Assessing Workstation Safety Integrating Macroergonomics and STAMP
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1. Introduction
- Macroergonomics and STAMP share a common sociotechnical framework.
- These two perspectives will be integrated to illustrate implementation of a safety-relevant intervention.
- We argue that successful workplace interventions require simultaneous integration of scientific/technical knowledge with management/organizational values and constraints.

2. The Problem
- Sedentary prolonged computer use is a risk factor for musculoskeletal disorders as well as cardiovascular disease, diabetes, and obesity.
- Workplace ergonomics—combining work design, training and appropriate adjustable workstations—can ameliorate this risk.

3. The Tools
- A macroergonomic methodology (SAT/IDEAS) allows a multi-functional team to systemically:
  (a) Assess the problem
  (b) Develop alternative solutions
  (c) Develop evaluative criteria
  (d) Evaluate the solutions in cost-benefit terms
- STAMP can be usefully integrated into the procedure to model solutions.
- Outcome: Application of solution led to successful outcome (reduced symptoms, improved work performance and perceptions related to the organization) in a field trial compared to control group.

4. Problem Factor Tree (simplification). Team, representing relevant stakeholders, defines and contextualizes problems and sub-problems (role for STPA as core component)

5. Objectives/Activities Tree. Team defines activities which will meet objectives: alternative solutions and interventions

6. Decision Criteria. Team defines preliminary criteria for evaluating alternatives


8. Evaluation. Team evaluations of each alternative using previously defined criteria