



Reduce harmful work stressors.  
Improve job quality and health.

# Healthy Work **Strategies**

## Action research intervention with urban bus drivers in Copenhagen, Denmark

The HealthyBus project in Copenhagen, Denmark was active from 1999 through 2004, and involved all six bus companies in Copenhagen, 20 job sites, and 3,500 city bus drivers in more than 200 changes in programs and policies (“interventions”).

### How the project came about?

Inspired by the Stockholm bus driver intervention project,<sup>1</sup> and spurred by research showing that bus drivers have high rates of cardiovascular disease,<sup>2,3</sup> researchers from Denmark and the United Kingdom helped to design a large-scale intervention project using a “participatory action research” approach for bus drivers in Copenhagen.<sup>4</sup>

The research team wanted the bus drivers to be involved in all stages of the project: “to ensure that all voices, not just the loudest and most powerful would be taken into account.” The research team involved people from multiple professions (such as occupational medicine, epidemiology, engineering, and health promotion) in the planning and implementation of the project.<sup>4, p. 77, 80</sup> Two bus drivers, two managers, and an employee from Copenhagen Traffic were appointed to paid half-time positions in order to formally create a clear link between workers, unions and employer groups and the researchers (all together known as the “project group”). From the beginning, there were interviews with “stakeholders”, and the research team took feedback seriously, such as when a union spokesperson said that the project “must not end up as just another report.”<sup>4, p. 79</sup> Partnerships on a “local level included drivers, shop stewards/safety stewards and managers, and a central level with companies, unions/employers and Copenhagen Traffic.”<sup>4, p. 80</sup> Following such planning, the project group came to an agreement on what the first 116 planned interventions would be.

### A wide variety of intervention projects were carried out

The first 116 interventions fell into four main categories: 1) **work organization**, such as improvements to scheduling, holidays, and taking time off, as well as suggestions for

improved communication; 2) **organizational support for healthy behaviors** (which they called “lifestyle”), which included suggestions for availability of healthy food options at work, passes to fitness centers, and incentives to quit smoking; 3) **competence (skills) and education**, such as training in management and communication, improved training of new hires, and providing courses on topics like handling conflicts, and threats and violence; and 4) **physical work environment**, such as improvements to and replacement of buses, improvements to radio systems, and repair of road obstacles. See Figures 1 and 2 for more details.<sup>4</sup>

“Action research” was a process that involved interviews, focus groups, and thoughtful discussion in meetings with everyone involved, sometimes resulting in changes such as adding interventions. For example, while the project began with 116 planned interventions, by the end, the number of interventions had reached 208.<sup>4</sup>

### Evaluation of the impact of the interventions

Comparing results of the follow-up surveys of 2,729 bus drivers in 2003 and 2004 with baseline surveys of 2,677 drivers in 1999-2000, improvements were seen in various areas, including working conditions, psychological and physical symptoms and health, and health behaviors.<sup>4</sup> For example:

	<u>% at baseline (1999)</u>	<u>% at follow-up (2004)</u>
<b>Working conditions</b>		
Rush hour timetable too tight	72	43
Cannot take full length of break	43	30
Think of violence and threats	23	17
Managers do not treat drivers well	29	12
<b>Symptoms of ill health</b>		
Always or often stressed	28	19
Reduced vitality (strength and stamina)	23	11
Shoulder and neck pain	54	41
Back pain	52	43
Headache	35	32
Fatigue	55	40
Stomach pains	19	12

For more results from these surveys, see Table 1 (below).<sup>4</sup>

### Conclusion

A comprehensive set of changes in programs, policies and procedures carried out in Copenhagen over 4-5 years appeared to improve the working conditions and health of bus drivers. Many of the researchers, bus drivers, managers, and union representatives involved with the HealthyBus project expressed positive feelings about the process, and

45% of bus drivers said the work environment had improved throughout the last two years of the project.<sup>4</sup>

#### References:

1. Rydstedt, L. W., Johansson, G., & Evans, G. W. (1998). The human side of the road: improving the working conditions of urban bus drivers. *Journal of occupational health psychology*, 3(2), 161. Retrieved from <https://psycnet.apa.org/record/1998-00962-006>
2. Netterstrøm B, Juel K. Impact of work-related and psychosocial factors on the development of ischemic heart disease among urban bus drivers in Denmark. *Scand J Work Environ Health* 1988;14:231-8.
3. Tuchsén F, Andersen O, Costa G, et al. Occupation and ischemic heart disease in the European Community. A comparative study of occupations at potential high risk. *Am J Ind Med* 1996;30:407-14.
4. Poulsen, K. B., Jensen, S. H., Bach, E., & Schostak, J. F. (2007). Using action research to improve health and the work environment for 3500 municipal bus drivers. *Educational Action Research*, 15(1), 75-106. Retrieved from <https://www.tandfonline.com/>.