



# A systematic review of effective behaviour change techniques in community walking and cycling interventions: The iConnect study

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# Background



- Walking and cycling interventions may have the potential to change behaviour - however, evidence is inconclusive (Ogilvie et al, 2007; Yang et al., 2010)
  
- Potentially attributed to:
  - ▣ Differences in design characteristics (i.e. Audience, outcome measures, evaluation criteria, etc.)
  - ▣ Differences in intervention content (i.e. Behaviour change techniques (BCTs))

# Background



- This has restricted our understanding of *how* intervention content is related to intervention efficacy

So...

- BCT taxonomy (Abraham and Michie, 2008)
  - ▣ Standardised list of 26 BCTs commonly utilised by behavioural interventions
  - ▣ Used to describe content of behavioural interventions
  - ▣ Not yet applied to walking and cycling interventions

# Present study...



A systematic review of the behaviour  
change techniques (BCTs) incorporated  
into walking and cycling interventions

# Methods

## □ Systematic database search

Inclusion criteria	Exclusion criteria
Control/standard care condition	Child population
Pre-/post-intervention outcomes	Unpublished studies
Adult-only population	Duplicate references
English language	

# Methods



## □ Data extraction:

- ▣ Design characteristics (e.g. Audience, outcome measures, delivery, sample size, etc.)
- ▣ BCTs (using Taxonomy coding manual)

## □ Quality appraisal

- ▣ 8-item checklist adapted from previous reviews (Ogilvie et al., 2007; Yang et al., 2010)

# Results



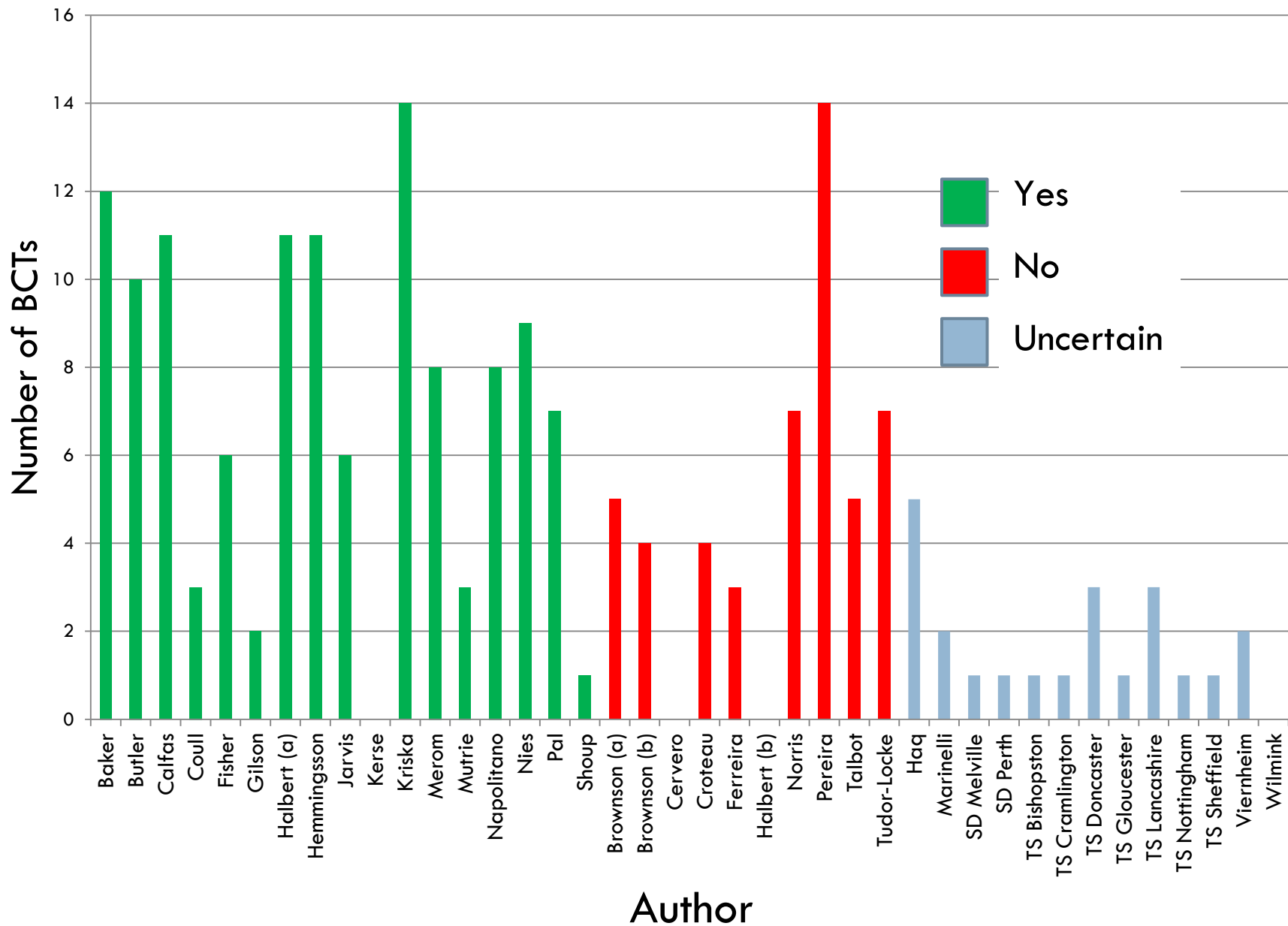
- 40 studies met the inclusion criteria:
  - ▣ 17 = statistically significant change
  - ▣ 10 = no statistically significant change
  - ▣ 13 = of uncertain statistical significance
- Variation in:
  - ▣ Design characteristics /outcomes (i.e. Population, delivery, sample size, effect size, etc.)
  - ▣ Vocabulary used

# Results



- Behaviour change techniques (BCTs):
  - ▣ Variation in number of BCTs coded per study (0-14)
  - ▣ Majority coded multiple BCTs ( $M = 4.55$ ,  $SD = 3.06$ )
  - ▣ “Self-monitoring” = most frequently coded (65%)\*
  - ▣ More BCTs = more effective? ( $F(1, 25) = 10.27$ ,  $p = 0.004$ )





# Discussion



- Variation in vocabulary
- No clear combination of BCTs
- Heterogeneity in number of BCTs coded
  - ▣ “Self-monitoring” - support for inclusion?
  - ▣ More BCTs = more effective?
    - Potential for more simple intervention content

# Discussion



- Impact of design characteristics?
  - ▣ Audience, delivery mode, theoretical framework, duration...
- Impact of environmental factors?
- Exhaustive list of BCTs?
- Coding reliant on study reporting style
  - ▣ Were BCTs missed?
  - ▣ Discrepancies across coders?

# Recommendations

- 1) Further exploration of the BCTs used in walking and cycling interventions
- 2) Detailed, standardised reporting of walking and cycling intervention content
- 3) Standardised intervention manuals

# Questions?

Contact us...

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