

Multimedia Appendix 1 Cluster label and component BCTs AU, % (SE) (Michie et al, 2013)

(1) Scheduled consequences	91 (.004)	(8) Feedback and monitoring	97 (.002)
Punishment [14.2]		Feedback on behavior [2.2]	
Response cost [14.1]		Biofeedback [2.6]	
Chaining [14.5]		Other(s) monitoring with awareness [2.1 and 2.5]	
Extinction [14.3]		Self-monitoring of outcome of behavior [2.4]	
Discrimination training [14.6]		Self-monitoring of behavior [2.3]	
Shaping [14.4]		(9) Goals and planning	90 (.002)
Negative reinforcement [14.10]		Action planning (including implementation intentions) [1.4]	
Counter-conditioning [14.7]		Problem solving/coping planning [1.2]	
Thinning [14.9]		Commitment [1.9]	
Differential reinforcement [14.8]		Goal setting (outcome) [1.3]	
(2) Reward and threat	90 (.005)	Behavioral contract [1.8]	
Social reward [10.4]		Discrepancy between current behavior and goal standard [1.6]	
Material reward [10.2]		Goal setting (behavior) [1.1]	
Self-reward [10.9]		Review behavior goal(s) [1.5]	
Non-specific reward [10.3]		Review of outcome goal(s) [1.7]	
Threat [10.11]		(10) Social support	100 (.001)
Anticipation of future rewards or removal of punishment [14.10]		Social support (practical) [3.2]	
Incentive [10.1]		Social support (general) [3.1]	
(3) Repetition and substitution	97 (.002)	Social support (emotional) [3.3]	
Behavior substitution [8.2]		(11) Comparison of behavior	83 (.006)
Habit reversal [8.4]		Modeling of the behavior [6.1]	
Habit formation [8.3]		Information about others' approval [6.3]	
Graded tasks [8.7]		Social comparison [6.2]	
Overcorrection [8.5]		(12) Self-belief	92 (.005)
Behavioral rehearsal/practice [8.1]		Mental rehearsal of successful performance [15.2]	
Generalization of a target behavior [8.6]		Self-talk [15.4]	
(4) Antecedents	96 (.002)	Focus on past success [15.3]	
Restructuring the physical environment [12.1]		Verbal persuasion to boost self-efficacy [15.1]	
Restructuring the social environment [12.2]		(13) Comparison of outcomes	90 (.005)
Avoidance/changing exposure to cues for the behavior [12.3]		Persuasive argument [9.1]	
Distraction [12.4]		Pros and cons [9.2]	
(5) Associations	97 (.002)	Comparative imagining of future outcomes [9.3]	
Discriminative (learned) cue [7.2]		(14) Identity	86 (.006)
Time out [7.4]		Identification of self as role model [13.1]	
Escape learning [7.5]		Self-affirmation [13.4]	
Satiation [7.6]		Identity associated with changed behavior [13.5]	
Exposure [7.7]		Reframing [13.2]	
Classical conditioning [7.8]		Cognitive dissonance [13.3]	
Fading [7.3]		(15) Shaping knowledge	95 (.003)
Prompts/cues [7.1]		Reattribution [4.3]	
(6) Covert learning	73 (.008)	Antecedents [4.2]	
Vicarious reinforcement [16.3]		Behavioral experiments [4.4]	
Covert sensitization [16.1]		Instruction on how to perform a behavior [4.1]	
Covert conditioning [16.2]		(16) Regulation	98 (.001)
(7) Natural consequences	85 (.006)	Regulate negative emotions [11.2]	
Cluster label and component BCTs AU, % (SE)		Conserving mental resources [11.3]	
Health consequences [5.1]		Pharmacological support [11.1]	
Social and environmental consequences [5.3]		Paradoxical instructions [11.4]	
Saliency of consequences [5.2]			
Emotional consequences [5.6]			
Self-assessment of affective consequences [5.4]			
Anticipated regret [5.5]			