A randomized waitlist-controlled trial of operant-based leadership training

Source: PLOS ONE | **Author:** M. Grill | **PMS Relevance:** PMS RELATED | **Type:** Research Study | **Geography:** Europe

Source URL: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0320131

Executive Summary

This article addresses the persistent challenge of achieving lasting improvements in managers' performance feedback behaviors through leadership training. The author, Martin Grill, argues that operant-based leadership training — grounded in operant learning theory and delivered via the Managerial Behavioral Training (MBT) protocol — can produce enduring improvements in both effectiveness-related and values-related performance feedback behaviors. The study employed a randomized waitlist-controlled design with 59 managers and 439 employees across Swedish municipal organizations, using multilevel growth curve modeling across four measurement points over 18 months. Key findings include a statistically significant interaction effect of training and time ($\beta = 0.30$, $p = 0.04$), indicating greater improvement in the experimental group, and the absence of a significant curvilinear deceleration ($\Delta\chi2(2) = 2.2$, $p = 0.34$), suggesting the improvement followed a continuous linear trajectory throughout the study period. The article concludes that integrating operant learning principles — including behavior analysis, participative goal setting, and practice with behavioral feedback — into leadership training may be critical for sustaining long-term behavioral change, with positive utility reactions serving as a key reinforcement mechanism.

Key Insights

1. Managers trained via operant-based MBT showed significantly greater improvement in performance feedback behaviors compared to controls, with the effect persisting linearly across 18 months without deceleration.

2. Positive utility reactions — where managers experience social and instrumental reinforcement (e.g., improved employee responses, stress reduction) from practicing trained behaviors — are identified as a likely mechanism for sustaining behavioral change after training ends.

3. Participative goal setting, in which managers and trainers collaboratively define behavioral goals, may promote response generalization, enabling improvement in non-targeted leadership behaviors beyond those explicitly trained.

Practical Takeaways

• Leadership training programs that combine behavior analysis, individualized goal setting, and extensive behavioral rehearsal with feedback — including on-site homework assignments — demonstrate measurable and sustained improvements in managers' performance feedback quality over 18 months.

• Tailoring training to each manager's specific work context and behavioral deficits, rather than applying a standardized curriculum, appears associated with stronger and more durable outcomes, though this introduces evaluation rigor challenges in participative intervention designs.

Frameworks Mentioned

Managerial Behavioral Training (MBT) — A structured operant learning-based leadership training protocol comprising behavior analysis, participative goal setting, and practice with behavioral feedback delivered across six biweekly one-on-one sessions; developed by Björnsdotter and Grill.

Critical Analysis

Strengths: The study is a rare randomized controlled field trial in leadership training research, with blinded employee evaluators, a 18-month longitudinal design, four measurement points, and rigorous multilevel growth curve modeling. Strong factorial invariance across time and groups supports measurement quality. The waitlist control design is methodologically appropriate. Limitations: The final experimental group comprised only 20 managers, reducing statistical power and precision of effect size estimates. Five managers were excluded post-randomization for training on non-target behaviors, introducing potential selection effects. Attrition reached 45.3% by T4 (though handled via maximum likelihood). The COVID-19 pandemic disrupted T3 and T4 conditions, potentially suppressing or distorting training effects in ways that cannot be fully disentangled. The study is confined to Swedish municipalities, limiting cultural and sectoral generalizability. The author is also the developer of the MBT manual and the principal investigator, which represents a potential investigator allegiance bias, though no competing interests are declared and funding was independent. The performance feedback measure is self-developed and based on adapted Yukl scales, relying entirely on employee perceptions rather than objective behavioral observation.

Organizational Practice

Swedish municipal managers received six biweekly one-on-one 90-minute training sessions over three months. Sessions incorporated joint behavior analysis (identifying antecedents and consequences linked to leadership behaviors), collaborative participative goal setting (one to three individualized behavioral goals), in-session behavioral rehearsal with video feedback, and between-session homework assignments requiring implementation of trained behaviors in the actual workplace. Employees completed online questionnaires rating their managers' performance feedback behaviors at four timepoints over 18 months; managers and trainers were notified of group allocation while employees were kept blind to condition.

Strategic Implications

The finding of a sustained linear improvement trajectory over 18 months, without deceleration, distinguishes operant-based approaches from typical leadership training outcomes where effects often diminish within weeks, suggesting that the mechanism of embedding training in natural reinforcement contingencies at the workplace may be a differentiating factor in training design. The reliance on individualized behavior analysis and participative goal setting points toward a tension between scalability and effectiveness in PMS-linked leadership development programs — highly tailored interventions may produce stronger results but are more resource-intensive and harder to standardize. The positive utility reaction mechanism implies that PMS design considerations around how manager behavior is reinforced by employee responses could be as consequential as the training content itself. The COVID-19 context introduces a boundary condition suggesting that the magnitude of training effects may vary with organizational stability and crisis load.

Validation Status: passed