

# BEHAVIOR BASED SAFETY (BBS) ATTITUDE OF EMPLOYEES AT WORKPLACE

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## Abstract

Workplace safety attitudes refers to the employee tendency to respond positively or negatively towards a safety goal, idea, plan, procedure, prevention or situation. Safety attitudes influence employee choice of actions and response to challenges, incentives and rewards in the workplace. Positive workplace safety attitudes are essential for an accident-free work environment that ensures higher efficiency, best quality, saves budget on cost of accident, raises employee morale, business profit and goodwill.

**Keywords:** Behaviour Based Safety – Safety Attitude – Employee Intention to safety

## Introduction

Environment, health, and safety (EHS) managers are always looking for ways that they can mitigate risk, take preventive action against potential hazards and incidents, and improve their company's overall safety culture. Behavior-based safety (BBS) is an effective tool that can be put to use in achieving all of these goals. Basically, BBS is a method of avoiding human error and improving workplace safety by observing and analyzing employees' behavior while they work. Let's take a look at some of the key concepts of BBS, along with actions EHS managers and professionals can take to put the concepts to beneficial use at their organizations. On the contrary, a negative workplace safety attitude increases cost of production, turnover rate, and reduces employee safety, morale, quality, profitability and business goodwill.

### Workplace safety attitudes have following components:

Good workplace safety attitudes are represented by attentiveness, eagerness, alertness, carefulness, task focused, team-oriented and seriousness. Bad workplace safety attitudes are represented by emotional acts, tiredness, risk-taking, recklessness, selfishness and carelessness.

- Emotions or feelings - driven by mental states
- Belief or opinions - derived from own faith
- Inclination for action - driven by opinions
- Positive or negative response to stimuli - lead by actions

### Positive workplace safety attitudes aim to:

- Protect properties and employees
- Prevent all types of accidents and near misses
- Prepare for the emergencies
- Improve work environment and morale

### Positive Attitude towards Safety

Workplace accident has become a prominent issue in Malaysia this decade with the number of reported accident cases have recently shown a gradual upturn. Safety behaviour is found to be the leading cause of workplace accident, and previous researchers have found that safety knowledge and safety attitude are among the significant predictors of safety behaviour.

- A. Take personal responsibility for your own safety and that of your co-workers.
- B. Pay attention to training.
- C. Follow every step in every job every time.
- D. Know and follow safety rules.
- E. Use required personal protective equipment.

- F. Give work your full attention.
- G. Keep an eye out for hazards. Always ask, “What could go wrong here?”
- H. Put your personal feelings and problems aside while you’re working.
- I. Urge your co-workersto follow safety procedures.
- J. Know what to do in an emergency.
- K. Ask questions about any procedure or precaution that’s not clear.
- L. Report any safety hazards you can’t fix.
- M. Save fooling around for your personal time.

**Opportunities to Improve Workplace Safety**

- 1. Voluntarily report safety hazards
- 2. Proposing safety improvements to your supervisor(s).
- 3. Cooperating with safety inspections and monitoring.
- 4. Setting an example of a good safety attitude for others, especially new employees.

**The main benefits of a BBS program are:**

- 1. Shared vision of a “zero accident” culture;
- 2. Significant reduction in accidents;
- 3. Engagement by employees and teamwork;
- 4. Positive reinforcement instead of assigning responsibility for mistakes;
- 5. Consolidation of an efficient culture of safety;
- 6. Direct and active involvement and support from upper management and at other managerial levels.

**Review of Literature**

According to **Tharaldsen (2011)**, the behaviour-based Safety (BBS) method is rooted in behavioural psychology and employs motivation-response models. A BBS strategy will look for challenging conduct and focus on conspicuous behavioural outputs. Safety is based on behaviour, which is primarily concerned with observable behavioural outputs. Employees' contexts are examined, key behaviour is diagnosed and treated, and cultural results are worked within behavior-based safety measures.

**Kaila H.L. (2017)** conducted research on multinational corporations such as petroleum, engineering, automobile, cement, power, chemical, and pharmaceutical firms. The author notices that management has begun to believe that engineering and administrative controls alone will not create an appropriate safe workplace until Behavioral Based Safety (BBS) is implemented. Workers' dangerous conduct is managed in order to assure comprehensive workplace safety.

**Sharon Clarke and Eugene F. McKenna (2006)** discussed Glendon, Ian's Safety culture and risk models. They outline a risk management strategy that incorporates tactics including risk assessment, safety auditing, and safety interventions.

The authors, **Dan Hopwood and Steve Thomson (2006)** were discussed the core OSHA regulatory requirements, including safety needs assessments, workers' compensation and insurance, disaster and emergency planning, ergonomics, risk management and loss prevention, injury management, incident investigation, workplace security, best practices, and the formation of a workplace safety culture.

**Research Methodology**

The study was conducted on 520 employees, simple random sampling techniques from public sector manufacturing unit, identifying those working in the high-risk area and conducting the survey with them. For this study, the descriptive research study method was carried out. Questions are asked under various headings and employees’ feedback are listed.

**Objective:** To study the behaviour-based safety attitudes among public sector manufacturing employees at their work place

**Analysis**

**1. Path Regression Analysis of Employees’ Opinion on Safety Attitude**

**Abbreviation of Safety Attitude (SA)**

Abbreviation	Safety Attitude (SA)
SA-1	Conscious of my own safety
SA-2	Safety on the job is my own responsibility
SA-3	There is a chance, I know could be involved in accident
SA-4	Employees are held accountable for poor safety performance

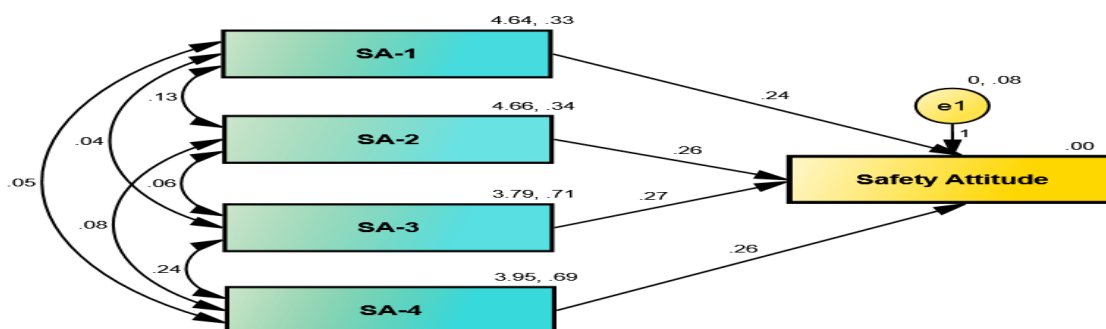
**Table- 1 (a): Model Fit Summary**

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
Safety Attitude	0.862	0.744	0.742	0.27900

Model reveals that R- (Multiple Correlation Coefficients) value is 0.862. It measures the degree of relationship between the Safety Attitude and the predicted values ‘Conscious of my own safety’ (SA-1), ‘Safety on the job is my own responsibility’(SA-2), ‘There is a chance, I know could be involved in accident’ (SA-3) and ‘Employees are held accountable for poor safety performance’ (SA-4).

R-Square (Coefficient of Determination) value is 0.744. It is more than about 74% of the variation of Safety Attitude is explained by the variation in the independent variables ‘Conscious of my own safety’ (SA-1), ‘Safety on the job is my own responsibility’(SA-2), ‘There is a chance, I know could be involved in accident’ (SA-3) and ‘Employees are held accountable for poor safety performance’ (SA-4). Adjusted R- squared value is 0.742. It adjusts the statistic based on the number of independent variables in the model. That is the desired property of goodness-of- fit statistic.

**Fig-1 Path Regression Analysis of Employees’ Opinion on Safety Attitude**



**2. Regression Weights for Employees’ Opinion on Safety Attitude**

Regression Weights	Estimate	S.E.	C.R.	P
Safety Attitude <--- SA-1	0.239	0.023	10.337	.000
Safety Attitude <--- SA-2	0.265	0.016	16.888	.000
Safety Attitude <--- SA-3	0.259	0.023	11.351	.000
Safety Attitude <--- SA-4	0.273	0.015	17.768	.000

Note: .000 is 1%  $\alpha$ -significant level

The Path diagram represents the independent variables of the Safety Attitude like ‘Conscious of my own safety’ (SA-1), ‘Safety on the job is my own responsibility’(SA-2), ‘There is a chance, I know could be involved in accident’ (SA-3) and ‘Employees are held accountable for poor safety performance’ (SA-4) are impact with Safety Attitude. Here Path Regression analysis employed on all four variables; among them, all variables are highly significant at 1%  $\alpha$ -significant level.

The significant variables are comparing with estimated values, the resulted that the first influenced Safety Attitude variable is ‘Employees are held accountable for poor safety performance’ (SA-4), and the estimate value is 0.275. The second influenced variable is ‘Safety on the job is my own responsibility’ (SA-2), and the estimate value is 0.265. Third influenced variable is ‘There is a chance, I know could be involved in accident’ (SA-3), and the estimate value is 0.259. The study concludes the Employees’ opinion on leading Safety Attitude variable is ‘Employees are held accountable for poor safety performance’ and ‘Safety on the job is my own responsibility’.

**Table-3 Covariance for Employees' Opinion on Safety Attitude**

Covariance	Estimate	S.E.	C.R.	P
SA -1 <--> SA -4	0.049	0.021	2.322	.020
SA-4 <--> SA -2	0.077	0.022	3.544	.000
SA -4 <--> SA -3	0.237	0.033	7.262	.000
SA -1 <--> SA -3	0.036	0.021	1.707	.088
SA-2 <--> SA -3	0.060	0.022	2.727	.006
SA -1 <--> SA -2	0.130	0.016	8.240	.000

Note: .000 is 1%  $\alpha$  -significant level

The above table interprets covariance relationship of Safety Attitude Variables, SA -1 <--> SA -3 relationship is not significant, remaining relationship are significant at 1%, the significant relations are comparing with estimate values, SA -4 <--> SA -3 and SA -1 <--> SA -2 relationships are highly significant at 1% level. The estimate values are 0.237 and 0.130 respectively.

**Table-4 Correlations for Employees' Opinion on Safety Attitude**

Correlations	Estimate
SA -1 <--> SA -4	0.102
SA -4 <--> SA -2	0.157
SA -4 <--> SA -3	0.336
SA -1 <--> SA -3	0.075
SA -2 <--> SA -3	0.121
SA -1 <--> SA -2	0.388

The above table interprets Correlation relationship of Employees' opinion on Safety Attitude variables, all variable relationships are positive correlated. Among the relationship the high correlated variables are SA -1 <--> SA -2 and SA -4 <--> SA -3, the correlation values are 0.388 and 0.336 respectively.

### Findings

The results of this study reveal that maximum employees are accepting the poor safety performance that employees are responsible for any bad results. At the same time, most employees do not accept the notion that safety is their own responsibility.

### Suggestions

The BBS and safety culture program has continuously highly helpful to various industries' workers safety, employees' betterment and safety purpose. Now a days the BBS management has serve to industries in way of improved model based upon environmental, technology changes, and BBS management system has making them to be highly effective and successfully to the industries. In the view of safety attitude, the study recommends to the employees as follow, they should conscious of their own safety and they take accountable for poor safety performance.

### Conclusion

Behavior based safety relies on complete trust and cooperation between the leaders and employees. Behavior based safety is important because it provides long-term solutions for eliminating risks and hazards. This life saving approach fosters a culture of safety in the workplace which is vital for lasting success.

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