

A Study on the State of Physical Well Being of Industrial Workers at Workplace

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Abstract- Proper co-ordination between man, material, money, machine and information is a must for proper functioning of any industry and its management has to assure it. Among all these management of workers is the clumsiest job because they are driven by emotions. A considerable amount of research shows that a better medical facilities and accident free environment gives a greater sense of satisfaction both at home as well as at workplace. Safety at work and hygienic conditions at the workplace and its surroundings is often considered as an index or a measure of Physical wellbeing of any worker. The Physical wellbeing was evaluated by the data obtained from the responses from a questionnaire consisting of questions related to factors which determine its state. Study was conducted from a sample of industrial workers working in the Indian state of Uttar Pradesh in the year 2016. A total of 79 workers out of 102 (78%) responded to scales that assessed their physical wellbeing. Then a simple model was proposed and was tested with Structural Equation Modeling (SEM) software AMOS. The results were evaluated by using mathematical statistical formulae.

Index Terms- Physical wellbeing, Quality of life, Medical facilities, Accidents, Tiredness.

INTRODUCTION

Managing the works and the industrial workers at any industry is quite a difficult activity. Every year, many workers leave their jobs because of accidents and unhealthy working conditions. It is a well-researched fact that the prime cause behind this tendency is that every worker wants a higher quality of life [1]. Quality of Life (QOL) has various definitions and sometimes they are overlapped. This can be seen from the definition of QOL developed in the last decade; it was mentioned that the development of measurement model of QOL includes six main aspects in life such as (1) Social Wellbeing, (2)

Physical wellbeing, (3) Psychological wellbeing, (4) Cognitive wellbeing, (5) Spiritual well-being and (6) Environmental well-being [2]. The larger parts of the indicators of quality of life theoretically can be classified in to 6 main theory concepts: (a) Development of socio – economy, (b) Personal satisfaction, (c) Justice for the society, (d) Human development, (e) sustainability and (f) functionality [3]. So, it is evident that the level of Physical wellbeing is a vital component of anyone's Quality of Life. Physical well-being has to do with the physical health (i.e. the internal as well as external body safety). It involves that eating well ,exercise and healthy life styles choices are important; that making healthy life style choices today will affect how one feels tomorrow, how long one lives, and perhaps more importantly the QOL. It involves not abusing with our body and seeking to exist in harmony with whatever body we have. PWB can also be defined with the help of factors such as Medical care, professional medical attention, food and nutrition etc. PWB stands for having good physical health. It stands for the overall health of the individual and being away from diseases and illness. A considerable amount of research work literature is available on the health related Quality of life or physical wellbeing of patients such as cancer patients [4]; asthma patients [5] etc. Research work that has been carried out for industrial workers in this field so far are mainly concentrated to European nations and America [6][7] but not much work has been carried out in India yet. Fortunately some work has been carried out for the Quality of life of workers in MNCs and big industries [8][9] which are mainly machine and technology driven, but unfortunately medium and small scale industries, which are mainly labour driven are almost neglected everywhere. Even though it is widely

accepted fact that these small and medium scale industries are the back bone of our national economy and there is a huge contribution of these industries in our national GDP [10]. The contribution of industrial workers to the GDP of our country cannot be ignored. But even then very little has been paid so far to improve the Quality of life of these workers.

Proposed Method: A questionnaire (appendix-1) consisting of questions related to the factors which determine the physical wellbeing of workers was prepared and was used to collect the required data (appendix-2). The first concern was the content validity of the questionnaire items i.e., the extent to which they cover adequately the construct being measured. In general, to obtain the highest responses, short questionnaire were used with Likert scales rather than have respondent write long answers to questions. The participants in the present study were employed in several different small and medium scale industries and job positions as majority of the industries in Goa are either small or medium scaled [11]. In total, 102 questionnaires were distributed to a total of 5 factories. A total of 79 workers filled out the questionnaire (response rate was 78 %). The sample include 71 males (89.87%) and 8 females (10.12%). Their ages ranged from 23 to 62 years. They were asked to answer all the items on 5 point Likert's scale. As the level of Physical wellbeing depends on the scale of medical facilities available, chances of hazards and accidents, tiredness or fatigue during work etc. So, following were the parameters taken as per the Indian perspective:

MEDICAL FACILITIES

It refers to economical medical facilities in the locality as well as at work. Medical Insurance facilities given by the firm also adds to it. The scale includes five items (1= very dissatisfied, 5= very much satisfied).

ACCIDENTS DURING JOB

It refers to the risk of being injured while at work and the chances of long term health hazards as well as the chances of facing traumatic events such as fire etc. The scale includes five items (1= very much, 5= not at all).

TIREDDNESS DURING JOB

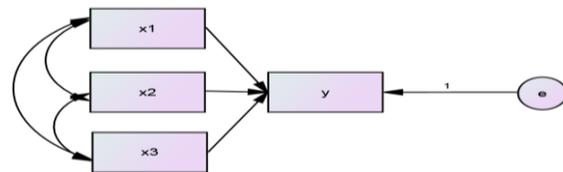
It refers to the fatigue during work, compulsory over time or extra duty as well as occupational related problems such as back pain etc. The scale includes five items (1= very much, 5= not at all).

Y	Physical well being
X1	Medical facilities
X2	Accidents during job
X3	Tiredness during job

In order to check the validity of the responses they were all asked to rate their state of Physical wellbeing as per their own point of view. It was assumed that these three parameters(X1, X2, and X3) equally contribute to Y.

I.e. $Y = X1 + X2 + X3$.

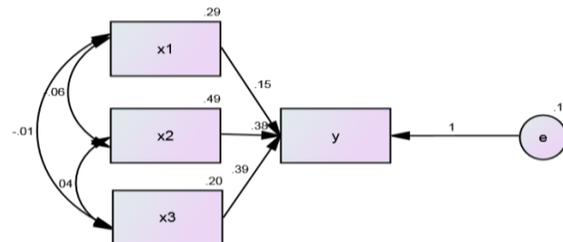
We also proposed a simple model to be tested with AMOS.



In the above model single headed arrows indicate that the variables X1, X2 and X3 influence the parameter Y. The variables linked with each other with double headed arrows shows that they are correlated and can influence each other. The rectangular box represents the observed variables i.e. for which data is present and the ellipse represents the unobserved variable or errors associated with the results represented by errors.

DATA ANALYSIS

After testing the goodness of fit between the field data and the model proposed, we got the following results



The numerals shown over single headed arrows shows the regression weights and those over the other shows the covariance. The goodness of fit index

(GFI) was obtained to be 1.00 which means that the model is fully compatible for data.

Also, after the mathematical analysis of data, Means and standard deviations calculated are as shown in table 1 below.

Table 1: Means and Standard Deviations

Sr. No.	Parameters	Mean	Standard Deviation	Variance
1	Medical facilities	3.228	0.534	0.29
2	Accidents	3.389	0.7	0.49
3	Tiredness	3.006	0.452	0.20

Analysis was done for each of the above factors and is tabulated as below.

Table 2 below shows the frequency and percentage of each of the responses as given by respondent for Medical facilities.

Table 2: Medical facilities

Medical facilities	Frequency	Percentage
Very Dissatisfied	00	00
Not satisfied	21	27
Just satisfied	49	62
Satisfied	09	11
Very much satisfied	00	00

Table 3 shows the frequency and percentage of each of the responses as given by respondents for questionnaire on Accidents during job.

Table 3: Accidents during job: Frequency and Percentage

Safety at work	Frequency	Percentage
Very much	03	04
Likely	12	15
Can't say	47	60
Not likely	17	26
Not at all	00	00

Table 4 shows the frequency and percentage of each of the responses as given by respondents for questionnaire on Tiredness during job.

Table 4: Tiredness during job: Frequency and Percentage

Job related tiredness	Frequency	Percentage
Very much	00	00
Likely	33	42

Sometimes	46	58
Unlikely	00	00
Not at all	00	00

The covariance among observed variables obtained from above model is presented in table 5.

Table 5 Covariance

X1	↔	X2	-0.06
X2	↔	X3	0.04
X1	↔	X3	-0.01

So, mathematically the combined mean, standard deviation and variance is as shown below

Sr. No.	Parameter	Mean	Standard Deviation	Variance
1	Physical well being	3.207	0.562	0.315

And as the data obtained from the direct response from the questionnaire combined mean, standard deviation and variance is as shown below

Sr. No.	Parameter	Mean	Standard Deviation	Variance
1	Physical well being	3.139	0.539	0.29

So, the difference between mathematical data and the field data is of 2.1%.

RESULT AND ANALYSIS

The above figures which have been obtained shows that the level of the Physical well being of the workers under consideration is more or less around good, but definitely it is not poor or very good. There is scope for its improvement. The difference between the mathematical and the field results is nominal and hints at some of the missing aspects which can be investigated and can be taken up under consideration in future. The complexity or variations in the responses given by the workers seems to be influenced by the variation in the type of industry they are working with [12].

CONCLUSION

From the results which obtained it can be concluded that the overall state of Physical well being of workers is just good but there is a big scope for its betterment. It also justifies the tendency of migration of workers because people tend to go for better

options, better or safe working conditions and lifestyle.

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