

## ABSTRACT OF DISSERTATION

### INCREASING USE OF RESPIRATORS THROUGH A LEADERSHIP-BASED INTERVENTION

This dissertation presents a multifaceted leadership-based intervention focused on increasing rotogravure printing press operators' use of respirators and safe work practices. The research followed a leadership-based intervention model in which first line supervisors, managers and team leaders were utilized to drive the change. In addition to the use of leadership, the intervention included employee-conducted air sampling to communicate toluene concentration levels inside the printing press enclosures.

To measure certain determinants of respirator use, a pre- and post-intervention questionnaire was used. The pre-intervention questionnaire focused on each employee's past use of respirators and future intentions to use a respirator when required according to company expectations. The post-questionnaire was aimed at evaluating how a leadership-based intervention affected employees' attitudes towards respirator use. Six weeks of video monitoring was the observation tool used to verify pre-intervention use of respirators and safe work practices compared to post-intervention use of respirators and safe work practices.

Although the trend toward increased use of safe work practices was observed, intentions toward increased respirator use were not predictive of behavior ( $r = -.161$ ,  $p.05$ ). While no employee was observed using a respirator during the six-week study, utilization of safe work practices aimed at protection employees from high concentrations of organic solvents increased ( $p < .027$ ). It was concluded that use of employee-conducted air monitoring might have been the most effective tool at communicating the risk of organic solvent exposure and the importance of avoiding exposure by using a respirator or adhering to safe work practices.

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