

Performance Implications of Safety Training

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Background

- Safety training has been identified as one of the most important safety management practices that predicts safety knowledge, safety motivation, safety compliance and safety participation which are key factors of safety performance.
- Safety performance is typically measured by both lagging and leading indicators, and their use should be balanced.
- Several models for evaluating safety training effectiveness have been suggested earlier. In our previous study (Tappura & Jääskeläinen 2020), a model and related questionnaire was designed for this purpose.
- Safety performance indicators could be better utilized in evaluating the effectiveness of safety training
- Studies are needed to gain more comprehensive knowledge on the performance implications of safety training.
- This study provides understanding on how training affects the different elements of safety performance.

Objectives

- This study is part of a larger study focusing on to create models and develop practices for materializing the potential of safety performance measurement.
- The aim of this sub-study was to study how employees' safety performance can improve during a six-month period after a safety training intervention in two units of the case company.

Material and methods

- Company-specific safety training was carried out (Unit 1 & Unit 2)
- After the training, the effects on safety performance were studied based on a questionnaire and selected indicators for safety performance
- Employees' perceptions were measured by a survey (n=45)
 - 4 themes
 - 43 Likert-scale questions
 - 5 open questions
- 45 responses were received (51% from unit 1 and 49% from unit 2)
- Safety performance indicator data were gathered before and six months after the training to complement the survey data

Summary of the survey results

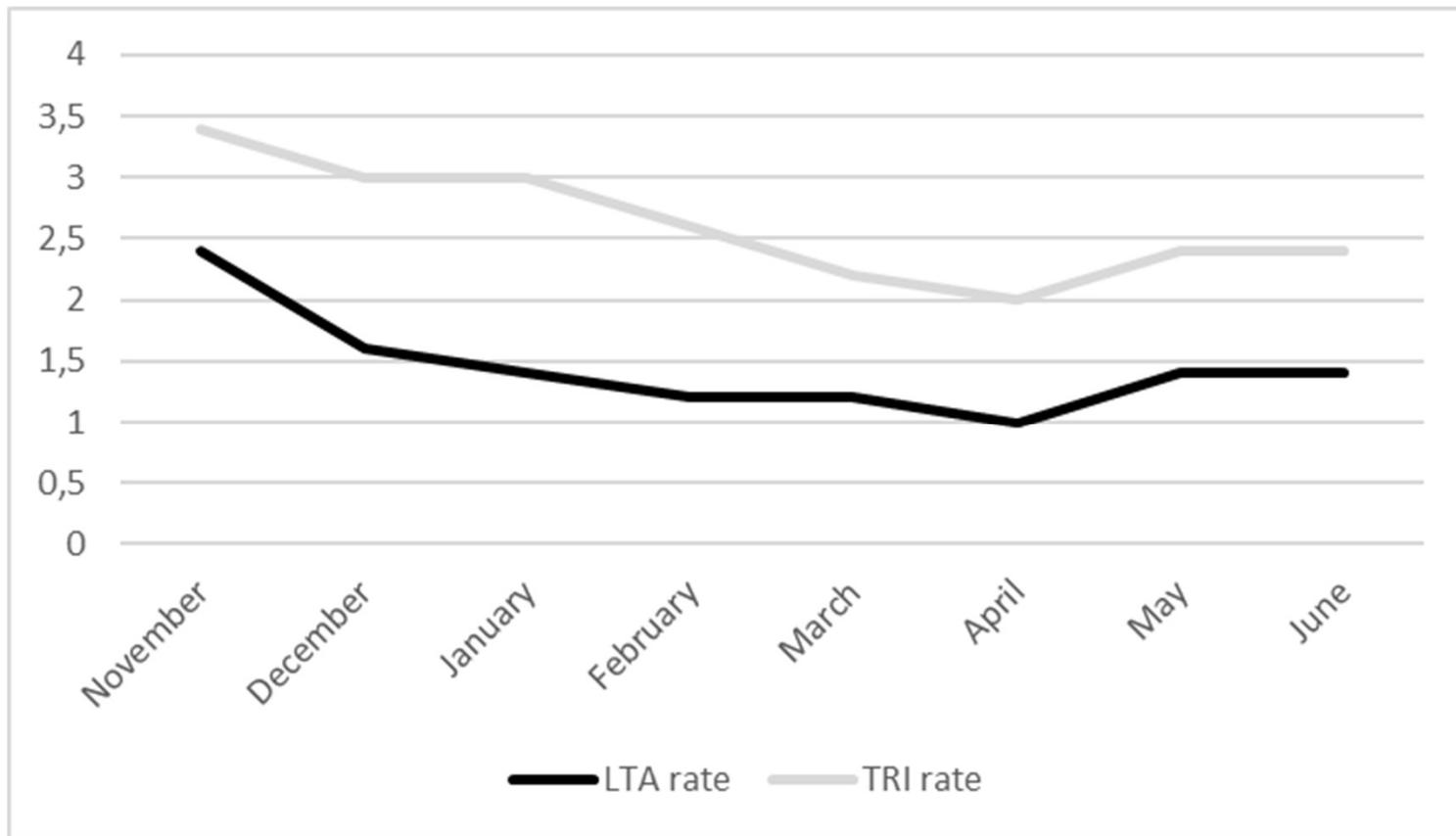
Perspective	Sections	No. of questions	Mean
Safety knowledge	Working environment	4	3.66
	Ability to work safely	4	3.74
Safety attitude, beliefs and motivation	Understanding the significance of safety	5	3.80
	Risk perception	4	3.72
	Safety motivation	3	3.95
Safety behavior	Adhesion to the instructions	4	3.62
	Feedback	3	3.39
	Active safety participation	5	3.52
Safety performance	Effects on occupational injuries	1	3.78
	Effects on workplace climate	1	3.75
	Supervisory performance	4	3.76
	Employee performance	5	3.81

1 = disagree, 2 = partly disagree, 3 = neither agree nor disagree, 4 = partly agree, 5 = agree

Five-month moving average of monthly preventive actions taken (number)



Five-month moving average of LTA rate and TRI rate (number)



Discussion

- Some perceived improvements in safety knowledge, attitudes, behavior and safety performance can be found
- Indicator data also show a positive trend in safety performance during the studied period
 - More active reporting of and participation in safety issues may indicate behavioral changes after the training
- The indicator data should be followed for a longer period to confirm the effects
- This study contributes to the current knowledge on evaluating the performance implications of safety training
- The results of the study can be utilized in planning adequate interventions and related measurements to improve safety

Thank you!



SafePotential Toolbox:
<https://projects.tuni.fi/safepotential/>