

# Empirical Work on Workforce Participation in Workplace Health Promotion Programs in Indian Corporate Sector



Swapnalekha Basak, Mohammad Israrul Haque, Prashant Sharma

**Abstract:** *The present study tries to investigate and analyze the key determinants that influence an employee's intention regarding participation in Worksite Health Promotion programs in Indian Corporate Sector. The study also tries to find out the applicability and validity of theory of planned behavior (Ajzen, 1991) in explaining the behavior of employees in terms of participation in Worksite health promotion programs in the Indian Corporate Sector. The study adopts the primary survey to collect the responses of 256 sample respondents collected through online questionnaire survey from Indian industries. After assessing the reliability of the variables followed by variable extraction using principle component analysis, the responses are analyzed using ordinary least square method. The findings of the study suggest that three factors such as environment at workplace, influence of peers and personal beliefs play a significant role in affecting the employee's participation in workplace health programs.*

**Keywords:** *Workplace health promotion, theory of planned behavior, survey, predictive analysis*

## I. INTRODUCTION

### A. Background

In May 2019 WHO has declared burnout to be a medical condition. As per the WHO "Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions such as feelings of energy depletion or exhaustion, increased mental distance from one's job, or feelings of negativism or cynicism related to one's job and reduced professional efficacy.

A study conducted by PricewaterhouseCoopers (PwC) in conjunction with the World Economic Forum's "Working Towards Wellness initiative" reported that "In particular, in regions such as India, with a growing urban population that is increasingly susceptible to (such) life-style diseases, chronic diseases are expected to cause a greater number of deaths than non-chronic diseases". The only way to address this situation is encouraging employees to make sustainable

lifestyle changes through a variety of health promotion initiatives. These initiatives would be called successful only if employees participate in the offered programs to make changes in the lifestyle which leads to lowering of risk and hence incidence of disease. In India It has been a decade since the National Policy on Safety, Health and Environment at the Workplace was announced in 2009. It called for a legislation on safety, health and environment at workplaces. While the policy acknowledges the need for workplace health it has left the process of legislation to different ministries most of whom do not have an Industry Specific Workplace Health policy. Therefore, only the manufacturing, mining, ports and construction sectors are covered by existing laws on Occupational Safety and Health (OSH). In fact, the Micro & Small and medium Enterprises are not covered under any legislation to cover the health of workers. India's total health care expenses as % of its GDP is much lower than the world average of around 9%. The country's public expenditure on health as a % of the total health expenditure is lower than countries like China, Pakistan and Bangladesh and is far lower than the world average. Therefore, the role of the private sector in India in prevention of chronic diseases is of paramount importance at this moment. Public Health Foundation of India (PHFI) and Indian Association of Occupational Health (IAOH) are the organizations responsible for espousing Workplace Health & Health Promotion. However neither of the organizations define the term "Workplace Health Promotion" anywhere in their publication.

### B. The India story

Research reports, as well as popular media have ample mention of the deteriorating State of health in India. At the national level also there has been a paradigm shift in the health problems in the country from communicable disease to non-communicable diseases (NCDs), which include diabetes, hypertension, cardiovascular disease, mental illness, chronic obstructive pulmonary disease and cancer etc. Here are some statistics to gauge the intensity of the problem in India.

- In 2005 Chronic disease in India accounted for 53% of all deaths
- Out of 30 million patients with diabetes in India (the highest in the world) 6 million will develop diabetic nephropathy
- Number of people with Blood Pressure will go up from 118.2 million in 2000 to 213.5 million in 2025
- The projected loss in National Income for India due to Cardio Vascular disorders and diabetes during the period 2005-15 is approximately \$200 billion (which is approximately Rs. 120000 crores)

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### C. Need for the study

In its 2002 convention in Barcelona the WHO stated that “there is no public health without good workplace health” thus underlying the importance of promoting health at the workplace. Workplace Health Promotion is therefore the need of the hour and the success of this programme lies in active participation in these programs by employees. Non participation will lead to no reversal in healthcare costs for companies and add the expenses of health promotion on top of that. This would be big deterrent to organization adopting Health Promotion programs.

### D. Objective of the Study

The primary objective of this study is to investigate and analyze the key determinants that influence an employee’s intention regarding participation in Worksite Health Promotion programs in Indian Corporate Sector. The specific objectives of the research are:

- To determine the factors affecting employees’ intentions to participate in Health Promotion programs in Indian Corporate Sector.
- To find out the applicability and validity of theory of planned behavior (Ajzen, 1991) in explaining the behavior of employees in terms of participation in Worksite health promotion programs in the Indian Corporate Sector.

## II. REVIEW OF RELATED LITERATURE

This The recent study conducted by Paolillo et al. (2016) was focused on knowing the impact on the workplace safety participation behaviors because of the changing climate and for promoting safety accordingly. For conducting the study, sample of 491 workers with different behaviors was taken and analyzed with the help of Structural Equation Modeling. The study found that full intervention between the changing climate and safety participation behaviors was there but it intervened partially. The work proposed by Mainsbridge et al. (2016) was targeted on knowing the effect of workplace mediation for disturbing the prolonged occupational sitting time as well as its effect on employee's health. To conduct this study, duration of 26 weeks was taken for 43 employees just to check the continuous mediation. The findings were clearly indicating that the people have their increased health after the experiment. The health experiment conducted has resulted in the positive benefits for the employees.

Another research work proposed by Davenport et al. (2016) was motivated on understanding the relevance of statement that the positive work atmosphere significantly helps the employees to get good mental health. To successfully execute the study, two panels were made of 36 panelists each who rated three surveys about a questionnaire of 278 strategies. It was found that almost 80% of the strategies were necessary to have a healthy mental state at workplace. Robbins and Wansink (2015) tried to investigate the prospective high-impact solution for better engagement and overall motivation of employees and to make them responsible for their health. To conduct the study, 149 sample respondents were selected and the responses were analyzed using Descriptive and Inferential Statistics. The study finds that the supports related to health related code of conducts were offered to all employees.

The research work of Ljungblad et al. (2014) was targeted

towards the measurement of psychosocial work environment and also specific workplace health promotion with regard to the health of employees in Sweden Municipalities. A sample of 15,871 employees of 60 municipalities was taken as sample of the study. The data was collected through questionnaire survey along with the registered data was used. It was found that employers and employees having good employee ratings and specific health promoting measures respectively had better health level.

The study was conducted by Tamara D. Street, Sarah J. Lacey, Jade A. Grambower, (2017) for the purpose of discussing the issue about the individuals who are highly motivated to improve their health practices and understanding the influencing factors towards the improvement of health via nutrition-related programs. To conduct this study, sample of 881 employees was taken for survey related to self-report health. It was found that mostly females and older employees were interested in the health WHPP programs.

In the study proposed by Sharma et al. (2016), the focus was kept on understanding various environments of workplaces that have an impact on physical activities of employees and the current policies for these environments in specially 5 big hospitals in Texas. Numerous tools related to environment assessments and observations were used to execute the study. The study found that there were staff members who were working for better implementation of environmental policies because there were no healthy catering and meeting policies exist. Another study proposed by Bone (2015) was targeted towards exploring the role of Bio-ecological Model in addressing the workplace well-being in an effective way. To conduct this study, firstly, a conceptual paper was structured as per the Bio-ecological Model and then, some examples from recent literature and policies of Australia representing some key themes related to workplace were taken. During the study, it was found that the Bio-ecological Model is an effective tool if it is used only in a focused research practices.

Justesen et al. (2017) tried to understand the absenteeism of link between Strategic level management and Operational level management in regard to workplace health promotion practices as well as the role of business level management. To conduct this study, six Danish organizations were involved a framework related to multi-case study was applied as a part of health intervention research project. The results were indicating that though business level managers play a vital role in application of WHP but the uncertainty lies in their role so they leave everything for the strategic level management only. Another study conducted by Judy Van Rooyen, Darcy McCormack, (2013) was focused on the thoughts upon workplace bullying and the role of concerned training programs specially in major retail organizations. To conduct this study, 30 employees and management staff of various retail outlets were chosen and interviewed in semi structured way. It was found that employees and other staff members are generally not having the skills for handling the harassment issues at workplaces and they use to ignore such cases.

The study conducted by Watkins et al. (2016) was focused on assessing the worksite health programs in order to know the number of programs and needs for health at worksites in Kentucky. To conduct this study, a sample of 1200 worksites in Kentucky was taken on their health promotion practices. It was found that only few worksites were having worksite health programs and other health programs and even small worksites were not even willing to start any of such programs. Another work proposed by Blake et al. (2014) tried to emphasize on the perception of employees about accessing the occupational health checks and their actions upon the tailored advices provided. A sample of 253 hospital employees was chosen to conduct the study. The responses were collected using an online questionnaire survey filled by the respondents. The study found that there were the problems of obesity, existing health problems and family history in health disease. All participants found the occupational health checkups were very useful for their health and after this they started physical activities and becoming health conscious gradually.

The recent study proposed by Burke et al. (2017) was focused on investigating the impact of behaviors of co-workers upon the health behaviors among them. To conduct this study, 169 participants of a workplace wellness program were selected as a sample and the Structural Equation Modeling was used for examination. It was found that the behaviors of co-workers had no direct impact on the health behaviors among all of them. To understand the role of hurdles as one of the key enabler in the overall wellbeing of employees, the other study steered by Mellor (2013) tried to understand the hurdles and their role as key enablers in the application of employee well-being. To conduct this study, a case study was chosen where an organization had already done this thing and everything was analyzed properly. It was found that key enablers were in the form of leadership support, good resources, and participation of stakeholders whereas the hurdles were different lifestyle, activeness of management people in employee wellbeing tasks.

The study conducted by Post et al. (2015) was focused on investigating the success of Workplace Health Promotion program especially in mining and steel making town that too in regional South Australia. To conduct this study, Precede-Proceed Model was used. It was found that a programme was planned which was helpful in delivering the educational and skill-development strategies within the organizations. Another study conducted by Phing et al. (2015) was focused on the improved Metabolic Syndrome because of physical activities in the sync of facebook and standing banners. To conduct this study, 120 government employees were taken as a sample and a Life order e-step accelerometer was used. It was found that there was a great reduction in the metabolic syndrome as the post-intervention assessment and also there were step counts higher than previous. The real life examples on promotion of health especially in Victorian workplaces were discussed by Dickson-Swift et al. (2014). To successfully execute the study, the interviews based on qualitative data were taken were taken of 42 employees as well as employers of three different organizations which were having the wellbeing programs at workplaces. It was found that culture of an organization plays a vital role in the mental and emotional

health of the employees at workplace and management people and higher authorities were also very serious about the health promotion at workplace. The impact of lifestyle coaching in improving the overall health of individuals at workplace was assessed by the study proposed by Merrill and Merrill (2014). Merrill and Merrill (2014) considered the individuals from four medium sized companies in UTAH(USA) as sample of the study while the time period of 2007-2010 retrospective cohort study was undertaken for study. It was found that the individuals who worked with health coaches had an improved health afterwards. Another study proposed by Leininger (2015) was focused on knowing the discriminations in health promotions programs in universities among faculties, staff and other administrative staff. To conduct this study, 3603 employees of a large metropolitan university were taken as a sample and surveyed electronically and also Questionnaire was also circulated to know the physical activity level. It was found that there were differences in the health promotions programs participations by staff, faculty etc. as per their schedules.

The study conducted by Jennifer Bose, (2013) was focused on knowing the management of employees of their Type 1 and type 2 Diabetes at workplaces. To conduct this study, 45 individuals were selected three times per year over three years were selected as a sample. It was found that Diabetes is closely related to the changes in jobs, stopped workings and decreased work hours. The study conducted by Edmunds (2013) was focused in knowing the factors which stop the participation in workplace physical activities in a UK call center. To conduct this study, 16 Individuals were interviewed who were inactive in the physical activities at workplace. It was found that there were so many barriers towards physical activities like self-efficacy, attitudes, lack of time, facilities etc.

The study conducted by Bardus (2014) was focused on knowing the reasons why individuals take part or don't take part in e-health physical activities at workplaces. To conduct this study, interviews were taken based on reasons for participation and reasons for non-participation both. It was found that there were various reasons for both participation and non-participation which include need to be more active, motivation towards physical activity, lack of reminders etc. Further the work proposed by Kohler (2016) was focused on knowing the differences among various workplace health promotion activities as per different areas and number of areas where the WHP activities were offered. A questionnaire was sent to 478 big businesses and correlation and linear regression techniques were used for analyzing the responses. The findings of the study were showing that the level of activeness were different in different types of organizations situated in different areas. The study conducted by Friedrich et al. (2015) was focused on tobacco prevention via the free consultation and telephone marketing by various WHP agencies. To conduct this study, both Quantitative and Qualitative methods were used for knowing reasons for both positive and negative responses. It was found that there were already many tobacco preventives applicable within the companies so needed no external support and the success rate of this marketing was very low.

The study conducted by Dimoff (2014) was focused on investigating the return on investment from workplace health programs. To conduct this study, narrative review was used for summarization and evaluation of findings. It was found that there was low availability of ROI data and also methodological and logical weaknesses were limiting the conclusions that could have been drawn from this study.

The study conducted by Markey et al. (2002) was focused on how the different types of employments and different genders were correlated with the degree of participation enjoyed by Australian employees at their workplaces. To conduct this study, Questionnaire survey was used and 19155 responses were analyzed. It was found that Part time employees and females were having lower enjoyment of participation than the full time employees and male employees.

The study conducted by Waikar and Bradshaw (1995) was focused on the willingness of participation of employees in exercise programs at workplaces. To conduct this study, questionnaire was used for 203 employees in 21 Louisiana businesses. It was found that employees were quite interested in becoming a part of this type of health programs at workplaces. The study conducted by Jinks and Daniels (1999) was focused on examining the health concerns of groups of health care workshop at workplaces. To conduct this study, data collection was done by the focused group interview method. It was found that there is the existence of stress at workplace because of various reasons like nature of work, volume of work, management style etc.

The study conducted by Green et al. (2001) was focused on knowing the impact of one year health promotion program on a group of 50 principals. To conduct this study, questionnaire was used to know the interests of those principals. It was found that workplace health programs can play a good role in the improvement of health at workplace like controlled Blood Pressure, Cholesterol etc.

The study conducted by Mitchell and Branigan, (2000) was focused on evaluating Health Promotions Interventions by the use of focus groups. To conduct this study, Qualitative (text) analysis was used. This study found some major points that need to be taken into account before evaluating the Health Promotion interventions by the use of Focus Groups.

The study conducted by Griffin et al. (2005) was focused on exploring health initiatives at workplaces especially for small and medium sized organizations and also seeking for further opportunities for the same. To conduct this study, Case Study Approach was used. It was found that engagement and participation were the two major problems and a greater understanding in regard to current needs, mindset towards health was needed. A model was proposed which incorporates Prochaska and DiClemente's Transtheory. The study conducted by Moore et al. (2010) was focused on the monument's understanding towards the WHP programs in small and medium sized organizations especially in Northern Ireland. To conduct this study, Benner's Strategy was used for analysis of data which was collected from 18 SME managers via telephonic interviews. It was found that there were high as well as low awareness of different managements towards the workplace health programs.

The study conducted by Eriksson et al. (2010) was focused on knowing the experiences of Workplace health programs in

health promotion and identification of the crucial aspects of such programs in Sweden. To conduct this study, case study design was used and 17 interviews were conducted and principles of content analysis were used. It was found that a big involvement in the planning and designing of Workplace health programs were needed and also many action plans were developed as the outcome.

The study conducted by Tinghög (2013) was focused on examining the opinions of the people who are participating in alcohol educations. To conduct this study, thematic analysis and frequency tables were used to analyse the data which was collected from the interviews of ten groups and 298 questionnaires. It was found that these education programs were useful as the alcohol educations appeared as legitimate and unproblematic.

The study conducted by Wimbush (1999) was focused on looking for a need for developing a broader strategy in order to strengthen the capacity of any research so the quality of research conducted would improve. To conduct this study, Qualitative analysis was used. It was found that though there is an emphasis that evidence based practice in promoting the health to be done still high negligence to ensure the quality of evidence was there.

The study conducted by Anderson et al. (2005) was focused on developing the psychometric properties of scales which can measure leadership of an individual for promotion of health. As per the capacity, these scales were drafted and also content validly was developed by a focus group series. It was found that the range of scale was between .71 and .78, that means good scale was established for internal consistencies.

### III. RESEARCH METHODOLOGY

The present section shows the research methods adopted to fulfill the objectives of the study. The chapter shows the hypotheses, type of research, sampling design, method of data collection, description of sample and data analytics tools and techniques.

#### A. Hypotheses

In order to assess the impact of personal beliefs of employees on their participation in worksite health promotion programs in Indian Corporate Sector, the following hypothesis is formed and tested using regression analysis.

- Ha1: There is significant impact of personal belief of employees on their participation in Worksite health promotion programs in Indian Corporate Sector.
- Ha2: There is significant impact of influence of peers on employee's participation in Worksite health promotion programs in Indian Corporate Sector.
- Ha3: There is significant impact of flexibility at workplace on employee's participation in Worksite health promotion programs in Indian Corporate Sector.
- Ha4: There is significant impact of environment at workplace on employee's participation in Worksite health promotion programs in Indian Corporate Sector.
- Ha5: There is significant impact of influence of family on employee's participation in Worksite health promotion programs in Indian Corporate Sector.

**B. Research Design**

To test the hypotheses listed above and fulfill the objectives, the study adopts the descriptive research design. Descriptive research design is more formal and structured than the exploratory research design. Under descriptive research design, the study focuses on the cross-sectional research design where the study tries to address the research objectives of the study at one point of time (considered as the duration of the study and time of employee’s survey).

**C. Sampling Design**

The study considers the convenience random sampling method to select the sample of the study. The structured questionnaire was forwarded to 1000 sample respondents and out of that the total of 256 sample responses were received. Thus the present study considers the sample of 256 sample responses for the analysis of the study.

**D. Data Collection Instrument**

A structured questionnaire was developed to collect data the responses of the sample respondents with respect to the key variables of the study such as influence of family, influence of peers, personal belief, environment at workplace, flexibility at work place, and participation of employees at worksite health promotion activities. The scale to measure these variables was developed after considering the previous literature reported in the field of the study by various researchers such as (Poku, 2003; Kamal, 2006; Sohal, 2000; Lee et al., 2005; Power, 2004; Lu et al., 2003, Kim and Galliers, 2004; Ndubisi and Jantan, 2003; Hsieh et al., 2006; Poon et al., 2005). While developing the questionnaire, the guidelines suggested by Dillman (1978) and Churchill (1979) were followed. In the questionnaire, the questions were formed in the dichotomous, multiple category closed ended and 5 point likert scale questions.

**E. Workplace Health Programs Selected**

The following health promotion activities were used to address the objectives of the study.

Smoke Cessation	Program Monitoring
Health Risk Assessment	Nutrition Counseling
Fitness Facilities	Cholesterol Monitoring
Fitness Subsidies	Drug & Alcohol Counseling
Stress Management	Medical Examination
Blood Pressure Monitoring	Planning Design and Implementation of regular wellness programs
Back problems prevention	Wellness education
Offsite accident prevention	Need Assessment
Mammography	Weight Control
Employee Assistance Programs	Dietician services

**F. Sample Description**

The description of sample respondents is given in following table. From the table, it is evident that out of 256 sample respondents, there are 51.2% male employees who participated in the questionnaire survey while 48.8%

respondents are female employees. Out of these 256 employees, 96.1%, 1.6% and 2.0% employees were having the nature of employment as Permanent, Temporary and Others respectively. The smoking and drinking habits were identified as important demographic variables for assessing the employee’s participation in workplace health promotion activities. With respect to the same, the respondents were asked to share their habits related to smoking and drinking. The results reported in following table are suggesting that the only 5.9% respondents have reported that they have the smoking habits while 93.8% have mentioned that they don’t have smoking habits. On the contrary, with respect to drinking habits, 48.4% respondents have reported yes to drinking habits while 51.2% have mentioned negative response.

**G. Analysis Tools and Techniques**

To extract the factor scores for the key variables for the study, the study used exploratory factor analysis (EFA). After extracting the factors using EFA, the reliability of scales was assessed using the Cronbach Alpha. Later, the validity of scales was tested using the confirmatory factor analysis (CFA). After conforming the reliability and validity of the scales, the impact of influence of family, influence of peers, personal belief, environment at workplace, flexibility at work place on the participation of employees at worksite health promotion activities was assessed using the regression analysis using ordinary least square methods (OLS).

	Number	Percentage
<b>Gender</b>		
Male	131	51.2%
Female	125	48.8%
<b>Smoking Habit</b>		
Yes	15	5.9%
No	240	93.8%
<b>Drinking Habit</b>		
Yes	124	48.4%
No	131	51.2%
<b>Nature of Employment</b>		
Permanent	246	96.1%
Temporary	4	1.6%
Others	5	2.0%

**IV. RESULTS AND DISCUSSION**

The present section discusses the analysis of responses and its implications for research objectives.

**A. Availability of Workplace Health Programs**

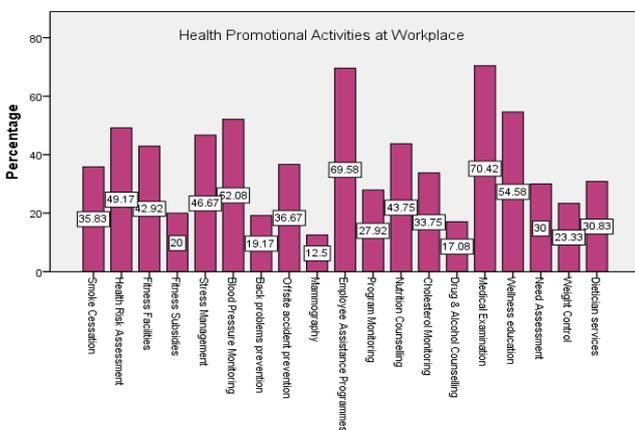
From the following table 1, the results are clearly indicating that during the survey, 35.8%, 49.2%, 42.9%, 20.0%, 46.7%, 52.1%, 19.2%, 36.7%, 12.5%, 69.6%, 27.9%, 43.8%, 33.8%, 17.1%, 70.4%, 54.6%, 30.0%, 23.3% and 30.8% of respondents have said that in their organization, they have access to health programs such as Smoke Cessation, Health Risk Assessment, Fitness Facilities, Fitness Subsidies, Stress Management, Blood Pressure Monitoring, Back problems prevention, Offsite accident prevention, Mammography, Employee.

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Assistance Programs, Program Monitoring, Nutrition Counseling, Cholesterol Monitoring, Drug & Alcohol Counseling, Medical Examination, Wellness education, Need Assessment, Weight Control and Dietician services respectively in their organizations. This also shows that the availability of Medical Examination, Employee Assistance Programs, Wellness education and Blood Pressure Monitoring is higher (as more than 50% of respondents have mentioned the availability) than other workplace health programs in Indian industries. On the contrary, the availability of other health programs such as Need Assessment, Program Monitoring, Weight Control, Fitness Subsidies, Back problems prevention, Drug & Alcohol Counseling and Mammography is not appropriate as only 30% and less respondents have mentioned the availability of these workplace health programs in Indian industries.

**Table 4.1: Availability of Workplace Health Programs**

Workplace Health Programs	Availability (in Numbers)	Percentage
Smoke Cessation	86	35.8%
Health Risk Assessment	118	49.2%
Fitness Facilities	103	42.9%
Fitness Subsidies	48	20.0%
Stress Management	112	46.7%
Blood Pressure Monitoring	125	52.1%
Back problems prevention	46	19.2%
Offsite accident prevention	88	36.7%
Mammography	30	12.5%
Employee Assistance Programs	167	69.6%
Program Monitoring	67	27.9%
Nutrition Counseling	105	43.8%
Cholesterol Monitoring	81	33.8%
Drug & Alcohol Counseling	41	17.1%
Medical Examination	169	70.4%
Wellness education	131	54.6%
Need Assessment	72	30.0%
Weight Control	56	23.3%
Dietician services	74	30.8%



## B. Exploratory Factor Analysis

The previous section established the fact that poor participation of programs can therefore not be attributed to the attitudes of employees towards the programs. An overwhelming majority of the people are of the view that

these programs are beneficial for them.

In order to understand the theoretical structure of the various factors identified in the literature review of the study, the exploratory factor analysis is conducted. The identified factors are Flexibility at the Workplace, Environment at the Workplace, Influence of Peers, Influence of family & Personal beliefs. Each factor was assessed through a set of 5-10 instruments. The exploratory factor analysis technique tries to assess the relationship structure between the variables and the respondents. The technique is also helpful in identifying the set of latent variables on the basis of scale developed in the questionnaire of the study. The exploratory factor analysis is conducted on the basis of common factor model. The manifest variables are represented as the combination of unique, common and error terms.

**Table 4.2: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% Var	Cum. %	Total	% of Var.	Cu.%	Total	% Var	Cum %
1	7.8	25.1	25.1	7.8	25.1	25.1	5.8	18.6	18.6
2	4.3	13.8	38.9	4.3	13.8	38.9	4.0	13.0	31.6
3	3.1	9.9	48.8	3.1	9.9	48.8	3.9	12.5	44.1
4	2.3	7.6	56.3	2.3	7.6	56.3	3.0	9.8	53.8
5	1.8	5.7	62.1	1.8	5.7	62.1	2.5	8.2	62.1
6	1.6	5.2	67.3						
7	1.4	4.5	71.8						
8	1.0	3.3	75.1						
9	0.8	2.7	77.8						
10	0.7	2.2	80.0						
11	0.7	2.1	82.1						
12	0.5	1.7	83.9						
13	0.5	1.7	85.6						
14	0.5	1.6	87.2						
15	0.4	1.4	88.6						
16	0.4	1.4	89.9						
17	0.4	1.2	91.1						
18	0.4	1.1	92.2						
19	0.3	1.0	93.3						
20	0.3	0.9	94.2						
21	0.3	0.9	95.1						
22	0.2	0.8	95.9						
23	0.2	0.7	96.6						
24	0.2	0.6	97.2						
25	0.2	0.6	97.8						
26	0.2	0.5	98.3						
27	0.1	0.4	98.7						
28	0.1	0.4	99.1						
29	0.1	0.3	99.5						
30	0.1	0.3	99.8						
31	0.1	0.2	100.0						

Before extraction, the SPSS has identified a total of 31 linear factors within the data set. The eigenvalues associated with each factor represents the variance explained by the particular linear component. The above table lists the eigenvalues associated with each linear factor before and after extraction along with after rotation effect. The same is also represented in terms of the variance explained by one particular factor with respect to the total variance. If we see the factor loadings after extraction, the 5 factors are selected that explain approximately 62% of the total variance.

Out of these 5 factors, factor 1 explains highest variance, which is 25.12% while other 4 factors explain 13.77%, 9.89%, 7.55% and 5.72% variance respectively.

In the final part of table (labeled as Rotation sums of squared loadings), the eigenvalues of the factors are displayed. Rotation tries to optimize the factor structure along with the consequence that the relative importance of these 10 factors is equalized. After rotation, the variance explained with each factor is 18.59%, 12.98%, 12.49%, 9.77% and 8.22% respectively.

**C. Reliability Statistics**

The success of any primary data based research depends on the reliability and validity of the variable scale used in the questionnaire to get the required response from the sample respondents. Thus, to test the reliability of variables used in the study, Cronbach’s alpha statistics (Cronbach, 1971) is calculated. Cronbach’s alpha is a measure of reliability. It is a lower bound limit for the true reliability of the survey. The computation of Cronbach’s alpha is based on the number of items on the survey and the ratio of the average inter-item covariance to the average item variance. Under the assumption that the item variances are all equal, this ratio simplifies to the average inter-item correlation, and the result is known as the Standardized item alpha (or Spearman-Brown stepped up reliability coefficient). In general Cronbach’s alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. A "high" value of alpha is often used as evidence that the items measure an underlying construct.

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Flexibility at workplace	.864	.874	5
Environment at workplace	.799	.792	9
Influence of peers	.719	.726	5
Influence of family	.884	.886	4
Personal beliefs	.944	.951	8

From the above table, it is evident that the value of Cronbach’s Alpha (a measure of reliability statistics) of variables such as Flexibility at workplace, Environment at workplace, Influence of peers, Influence of family and Personal beliefs is 0.864, 0.799, 0.719, 0.884 and 0.944 which is higher than the standard value of 0.7. This suggests that the scales used to measure the variables Flexibility at workplace, Environment at workplace, Influence of peers, Influence of family and Personal beliefs are reliable and can be used for the analysis.

**D. Regression Analysis**

After conforming the reliability and validity of the five independent variables such as flexibility at workplace, environment at workplace, influence of peers, influence of family and personal beliefs, the predictability of these factors on employee’s participation in health program is assessed by testing the following regression equation;

$$EP = \alpha_1 + \beta_1 \text{IoF} + \beta_2 \text{IoP} + \beta_3 \text{PB} + \beta_4 \text{EW} + \beta_5 \text{FWP} + e \quad (\text{Equ. 1})$$

In the above regression equation,

- EP represents employee participation in workplace health programs
- IoF represents the influence of family
- IoP shows the influence of peers,
- PB represents the personal beliefs,
- EoW shows the environment at workplace, and
- FWP indicates flexibility at workplace

The above equation 1 is tested using the ordinary least square methods and the results of same are reported below;

Variable	Coefficient	t-value	p-value
(Constant)	-.055	-.939	.349
Personal Belief	-.239	-4.095	.000
Influence of Peers	-.391	-6.624	.000
Flexibility at Work Place	.100	1.703	.090
Environment at Workplace	-.194	-3.320	.001
Influence of Family	.063	1.075	.283
Adjusted R-Square	0.503		
F-Statistics	15.113		0.000

The results of the regression equation 1 are given in above table (model summary). From the table (regression output), it is evident that the value of measure of goodness of fit of the regression model (adjusted R2) is 0.503. This suggests that the five independent variables (flexibility at workplace, environment at workplace, influence of peers, influence of family and personal beliefs) can explain 50.3% variation in the dependent variable (employee participation in workplace health programs). The results of F-statistics are shown in the above table. The value of ANOVA statistics (F-statistics) is 15.113 along with its significance value of 0.000. This suggests that the F-statistics is significant and the results are sufficient enough to reject the null hypothesis of  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ . This confirms that the model is good fit and correctly specified in its linear functional form.

After assessing the goodness of fit of the model, the estimated results of the model are also presented in above table (regression output). From the results, it is evident that coefficients of five independent variables such as flexibility at workplace, environment at workplace, influence of peers, influence of family and personal beliefs are -0.194, 0.100, -0.391, 0.063 and -0.239, respectively. The respective p-values of these coefficients are 0.090, 0.001, 0.000, 0.283 and 0.000. These results suggest that the coefficients of environment at workplace, influence of peers and personal beliefs are significant at 1% level of significance while the coefficients of flexibility at workplace and influence of family are not significant at 5% level of significance. This shows that the three factors such as environment at workplace, influence of peers and personal beliefs play a significant role in affecting the employee’s participation in workplace health programs.

V. FINDINGS AND CONCLUSIONS

The results related to assessment of availability of various workplace health programs in Indian industries suggest that the availability of medical examination and employee assistance programs is better (as more than 60% of the sample respondents have mentioned its availability in their respective organization). The availability of wellness education and blood pressure monitoring, health risk assessment, stress management, nutrition counseling, fitness facilities, offsite accident prevention, smoke cessation, cholesterol monitoring, dietician services and need assessment is moderate (as more than 30% and less than 60% of the sample respondents have mentioned its availability in their respective organization). On the contrary, the availability of program monitoring, weight control, fitness subsidies, back problems prevention, drug & alcohol counseling and mammography is low (as less than 30% of the sample respondents have mentioned its availability in their respective organization).

With respect to participation of employees in workplace health programs in Indian industries, the results show that the participation of employees in the workplace health promotion activities is very low. Out of those organizations where the workplace health promotion activities are available for employees, the participation of percentage of employees is exceeding 50% in case of only two health promotion activities such as health risk assessment (57%) and medical examination (55%). The participation is low with respect to various other health promotion activities such as weight control (48%), cholesterol monitoring (48%), wellness education (45%), back problems prevention (44%), stress management (42%), mammography (37%), employee assistance programs (37%), fitness subsidies (36%), off site accident prevention (34%), dietician services (34%), nutrition counselling (32%), program monitoring (29%), fitness facilities (24%), need assessment (23%), drug & alcohol counselling (17%) and smoke cessation (15%).

As identified in the literature that factors such as influence of family, influence of peers, personal belief, environment at workplace, flexibility at work place carries theoretical impact on the employee's participation in workplace health program. Thus to test the same, the regression analysis was conducted considering the participation in workplace health program as dependent variable and independent variable such as influence of family, influence of peers, personal belief, environment at workplace, flexibility at work place. The scores for these variables were extracted after applying the exploratory factor analysis and confirmatory factor analysis. The reliability of these variables were tested using Cronbach's Alpha. In all cases, the value of Cronbach's Alpha was in acceptable range (exceeding 0.7). The results of regression analysis suggest that three factors such as environment at workplace, influence of peers and personal beliefs play a significant role in affecting the employee's participation in workplace health programs (the coefficients of these factors are significant at 1% level of significance). On the contrary, the coefficients of flexibility at workplace and influence of family are not significant at 5% level of significance and thus do not carry significant impact of employee's participation in workplace health program in Indian industries.

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