.599
4	Organizational position	1.727	5.234	39.634
5	Organizational policy	1.592	4.825	44.459
6	Environment	1.422	4.310	53.200
7	Work Nature	1.101	3.336	60.210
8	Social Mistreatments	1.042	3.157	63.367

Initially, inspection of the correlation matrix revealed the occurrence of many coefficients of 0.3 and above, which aids the factorability of the correlation matrix. Then, to verify if the dataset was appropriate for factor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value has to be equal to, or greater than, 0.6 and that the Barlett's test of sphericity value is important, where the significant value should be 0.05 or smaller. Though, for this study, the KMO value is 0.662 and Bartlett's test is significant therefore, it is appropriate to conduct the factor analysis. The next stage of analysis was to evaluate the stress elements. In order to examine whether the items of a construct shared a single underlying factor and to establish the discriminate validity of the constructs under investigation, an exploratory factor analysis (EFA) was achieved.

Exploratory factor analysis by means of a principal component analysis (PCA) was utilized. Varimax with Kaiser Normalization was applied prior to factor rotation, thus keeping factors with an eigenvalue of 1 or greater. The 33 items measured the major stressors influencing migrated construction workers in and around Erode. The research model is imperiled to the PCA using SPSS Version 20. The exploratory factor analysis reveals the existence of 8 components with eigenvalues exceeding 1; these 8 components accounted for 63.37 percent of the total variance.

The underlying factors were labeled as follows:

Factor 1: Physiological stress – This encompasses 5 items that represent 8.634 percent of the variance. The items are all related to migrated construction workers stress and have significant importance.

Factor 2: Performance Constraints – This includes 6 items that account for 7.274 percent of the variance. This item represents the factors that affect the performance of the workers owing to stress.

Factor 3: Interpersonal Relation – This consists of 4 items. This construct focuses on the relation between the workers

and management and also among the workers. This factor signifies 6.293 percent of the variance.

Factor 4: Organizational position – This comprises 3 items that deal with the causes of stress related to the position of workers. It accounts for 5.234 percent of the variance.

Factor 5: Organizational policy – This includes 4 items that are associated with the policy of the organizations in construction industry. This factor carries 4.825 percent of the variance.

Factor 6: Environment – This includes 4 items that are related to the environmental factors affecting stress among migrated construction workers. This factor explains 4.310 percent of the variance.

Factor 7: Work Nature – This component accounts for 3.336 percent of the variance with 3 items.

Factor 8: Social Mistreatments – 4 items are included in this component. This component is significant with factor explains 3.157 percent of the variance.

6. CONCLUSION

The purpose of this study was to identify the important dimensions of the migrated construction workers stress. For this, the researchers employed Exploratory Factor analysis. This study identified eight dimensions. These are Physiological stress Performance Constraints Interpersonal Relation Organizational position Organizational policy Environment Work Nature Social Mistreatments. These study findings would help the policy makers to identify the important dimensions of stress among migrated construction workers. Even though the study has achieved its objective, it has certain limitations as the researchers adopted convenience sampling method. In future, similar study could be conducted by adopting some other sampling method. This study implemented Exploratory Factor analysis for identifying the dimensions of stress and their impact on the health, level of satisfaction of workers and their relation with superiors.

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