

# Saving energy by spending energy: Giving meaning to footprint markers reduces elevator and escalator use

F. Boen, J. Pelssers, A. Verboven, H. Vermeulen, & J. Opendacker

*K.U.Leuven, Leuven, Belgium*

## Introduction

Using the stairs instead of an elevator or escalator is an easy and cheap way to increase physical activity. It not only improves health (Boreham, et al., 2005), but also has ecological advantages by reducing electrical energy expenditure. The first aim of the present study was to test the impact of footprints markers on stair use in a worksite and community setting. In addition, the effect of a health promotion message or sign giving meaning to the footprints was examined.

## Method

Observations took place during six weeks in the head office of a large brewery company and in a shopping mall with a movie theatre. After a baseline observation period, the first intervention phase consisted of placing yellow footprints on the floor leading to the stairs. In the second intervention phase a health promotion message referring to the footprints was provided next to the footprints. In the company the message was posted in the mailbox of the employees, while in the shopping mall a health sign was placed nearby the footprints. The third intervention phase consisted of another mailed message to the employees congratulating them with the increased stair use, while a sticker with a comparable message was taped to the sign at the mall. Follow-up observations took place several weeks later with the footprints still present, but without a message or sign.

## Results

In total, 5,676 choices were registered at the company and 12,623 choices in the shopping mall. Stair use percentages during baseline, the first, second and third intervention and the follow-up were respectively 27.7%, 31.2%, 43.6%, 44.7%,

and 34.6% in the company and 10.9%, 10.9%, 22.3%, 20.3% and 13.5% in the mall. This means that the first intervention resulted in a small but significant increase in the company, while no change was observed in the mall. The second intervention significantly increased stair use in both settings. This increase was preserved during the third intervention period. Stair use significantly decreased in both settings during the follow-up period, but was still significantly higher than at baseline.

## Discussion

Footprints on the floor leading to the stairs, without any accompanying message, had no or only a small effect on stair use. However, giving meaning to these footprints by means of a health message or a sign had a substantial effect on stair use in both employees and shoppers. This effect was not amplified by an additional congratulations message. Furthermore, the results indicate that the footprints may have worked as a reminder of the health message because stair use was significantly higher during the follow-up period compared with baseline in both the worksite and the community setting.

## Conclusion

Placing highly visible footprints on the floor leading to the stairs and giving meaning to these footprints by a message or a sign substantially reduces elevator use in employees and escalator use in shoppers, possibly in the long term.

## References

- Boreham, C. A., Kennedy, R. A., Murphy, M. H., Tully, M., Wallace, W. F., & Young, I. (2005). Training effects of short bouts of stair climbing on cardiorespiratory fitness, blood lipids, and homocysteine in sedentary young women. *British Journal of Sports Medicine*, 39(9), 590-593.