



To: City Development and Neighbourhoods

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Subject: Essential Evidence on a page: Behaviour change techniques to promote walking and cycling: Systematic Review

Top line: In understanding which behaviour change techniques are most effective in promoting walking and cycling there is increasing evidence that self-monitoring of behaviour and intention formation are techniques that should be included in interventions.

Evidence on the effectiveness of walking and cycling interventions is mixed. This may be partly attributable to differences in intervention content, such as the cognitive and behavioural techniques (BCTs) used. A recent highly robust¹ review² adopted a classification of BCTs, addressing two questions: (a) What are the BCTs used in walking and cycling interventions targeted at adults? (b) What characterises interventions that appear to be associated with changes in walking and cycling in adults? Systematic reviews and updated database searches were used to identify controlled studies of individual-level walking and cycling interventions involving adults. Included studies were grouped as interventions reported to either: (a) to have a statistically significant effect, (b) to have a statistically insignificant effect, and (c) or interventions for which the statistical significance of the effect was not reported.

The review aimed to identify the BCTs used by walking and cycling interventions targeted at adults using a reliable classification (taxonomy) system. Studies that met the inclusion criteria revealed a substantial variability in the vocabulary used to describe intervention content as well as differences in the number of BCTs coded per intervention. In terms of findings, for interventions that reported statistically significant positive changes in walking and cycling, “prompt self-monitoring of behaviour”, (eg recording behaviour on self-monitoring form) and “prompt intention formation” (eg to stay active by developing some goals) were coded in more than half of the intervention studies. “Prompt intention formation” was also among the most commonly coded BCTs for interventions that reported a statistically insignificant change in walking and cycling. For interventions that did not report the statistical significance of the effect, “provide general encouragement” was the most frequently coded BCT; however, the majority of interventions in this category were based on the same intervention approach. There was no evidence that any combinations of BCTs were associated with statistically significant changes in walking and cycling.

The findings support a previous application of a taxonomy for physical activity and dietary interventions in which the combination of self-monitoring with other self-regulation techniques (e.g., intention formation) was associated with greater intervention effectiveness.³ Moreover, despite the caveat that study quality was an issue in terms of robustness the frequent coding of “prompt self-monitoring of behaviour” and “prompt intention formation” from studies that reported a statistically significant positive change in walking and cycling lends support to the inclusion of these techniques in the design of future interventions to promote walking and cycling.

¹ See Essential Evidence No. 3 regarding where Systematic Reviews are placed within an Evidence Hierarchy <http://www.travelwest.info/sites/default/files/Essential%20Evidence%20No%203%20Petticrew.pdf>

² Bird, E., et al 2013 Behaviour Change Techniques Used to Promote Walking and Cycling: A Systematic Review, *Health Psychology*, 32(8): 829-838.

³ Michie, S, et al 2009 Effective techniques in healthy eating and physical activity interventions: A meta-regression. *Health Psychology*, 28, 690-701. doi@10.1037/a0016136