

Commentary III

Making workplaces healthier: generating better evidence on work organization intervention research

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We compliment Murphy and Sauter (2004) on their framing of work organization intervention research and practice and guidance on research needs. We welcome the opportunity to reflect on some key elements of their framework and research challenges. We have grouped comments under: 1) levels of intervention, 2) stimuli of change, 3) nature of evidence, and 4) theory development.

1. Levels of intervention

Murphy and Sauter's table lays out a very useful framework to encompass the potentially wide range of work organization interventions at different "levels" and across different stages of prevention. We note that there is evidence for effects at the intermediate management level, e.g., workers' perceptions of safety climate differ among supervisor groups (Hofmann & Stetzer 1996; Zohar 2000) and training of supervisors can improve sub-unit safety (Zohar 2002). These suggest that this level be added to Murphy and Sauter's table and that more research be done on middle management's role.

Further, uptake of policies and programs may differ across levels. The "trickle-down" notion of broad legislative or regulatory changes, to workplace policies and programs, to changes in working conditions has demonstrated inconsistent coverage and intensity. For example, Hochschild (1997) described an organization in which excellent work-family balance programs were initiated by senior management but supervisors' attitudes stopped some workers from taking advantage of the flexibility permitted.

Interventions tend to occur on several levels simultaneously, with some consensus groups arguing that such multi-level

implementation is indeed preferable, e.g., Panel on Musculoskeletal Disorders in the Workplace (2001). Such an approach, though, presents problems in interpreting evidence on effectiveness, as determination and separation of independent effects and interactions is tricky. Nevertheless, appropriate designs and analyses may facilitate understanding of what combination(s) of changes at what levels are optimal in producing individual-level improvements in health.

2. Stimuli of change

As Murphy and Sauter correctly argue, workplaces make work organization changes for a wide variety of reasons and researchers should develop a better understanding of these reasons. Among those relevant to employee health are: to comply with legislation, to deal with an organizational crisis, to radically improve quality or productivity, or to become a "healthy workplace". The drivers for change can be numerous (Lemieux-Charles et al. 2002) and may only occasionally include approaches from outside researchers.

We believe that evaluations of interventions must consider and explicitly report on the stimulus(i) for and stated purpose of work organization changes. If the stimuli are internal, the organization will take the intervention more seriously and implement it more intensively. Similarly, work reorganization for business reasons will likely experience greater management commitment than that for improving employee health. As Hopkins (1995) pointed out for the "safety pays" argument, if managements truly believed in business benefits, they would implement changes on their own.

Since improvement in organizational performance and employee health may or may not coincide (Landsbergis et al. 1999), elucidation of different situations in which work organization changes benefit both, only one, or neither is an important research task. It might be facilitated by an “imminent organizational changes surveillance system” based on press reports, business trends analysis, or other methods. Then teams of management and occupational health researchers could jointly approach identified companies offering to conduct comprehensive evaluations of work organization implementation and outcomes, including productivity, quality and health.

3. Nature of evidence

Murphy and Sauter appropriately note both the dearth of effectiveness studies and the need for improvement in intervention research approaches. Cole et al. (2003) have described “cultures” of evidence, stating that different disciplines and social groups hold different views on what evidence is sufficient to influence policy and practice. Many health and safety or human resources magazines contain case studies of success stories, typically outlining the new philosophy, adding some examples of specific actions taken, and claiming success as reflected in change in a measure such as absenteeism. Such reports can be highly persuasive to those eager for changes but ignored by those without interest. Unfortunately, little research has documented how workplace parties assess the relevance and quality of evidence on work organization and health and how such assessments influence their decision-making (Kramer & Cole 2003).

Improvement in the rigour of work organization intervention evaluations is also challenging. Proponents of work organization change often argue that it can take years before culture shifts really take hold, often taxing the patience of managers, researchers and funders. Further, work organization is at the core of what management does, making random allocation or delayed implementation of changes difficult for workplace decision-makers. Glasgow and col-

leagues (2003) outline a potential way forward arguing for attention to key contextual factors in all types of studies, acceptance of and documentation of modifying factors, changes in funding for intervention research, and new reporting guidelines.

4. Theory development

We agree with Murphy and Sauter that intervention research must be more theory-driven, yet note their judgement that some theory-driven interventions have generated mixed results, particularly at the job/task level. Reflecting on the limited improvements associated with interventions that improve control, Reynolds (1997) has suggested that many workers may not desire greater control and Jones et al. (1998) have suggested expanding the variables of interest beyond the demand-control model. For example, Lowe and colleagues (2003) showed that communication/support, job demands, and resources were the three strongest predictors of workers’ perceptions of workplace healthiness. Also, the notion of control itself might be expanded to include influence, autonomy and self-efficacy.

Alternatively, just as educators allow for varying learning styles and personnel managers must consider person-environment fit, perhaps work organization researchers must carry out workplace assessments drawing on a wider set of theoretical perspectives and match interventions to identified opportunities for change.

Conclusion

Work organization intervention research is challenging – which perhaps explains its scarcity. Yet when we identify work organization risk factors and urge workplace parties to make changes as a result, we have an obligation to ensure that our recommendations are both effective and feasible. Murphy and Sauter remind us of this duty in our efforts to improve the health and safety of workers.

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References

- Cole DC, Wells RP, Frazer MB, Kerr MS, Neumann WP, Laing AC & the Ergonomic Intervention Evaluation Research Group (2003).* Methodological issues in evaluating workplace interventions to reduce work-related musculoskeletal disorders through mechanical exposure reduction. *Scand J Work Environ Health* (to appear).
- Glasgow RE, Lichtenstein E, Marcus AC (2003).* Why don't we see more translation of health promotion research to practice? Re-thinking the efficacy-to-effectiveness transition. *Am J Public Health* 93: 1261–7.
- Hochschild AR (1997).* *The time bind: when work becomes home and home becomes work.* New York: Henry Holt.
- Hofmann DA, Stetzer A (1996).* A cross-level investigation of factors influencing unsafe behaviours and accidents. *Personnel Psychology* 49: 307–39.
- Hopkins A (1995).* Making safety work: getting management commitment to occupational health and safety. St. Leonard's, NSW, Australia: Allen and Unwin.
- Jones F, Bright JEH, Searle B, Cooper, L (1998).* Modelling occupational stress and health: the impact of the demand-control model on academic research and on workplace practice. *Stress Med* 14: 231–6.
- Kramer D, Cole DC (2003).* Sustained, intensive engagement to promote health & safety knowledge transfer to and utilization by workplaces. *Sci Commun* 25: 56–82.
- Landsbergis, A, Cahill J, Schnall P (1999).* The impact of lean production and related new systems of work organization on worker health. *J Occup Health Psychol* 4: 108–30.
- Lemieux-Charles L, McGuire W, Champagne F, Barnsley J, Cole D, Sicotte C (2002).* Multilevel Performance Indicators: examining their use in managing performance in health care organizations. In: Neely A, Walters A, eds. Performance measurement and management: research and action. Proceedings, 3rd International Conference on Theory and Practice in Performance Measurement and Management. UK: Cranfield Centre for Business Performance, Cranfield University.
- Lowe GR, Schellenberg G, Shannon HS (2003).* Correlates of employees' perceptions of a healthy work environment. *Am J Health Promotion* 17: 390–9.
- Murphy LR, Sauter SL (2004).* Work organization interventions: state of knowledge and future directions. *Soz Präventiv Med* 49: 79–86.
- Panel on Musculoskeletal Disorders and the Workplace (2001). Commission on Behavioral and Social Sciences and Education, National Research Council (NRC) and Institute of Medicine. Musculoskeletal disorders and the workplace: low back and upper extremities. Washington D.C.: National Academy Press: 301–29.
- Reynolds S (1997).* Psychological well-being at work: is prevention better than cure? *J Psychosom Res* 43: 93–102.
- Zohar D (2000).* A group-level model of safety climate: testing the effect of group climate on micro-accidents in manufacturing jobs. *J Applied Psychology* 85: 587–596.
- Zohar D (2002).* Modifying supervisory practices to improve sub-unit safety: a leadership-based intervention model. *J Applied Psychology* 87: 156–63.

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