

The RANAS behavior change techniques

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Behavior change techniques (BCTs) are the components of an intervention strategy designed to alter or redirect the processes that regulate behavior. BCTs are observable, replicable, and irreducible, meaning that they cannot be divided into smaller sub-elements. Several BCTs can be combined, and they are brought to recipients through one or several communication channels, thus forming intervention strategies. BCTs are the what of an intervention strategy, whereas the communication channels are the how. To be most effective, BCTs should correspond with the behavioral factors that were found to differ between doers and non-doers. While many of the BCTs address more than one behavioral factor, all but one

have a predominant behavioral factor on which they operate (see the main behavioral factor listed in the left-hand column below). The exception is exploit persuasive attributes, which means using the persuasive attributes of the information/testimonial source and of the message. Persuasive attributes include the competence, sympathy, credibility, famousness, and publicity of the source and the length and number of arguments of the message. As every BCT implies a specific source from which a specific message is sent, exploit persuasive attributes can be applied in combination with every other BCT so as to increase impact. Each BCT is briefly described here.

Table: Behavioral factors and behavior change techniques (continued on next page)

Behavioral factors	Behavior change techniques
<i>Information BCTs – Risk factors</i>	
Health knowledge	1. Present facts: present information about the circumstances and possibilities of contracting a disease and about the relationship between a behavior and the disease.
	2. Present scenarios: present situations in the everyday life of the participant, showing how a certain behavior leads to the disease.
Vulnerability	3. Inform about and assess personal risk: present qualitative and quantitative assessments individually for each person in such a way that the person realizes that his/her health is at risk.
Severity	4. Arouse fear: use threatening information that stresses the severity of contracting a disease.
<i>Persuasive BCTs – Attitude factors</i>	
Beliefs about costs and benefits	5. Inform about and assess costs and benefits: provide information about costs and benefits of a behavior (omission) and conduct a cost-benefit analysis.
	6. Use subsequent reward: reward the person each time she/he has performed the desired behavior or achieved the behavioral outcome.
	7. Prompt to talk to others: invite participants to talk to others about the healthy behavior in question.
Feelings	8. Describe feelings about performing and about consequences of the behavior: present the performance and the consequences of a healthy behavior as pleasant and joyful and its omission or an unhealthy behavior as unpleasant and aversive.
<i>Norm BCTs – Norm factors</i>	
Others' behavior	9. Inform about others' behavior: point out that a desired behavior is already adapted by other persons.
	10. Prompt public commitment: let people commit to a favorable behavior and make their commitment public, thus showing to others that there are people who perform the behavior.

Table: Behavioral factors and behavior change techniques (continued)	
Behavioral factors	Behavior change techniques
Others' (dis)approval	11. Inform about others' approval / disapproval: point out that important others support the desired behavior or disapprove the unhealthy behavior.
Personal importance	12. Prompt anticipated regret: bring people to imagine the concerns and regret they would feel after performing undesired behaviors which are not consistent with their personal norms of living healthily and caring for their children.
	13. Provide a positive group identity: describe people already engaged in the behavior in an attractive way, for example as modern and up-to-date so as to increase the attractiveness of the behavior itself.
	14. Prompt identification as role model: ask participants to set a good example (e.g. for children) by engaging in the desired behavior so as to influence others' behaviors by one's own behavior.
<i>Infrastructural, skill and ability BCTs – Ability factors</i>	
How-to-do knowledge	15. Provide instruction: convey know-how in order to improve a person's knowledge about how to perform the respective behavior.
Confidence in performance	16. Provide infrastructure: prompt and support the community or households to set up infrastructure.
	17. Demonstrate and model behavior: demonstrate a behavior and prompt participants to pay attention to others' performing the behavior and its consequences in their everyday life.
	18. Prompt guided practice: train participants in behavior enactment by giving instructions, demonstrating the behavior, letting him/her practice and giving feedback about the correctness of the performance.
	19. Prompt behavioral practice: prompt participants to practice the new behavior in their daily life.
	20. Facilitate resources: provide financial help. It may be unconditional or conditional, meaning the recipient has to contribute (e.g. with manpower) to get the resources.
	21. Organize social support: prompt participants to seek practical or emotional support from neighbors, friends, acquaintances, or relatives and/or to initiate social support groups.
	22. Use arguments to bolster self-efficacy: convince participants that they will be able to perform and/or maintain the desired behavior.
23. Set graded tasks/goals: prompt participants to learn difficult behaviors including several tasks step by step.	
Confidence in continuation	24. Reattribute past successes and failures: prompt participants to attribute failures to a temporary lack of skill or adverse circumstances instead of to his/her deficiency and successes as personal achievements.
Confidence in recovering	25. Prompt coping with relapse: tell participants that lapses are normal when adopting a new behavior and, though discouraging, not a sign of failure.
<i>Planning & relapse prevention BCTs – Self-regulation factors</i>	
Action planning	26. Prompt specific planning: stimulate participants not only to formulate what she/he will do, but also when, where, and how she/he intends to achieve his or her goals.
Action control	27. Prompt (self)-monitoring of behavior: invite participants to (self-)monitor their behavior by means of recording it (e.g. frequency).
	28. Provide feedback on performance: give participants a feedback on their behavior performance.
	29. Highlight discrepancy between set goal and actual behavior: invite the participant to regularly evaluate the actual behavior performance (e.g. correctness, frequency and duration) in relation to the set behavioral goal.

Table: Behavioral factors and behavior change techniques (continued)

Behavioral factors	Behavior change techniques
Barrier planning	30. Prompt coping with barriers: ask participants to identify barriers to behavior change and plan solutions to those barriers.
	31. Restructure the social and physical environment: prompt participants to remove social and physical bolsters of the undesired behavior so as to interrupt habitual procedures.
	32. Prompt to resist social pressure: ask participants to anticipate and prepare for negative comments from others or for pressures towards the undesired behavior.
	33. Provide negotiation skills: prompt participants to reflect on others' perspectives to find compromises that benefit both sides and arguments bolstering them.
Remembering	34. Use memory aids and environmental prompts: prompt the participant to install memory aids or to exploit environmental cues so as to help to remember the new behavior and to trigger it in the right situation.
Commitment	35. Prompt goal setting: invite participants to formulate a behavioral goal or intention.
	36. Prompt to agree on a behavioral contract: invite the participant to agree to a behavioral contract to strengthen her/his commitment to a set goal.

Further information

<http://www.eawag.ch/en/department/ess/main-focus/environmental-and-health-psychology-ehpsy>

Publications

Mosler, H.-J. (2012). A systematic approach to behavior change interventions for the water and sanitation sector in developing countries: a conceptual model, a review, and a guideline. *International Journal of Environmental Health Research*, 22, 431-449.

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