

# ***Coding Manual to Identify Behaviour Change Techniques in Behaviour Change Intervention Descriptions***

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described and tested in...

**Abraham, C & Michie, S (2007) A taxonomy of behavior change techniques used in interventions. *Health Psychology*, 27, 379-87.**

## **Training**

As described in the above paper, we have trained postgraduate psychologists to use this manual in a reliable way. The procedure involved CA (an experienced user) and the trainee separately coding the content of a published intervention evaluation and then discussing each of the 26 decisions (about the presence or absence of each of the techniques) and identifying text considered in making this decision. This process was repeated until the trainee felt confident to begin independent coding. In our experience this has varied from 4 to 11 published descriptions but we recommend that coders discuss the coding of 10 published descriptions with a previously trained user before undertaking independent coding.

## **Reliability of Technique Definitions**

The definitions provided below are those used to generate the data reported in the above paper. Two of these were not used reliably in coding intervention descriptions that is, technique 6 (provide general encouragement) and technique 15 (teach to use prompts). In addition, the reliability of technique 2 (provide information on consequences) was marginal. Our advice is not to use techniques 6 and to discuss the use of techniques 3 and 15 carefully during training.

## **Additional Techniques and Development of Technique Definitions**

Our taxonomy of techniques is a first step towards establishing a common language for use by intervention designers, researchers involved in evaluation, reviewers and practitioners to describe the distinctive characteristics of interventions (see our articles for details). We would like to develop this to be more useful to scientists and practitioners by adding further techniques and refining definitions. We would therefore like to learn about your experiences, developments and modifications so please contact us (emails above).

In appendix 1 we have included some further technique definitions which we have used but for which we have no reliability data as yet.

## **Coding Guidelines**

Only code text describing the intervention itself. Do not code aspects of the intervention evaluation (e.g., completing pre- and post intervention questionnaires) or preparation for intervention delivery (e.g., training of instructors). Only identify techniques used in the delivery of the intervention itself. Code for the most intensive or elaborate intervention programme described. Check abstract, introduction and method sections for any additional information on the intervention.

Read each technique description definition carefully before beginning a coding session ensuring that you understand and remember distinctions between technique types. Use the technique checklist as you read the paper checking techniques you are certain of and highlighting those you need to come back to. As you read the paper make notes in the margin so you can identify exactly which section/s of text led you to decide that a particular technique was included in the intervention. After reading the paper check each technique category again – looking through the text for instances you may have missed or pieces of text you may have misinterpreted on first reading. Never infer use of a technique – if it is not explicitly mentioned then do not count it. Do not make judgements about the quality of delivery of techniques. If it is claimed that a technique was delivered and it matches the technique definition then record use of that technique – even if you have doubts about the intensity or resources used for delivery. Quality of technique delivery and implementation is a separate aspect of overall intervention quality.

Sometimes two techniques may be indicated by the same piece of text e.g., instruction (8) and modelling/ demonstrating (9). Make a clear decision as to whether the text indicates one or both, then, if appropriate, decide which one, i.e., do not just tick both without making a clear decision.

## **Behaviour Change Technique Definitions**

### **1. Provide general information on behaviour-health link**

Information about the relationship between the behaviour and health – including susceptibility or factual risk and/or mortality information OR. health education material relevant to the behaviour. **NB** Check that any instance does not also involve techniques 2 or 3.

### **2. Provide information on consequences**

Involves providing information focusing on what will happen if the person performs the behaviour including the **benefits and costs** of action or inaction. **NB** Check that any instance does not also involve techniques 1 or 3.

### **3. Provide information about others' approval**

Involves information about what other people think about the reader's or target person's behaviour. It clarifies whether others will like, approve or disapprove of what the person is doing or will do. **NB** Check that any instance does not also involve techniques 1 or 3.

### **4. Prompt intention formation**

Involves encouraging the person to set a general goal or make a behavioural resolution e.g., "I will take more exercise next week" would count as a prompt to intention formation. This is directed towards encouraging people to decide to change. **NB** This is distinguished from technique 10 by the general nature of the goal i.e., it does not involve planning exactly what will be done or when the behaviour or action sequence will be performed. Where the text only states that goal setting was used without specifying the detail of action planning involved then this would be an example of this technique (not technique 10)

### **5. Prompt barrier Identification**

Think about potential barriers and plan ways of overcoming them. Barriers may include competing goals in specified situations. This may be described as "problem solving" and if it is problem solving in relation performance of the behaviour i.e., then it is an instance of this technique. **NB** Closely related to technique 10 but involves a focus on specific obstacles to performance. Techniques 5, 7 and 10 can be used independently or in combination – check for each separately.

### **6. Provide general encouragement**

Involves praising or rewarding the person for effort or performance without making this contingent on specific behavioural performance; or "motivating" the person in an unspecified manner. This will include attempts to enhance self efficacy through argument or persuasion (e.g., telling someone they will be able to perform a behaviour). **NB** Check distinction with techniques 14 and 16.

### **7. Set graded tasks**

Set the person easy-to-perform tasks, making them increasingly difficult until target behaviour is performed. **NB** Although this might follow from technique 10, the key difference lies in planning to perform a sequence of preparatory actions or task components which *increase in difficulty over time* - as opposed to simply planning out a sequence of actions in detail.

### **8. Provide instruction**

Involves *telling* the person *how* to perform a behaviour or preparatory behaviours. For example, providing individual face to face instructions, offering an instructional group class or providing "tips" on **how** to take action in text form. **NB** Check whether there are also instances of techniques 4, 5, 7, 9 or 10.

### **9. Model/ Demonstrate the behaviour**

Involves *showing* the person how to correctly perform a behaviour e.g., face-to-face as in a group class or using video. **NB** This is distinct from just providing instruction (technique 8) because in "demonstration" the person is able to *observe* the behaviour being enacted. Techniques 8 and 9 may be used separately or together – check for this.

### **10. Prompt specific goal setting**

Involves detailed planning of what the person will do including, at least, a very specific definition of the behaviour e.g., frequency (such as how many times a day/week), intensity (e.g., speed) or duration (e.g., for how long for). In addition, at least one of the following contexts i.e., where, when, how or with whom must be specified. This could include identification of sub-goals or preparatory behaviours and/or specific contexts in which the behaviour will be performed. **NB** Without clear illustration of this level of detail instances of "goal setting" should be regarded as applications of technique 4. Thus the terms "goal setting" or "personal plan"

are not enough to ensure inclusion of this technique. When specific goal setting is used this does not automatically imply technique 4. Both or either may be included in an intervention.

### **11. Prompt review of behavioural goals**

Involves reconsideration of previously set goals/ intentions. In most cases this will follow previous goal setting and an attempt to act on those goals. **NB** Check that any instance does not also involve techniques 4, 7 or 10.

### **12. Prompt self-monitoring of behaviour**

The person is asked to keep a record of specified behaviour/s. This could e.g., take the form of a diary or completing a questionnaire about their behaviour.

### **13. Provide feedback on performance**

This involves either receiving data about recorded behaviour (e.g., following technique 12) or commenting on how well or badly a person has performed an action (e.g., identifying a discrepancy with a set goal – see techniques 4 and 10 – or a discrepancy in relation to the performance of others – note this could also involve technique 19). **NB** General praise which does not include comment on performance is included in technique 6.

### **14. Provide contingent rewards**

This can include praise and encouragement as well as material rewards but the reward/ incentive must be explicitly linked to the achievement of specified goals i.e. the person receives the reward if they perform the specified behaviour (or preparatory behaviour) but not if they do not perform the behaviour. **NB** Check the distinction between this and techniques 6 and 13.

### **15. Teach to use prompts/ cues**

Teach the person to identify environmental prompts which can be used to remind them to perform the behaviour. This could include times of day, particular contexts or elements of contexts which prompt them to perform the target behaviour. Note that this could be used independently or in conjunction with techniques 4 and 10..

### **16. Agree behavioural contract**

Must involve agreement (e.g., signing) of an explicitly specifying behaviour so that there is a written record of the person's resolution witnessed by another.

### **17. Prompt practice**

Prompt the person to rehearse and repeat the behaviour or preparatory behaviours numerous times. Note this will also include parts of the behaviour e.g., refusal skills in relation to quitting smoking. This could be described as "building habits or routines" but is still practice so long as the person is prompted to try the behaviour (or parts of it) during the intervention. **NB** If this is done in a group setting it will inevitably involve technique 19. Thus a group class in which people perform the behaviour or parts of the behaviour will include practice and opportunities for social comparison.

### **18. Use of follow up prompts**

Involves sending letters, making telephone calls, visits or follow up meetings after the major part to the behaviour change intervention has been completed. If spaced contacts is an intrinsic part of the behaviour change intervention these in themselves do not count as follow up. **NB** This may (but does not need to) involve general encouragement i.e. include an instance of technique 6.

### **19. Provide opportunities for social comparison**

This will most commonly be seen in the case of group practice (e.g., group classes) but could also be employed using detailed case studies in text or video or by pairing people as supports. It provides a setting in which processes such as social comparison could occur. Social support may also be encouraged in such settings and this would then involve technique 20. Group classes may also involve instruction (technique 8) demonstration (technique 9) and practice (technique 17). Check for these additional techniques.

### **20. Plan social support/ social change**

Involves prompting the person to think about how others' could change their behaviour to offer him/her help and/or (instrumental) social support. This will also include provision of such support during the interventions e.g., setting up a "buddy" system or other forms of support. **NB** This could (but does not need to) involve

technique 5 – where others' behaviour are perceived to be a key barrier to successful performance. Techniques 5 and 20 can be used independently or together.

**21. Prompt identification as role model/ position advocate**

Involves focusing on how the person may be an example to others and affect their behaviour e.g., being a good example to children. Also includes providing opportunities for participants to persuade others of the importance of adopting/ changing the behaviour. For example, giving a talk or writing a persuasive leaflet.

**22. Prompt Self talk**

Encourage the person to use talk to themselves (aloud or silently) before and during planned behaviours to encourage and support action.

**23. Relapse prevention**

Following an initial change help the person identify situations that increase the likelihood of returning to a risk behaviour or failing to perform a new health behaviour – and help them plan how to avoid or manage the situation so that new behavioural routines are maintained. **NB** This may look like technique 5 but is distinct in that it occurs only after an initial change has taken place.

**24. Stress management**

This may involve a variety of specific techniques (e.g., progressive relaxation) which do not target the behaviour directly but seek to reduce anxiety and stress to facilitate the performance of the behaviour.

**25. Motivational interviewing**

This is a specific set of techniques involving prompting the person to provide self-motivating statements and evaluations of own behaviour to minimise resistance to change (includes motivational counselling). **NB** Normally this technique will be mentioned by name.

**26. Time management**

This includes any technique designed to help a person make time for the behaviour (e.g., how to fit it into a daily or weekly schedule). These techniques are not directed towards performance of target behaviour but rather seek to facilitate it by freeing up times when it could be performed. This technique may or may not be mentioned by name.

## Behaviour Change Technique Checklist

<b>Author (date)</b>	
<b>Journal, Volume, pages</b>	
<b>Techniques Included</b>	<b>✓ = Included</b>
<b>1 Provide general information linking behaviour to health</b>	
<b>2 Provide information on consequences</b>	
<b>3 Provide information about others' approval</b>	
<b>4 Prompt intention formation</b>	
<b>5 Prompt barrier identification</b>	
<b>6 Provide general encouragement</b>	
<b>7 Set graded tasks</b>	
<b>8 Provide Instruction</b>	
<b>9 Model/ demonstrate the behaviour</b>	
<b>10 Prompt specific goal setting</b>	
<b>11 Prompt review of behavioural goals</b>	
<b>12 Prompt self-monitoring of behaviour</b>	
<b>13 Provide feedback on performance</b>	
<b>14 Provide contingent rewards</b>	
<b>15 Teach to use prompts/ cues</b>	
<b>16 Agree behavioural contract</b>	
<b>17 Prompt practice</b>	
<b>18 Use follow up prompts</b>	
<b>19 Provide opportunities for social comparison</b>	
<b>20 Plan social support/ social change</b>	
<b>21 Prompt identification as role model</b>	
<b>22 Prompt self talk</b>	
<b>23 Relapse prevention</b>	
<b>24 Stress management</b>	
<b>25 Motivational interviewing</b>	
<b>26 Time Management</b>	

## **Appendix 1 Additional Technique Definitions**

### **Provide information about personal susceptibility to negative consequences**

Involves providing information about **negative consequences** that is **targeted on the reader** rather than people generally. This may be achieved by using pronouns such as "you" as in "you are at risk". **NB** use of this techniques will usually entail provision of information about consequences.

### **Provide information about severity of health consequences**

Involves emphasizing the **seriousness or severity of negative consequence**. This includes messages designed to evoke fear responses such those emphasizing the risk of dying or very serious health consequences. **NB** use of this techniques will usually entail provision of information about consequences.

### **Provide normative information about others' behaviour**

Involves providing information about what other people are doing i.e., indicates that a particular action or sequence of actions is common or uncommon amongst the population or amongst a specified group – presentation of case studies of a few others is not normative information. **NB** this concerns other people's actions and is distinct from the provision of information about others' approval.

### **Prompt anticipated regret**

Involves inducing expectations of future regret about the performance or non-performance of behaviour. This includes focusing on how the person will *feel* in the future and specifically whether they will feel regret or feel sorry that they did or did not take a different course of action.

### **Fear Arousal**

Involves presentation of risk and/or mortality information relevant to the behaviour but also negative outcomes (e.g., death or serious illness) with verbal communication of threats (e.g., to health) and/or emotive images designed to evoke a fearful response (e.g, "smoking kills!" or images of the grim reaper).

### **Prompting focus on past success**

Involves instructing the person to think about or list previous successes in performing the behaviour (or parts of it) before the intervention. **NB** this is not just encouragement but a clear focus on the person's past behaviour. It is also not feedback because it refers to behaviour preceded the intervention.

### **Emotional control training**

Like stress management, this may involve a variety of specific techniques that are not directed towards performance of the behaviour *per se* but designed to reduce emotional upset or control mood or feelings that may interfere with performance of the behaviour.

### **General communication skills training**

This includes any technique directed at general communication skills but not directed towards a particular behaviour change. Often this may include role play and group work focusing on listening skills or assertive skills. **NB** Practicing a particular behaviour-specific interpersonal negotiation e.g., refusal skills in relation to cigarettes or alcohol would not be an instance of this technique.

### **Use of imagery**

Teach the person to use images of performing the behaviour in situations conducive to success. For example, this could include practicing bringing to mind images of succeeding with the task or finding it easy to perform the behaviour, and be conducted in graded fashion, starting with component or easy versions of the behaviour.

### **Environmental re-structuring**

The person is instructed or shown how to alter the environment in ways to support the behaviour e.g. altering cues or reinforcers. For example, they might be asked to destroy all their cigarettes or all their high calorie snacks, or take their running clothes to work.

### **Shaping**

Contingent rewards are first provided for any approximation to the target behaviour e.g., for any increase in physical activity. Then, later, only a more demanding performance, e.g., brisk walking for 10 minutes on three days a week would be rewarded. Thus, this is graded use of contingent rewards over time.

**Prompting generalisation of a target behaviour**

Once a behaviour is performed in a particular situation, the person is encouraged or helped to try it in another situation. The idea is to ensure that the behaviour is not tied to one situation but becomes a more integrated part of the person's life that can be performed at a variety of different times and in a variety of contexts.