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## **Effectiveness of physical activity interventions in achieving behaviour change maintenance in young and middle aged adults: a systematic review and meta-analysis**

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Supplementary file 3: Clustered BCTs from the CALO-RE taxonomy.

Technique group	Taxonomy item	Number of studies with BCT coded
Goals and planning	05- Goal setting (behaviour)	44 <sup>1-44</sup>
	06- Goal setting (outcome)	1 <sup>2</sup>
	07- Action planning	11 <sup>1,13-16,22,24,28,32,35,42</sup>
	08- Barrier identification/problem solving	35 <sup>2,5-8,10,11,13,15-17,20-28,31-40,42-46</sup>
	10- Prompt review of behavioural goals	12 <sup>1,2,11,13,15,18,24,32,34,35,37,40</sup>
	11- Prompt review of outcome goals	1 <sup>8</sup>
	20- Provide information on where and when to perform the behaviour	14 <sup>4,12,14,22,32,38,42,43,47-52</sup>
	25- Agree behavioural contract	3 <sup>28,34,36</sup>
35- Relapse prevention/coping planning	11 <sup>7,8,11,15,18,24,32,34,42,43,53</sup>	
Reward and threat	12- Prompt rewards contingent on effort or progress towards behaviour	4 <sup>5,13,31,53</sup>
	13- Provide rewards contingent on successful behaviour	4 <sup>9,22,29,54</sup>
	14- Shaping	0
	32- Fear arousal	0
	40- Stimulate anticipation of future rewards	0
Regulation	36- Stress management/emotional control training	1 <sup>54</sup>
	38- Time management	2 <sup>18,43</sup>
Antecedents	24- Environmental restructuring	3 <sup>3,48,55</sup>
Identity	30- Prompt identification as role model/position advocate	1 <sup>31</sup>
Self-belief	18- Prompting focus on past success	0
	33- Prompt self talk	1 <sup>11</sup>
Covert learning	34- Prompt use of imagery	2 <sup>7,39</sup>
Feedback and monitoring	16- Prompt self-monitoring of behaviour	33 <sup>1,3,6,10,13,15-20,22-25,27-32,35,37,38,40,42-44,48-50,56,57</sup>
	17- Prompt self-monitoring of behavioural outcome	3 <sup>19,41,56</sup>
	19- Provide feedback on performance	27 <sup>2,4,7,9,11,12,19-23,26,28-30,33,35,37,40,42,44,46,47,53,57,58</sup>
Social support	29- Plan social support/social change	29 <sup>2,4,7,8,11-13,18-20,24-26,28,31-35,42-44,47,50,52-55,57</sup>
	37- Motivational interviewing	6 <sup>5,12,14,21,26,46</sup>
	39- General communication skills training	0
Shaping knowledge	21- Provide instruction on how to perform the behaviour	20 <sup>2,5,9,11,13,17,22,28,30,31,35,42-45,48,49,56,57,59</sup>
Natural consequences	01- Provide information on consequences of behaviour in general	31 <sup>2,3,6,8,9,11,14,15,18,20-22,24,27,29,32,33,35,36,38,40-43,45,48,49,54,57,60,61</sup>
	02- Provide information on consequences of behaviour to the individual	10 <sup>6,9,27,30,34,37,50,58,60,61</sup>
	31- Prompt anticipated regret	0
Comparison of behaviour	03- Provide information about others' approval	0
	04- Provide normative information about others' behaviour	5 <sup>1,27,28,42,44</sup>
	22- Model/Demonstrate the behaviour	6 <sup>13,44,52,54,55,62</sup>
	28- Facilitate social comparison	6 <sup>28,31,35,42,44,58</sup>
Associations	23- Teach to use prompts/cues	2 <sup>24,26</sup>
Repetition and substitution	09- Set graded tasks	7 <sup>5,23,25,38,40,41,53</sup>
	15- Prompting generalisation of a target behaviour	3 <sup>25,57,62</sup>
	26- Prompt practice	9 <sup>2,8,13,25,51,52,56,59,62</sup>
Use of follow-up prompts	27- Use of follow-up prompts	7 <sup>8,10,23,30,43,53,56</sup>
Credible source	41- Credible source	29 <sup>1,5,6,8,10,12,13,16-21,23,24,26,28,30,32,34,38,43,45-</sup>

Behaviour change techniques (BCT) were coded according to the CALO-RE taxonomy<sup>63</sup>. BCT 41 (Credible source) was adapted from the 93 item hierarchically clustered taxonomy<sup>64</sup>. This enabled appropriate coding of BCTs regarding exercise advice, information or demonstration provided by a trained professional such as physiotherapists, health educators, exercise instructors, doctors and trained nurses. Techniques were clustered due to the large number of BCTs and small number of studies. Domains were based on previously published categories<sup>64</sup>.

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