Table S1- Theory Coding Scheme- Complete TCS Scoring

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| TCS NUMBER | DESCRIPTION | Huyser et al. | Vong et al. | | Coppack et al. | | Peterson et al. | Friedrich et al. | Harkapaa et al. | | Reilly et al. | Linton et al. | |
| 1 | Theory/model of behaviour mentioned | No | No | | Yes-Personal construct theory | | Social Cognitive Theory and Transtheoretical model | No | Health locus of control | | No | No | |
| 2 | Targeted construct mentioned as predictor of behaviour | No | No | | Yes | | No | No | Yes | | No | No | |
| 3 | Intervention based on single theory | No | No | | Yes | | No | No | yes | | No | No | |
| 4 | Theory/predictors used to select recipients for the intervention | No | No | | No | | No | No | No | | No | No | |
| 5 | Theory/predictors used to select/develop intervention techniques | No | No | | Yes | | No | No | Yes | | No | No | |
| 6 | Theory/predictors used to tailor intervention techniques to recipients | No | No | | Yes-goal tailoring | | No-theory was only applied to the behavioural group | No | No-coping,locus of control, same for all groups | | No | No | |
| 7 | All intervention techniques are explicitly linked to at least one theory-relevant construct | No | No | | No | | No | No | No | | No | No | |
| 8 | At least one, but not all, of the intervention techniques are explicitly linked to at least one theory-relevant construct/predictor | No | No | | Yes | | Yes | No | Yes | | No | No | |
| 9 | Group of techniques are linked to a group of constructs | No | No | | Yes | | No | No | No | | No | No | |
| 10 | All theory-relevant constructs/predictors are explicitly linked to at least one intervention technique | No | No | | No | | No | No | No | | No | No | |
| 11 | At least one, but not all, of the theory relevant constructs are explicitly linked to at least one intervention technique | No | No | | Yes | | No | No | Yes | | No | No | |
| 12 | Theory-relevant constructs are measured  a) At least one construct of theory mentioned in relation to the intervention is measured POSTINTERVENTION.  b) At least one construct of theory mentioned in relation to the intervention is measured PRE AND POST-INTERVENTION | a. No b. No | a. No b. No | | a. No b. Yes | | a. No b. No | a. No b. No | a. Yes b. Yes | | a. No b. No | a. No b. No | |
| 13 | Quality of Measures  a) All of the measures of theory relevant constructs had some evidence for their reliability  b) At least one, but not all, of the measures of theory relevant constructs had some evidence for their reliability  c) All of the measures of theory relevant constructs have been previously validated  d) At least one, but not all, of the measures of theory relevant constructs have been previously validated  e) The behaviour measure had some evidence for its reliability  f) The behaviour measure has been previously validated | NA | NA | | A C D E F | | B,D | NA | A C E F | | NA | NA | |
| 14 | Randomization of participants to condition  a) Do the authors claim randomization?   b) Is a method of random allocation to condition described (e.g., random number generator; coin toss)Was the success of randomization tested?   d) Was the randomization successful (or baseline differences between intervention and control group statistically controlled)? | Yes      Not described     Yes | Yes      Yes     Yes | | Yes      Yes      Yes | | Yes      Yes     Yes | Unclear | Unclear | | Unclear | Unclear | |
| 15 | Changes in measured theory-relevant constructs  The intervention leads to sig. change in at least one theory relevant construct (vs. control group) in favor of the intervention | No | No | | No | | Yes | No | Yes | | No | No | |
| 16 | Mediational analysis of construct(s)  a) Mediator predicts DV? (or change in mediator leads to change in DV)   b) Mediator predicts DV (when controlling for IV)?   c) Intervention does not predict DV (when controlling for mediator)?  d) Mediated effect statistically significant? | No | No | | No-goal setting did not affect adherence | | No | No | A D | | No | No | |
| 17 | Results discussed in relation to theory  Results are discussed in terms of the theoretical basis of the intervention | No | No | | No | | No | No | discussed HLC but not in relation to the theory | | No | No | |
| 18 | Appropriate support for theory | No | No | | Unclear | | No | No | yes, supports theory with higher LOC equating to higher exercise and speaks to fact scales should be illness specific | | No | No | |
| 19 | Results used to refine theory | No | No | | No. does not mention theory in conclusion | | No. theory not mentioned in the article, only in supp material about intervention | No | Somewhat. Scales for measurement should be changed, don’t really link it back to theory though. | | No | No | |
| COMPOSITE SCORES (Prestwich 2014) | | | | | | | |  |  | |  |  | |  |  |  |  |
|  | | | | Huyser et al. | | Vong et al. | Coppack et al. | Peterson et al. | Friedrich et al. | Harkapaa et al. | | | Reilly et al. | Linton et al. | | | |
| BCTs linked with theory-relevant constructs (7-9) | | | | 0 | | 0 | 2 | 1 | 0 | 1 | | | 0 | 0 | | | |
| constructs within the underlying theory were specifically targeted by the BCTs (9-11) | | | | 0 | | 0 | 2 | 0 | 0 | 1 | | | 0 | 0 | | | |
| overall theory score (3-11). | | | | 0 | | 0 | 7 | 1 | 0 | 3 | | | 0 | 0 | | | |
|  | | | |  | |  |  |  |  |  | | |  |  | | | |
| first 2 comp scores with presence of TCS 5 | | | | 0 | | 0 | 5 | 2 | 0 | 3 | | | 0 | 0 | | | |