Reduction of Occupational Accidents: Evidence-based Prevention and the Prevention Index (PlTOP)

Objective
PlTOP is a practical measurement tool which is currently used by the German Social Accident Insurance Institution for the Woodworking and Metalworking Industries to monitor injury prevention activities at workplaces. This 12-item scoring system has 3 subscales, referring to Technical, Organisational and Personnel aspects (Tab. 1) and has a rating value ranging from 1–9 (Tab. 1). The reliability and validity of this instrument were evaluated in a cross-sectional survey.

Methods

- The inter-rater-reliability was examined by 2 trained supervisors in 128 companies. The agreement was quantified by interclass correlation coefficient (ICC)
- Content validity was evaluated by quantifying the association between PlTOP-values and 5-years injury rates of 30,000 companies (Poisson regression analysis)
- Construct validity was analyzed by factor analysis (principal component analysis)

Results

- The analysis demonstrates a good inter-rater-reliability
- Factor analysis identified three component subscales which meet exactly the structural measure theory behind the score.
- The Poisson regression analysis demonstrates a significant association between PlTOP-values and 5-years injury rates.

Conclusion
This analysis indicates that PlTOP is a valid and reliable instrument, it will be used to monitor safety conditions at workplaces in a longitudinal practical approach.

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