Effects of ergonomic and health training on work interest, work ability and health in elderly public urban transport drivers

Rudolf Karazman*, Irene Kloimüller, Heinrich Geissler, Inge Karazman-Morawetz

Institute of Occupational Health Promotion, Austria - IBG Österreich, Seidengasse 33-35/9, A-1070 Vienna, Austria

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Abstract

Public urban transport drivers of the Munich Transportation Authority (n = 122) with an average age of 50 years participated in 20 health days with full paid worktime over one year. The training consisted of physical exercise, professional skills training and self-experience in groups. The evaluation instruments were the work ability index (WAI) developed by the Finnish Institute of Occupational Health and the effect typology (ET) developed by the Austrian Institute of Occupational Health Promotion (IBG-Österreich). No changes were found in the WAI score. The ET evaluated for 50% of the participants the optimal effect “evolution”, i.e., psychobiological and noetic changes. A variance analysis of the WAI pre–post differences according to the effect classes of the ET showed significant differences, namely an increase in the WAI in the evolution group and a drop in the recovery group. The thoughts on early retirement decreased in the “evolution group”. The improvement of work ability and interest in work is essential for keeping elderly workers at work. The “individual” health training in Munich led to a rise of the WAI and indicated that, owing to its elements, this programme had an impact on ergonomics and relations at workplace. © 2000 Elsevier Science B.V. All rights reserved.

1. Introduction

Researchers at the Finnish Institute of Occupational Health (FIOH) defined an “ergonomic triangle” of levels of health-promoting interventions to achieve an age-related work environment and sustainable improvement of work ability and health (Ilmarinen and Tuomi, 1993).

These three interactive levels of intervention in the triangle are:
(a) human relations at the workplace (culture),
(b) work and work organisation,
(c) individual work capacity (physiological and psychological).

This triangle is the ergonomic essence for evaluating successful interventions by using the work ability index (WAI) in the Finnish “Respect for the Ageing” programme. The WAI is an evaluation questionnaire which assesses the individual’s ability to cope with work demands and assigns work ability to classes ranging from good to poor. The index bears a high predictive potential for early retirement (Tuomi et al., 1994) and death.

In our evaluation research of occupational health promotion we have focussed on a second
The effects of occupational health promotion can be measured by evaluating the quality of its subjective effects on the workers and participants themselves. The subjective approach of the WAI has made it possible to examine working life, health promotion, and the influences on both. With our “Effect Typology” we have tried to define subjective effects of health promotion programmes on the basis of the

**Table 1**
The structure of the “Effect Typology” of occupational health promotion

<table>
<thead>
<tr>
<th>Effect quality</th>
<th>Regeneration of psychobiological resources</th>
<th>Development of psychobiological resources and skills</th>
<th>Induction of noetic dynamics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relaxation</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Evolution</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
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