

The RANAS approach to systematic behavior change

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All behavior is based on processes in people's minds. Knowledge is activated, beliefs and emotions rise to the fore, and an intention to perform a particular behavior emerges, eventually resulting in observable behavior. In other words, these processes, which we term behavioral factors, determine behavior. To change behavior effectively, these behavioral factors have to be targeted by intervention programs. The Risks, Attitudes, Norms, Abilities, and Self-regulation (RANAS) approach to systematic behavior change is an established method for designing and evaluating behavior change strategies that target and change the behavioral factors of a specific behavior in a specific population. In brief, it is an easily applied method for measuring behavioral factors, assessing their influence on behavior, designing tailored strategies

that change behavior and measuring the effectiveness of these. Although it was originally developed to change behavior in the Water, Sanitation and Hygiene (WaSH) sector in developing countries, it is applicable to a range of behaviors in various settings and populations. The RANAS approach to systematic behavior change involves four phases (see figure): First, identify possible behavioral factors; second, measure the behavioral factors identified and determine those steering the behavior; third, select corresponding behavior change techniques (BCTs) and develop appropriate behavior change strategies; and fourth, implement and evaluate the behavior change strategies. In the following we briefly describe these four phases.

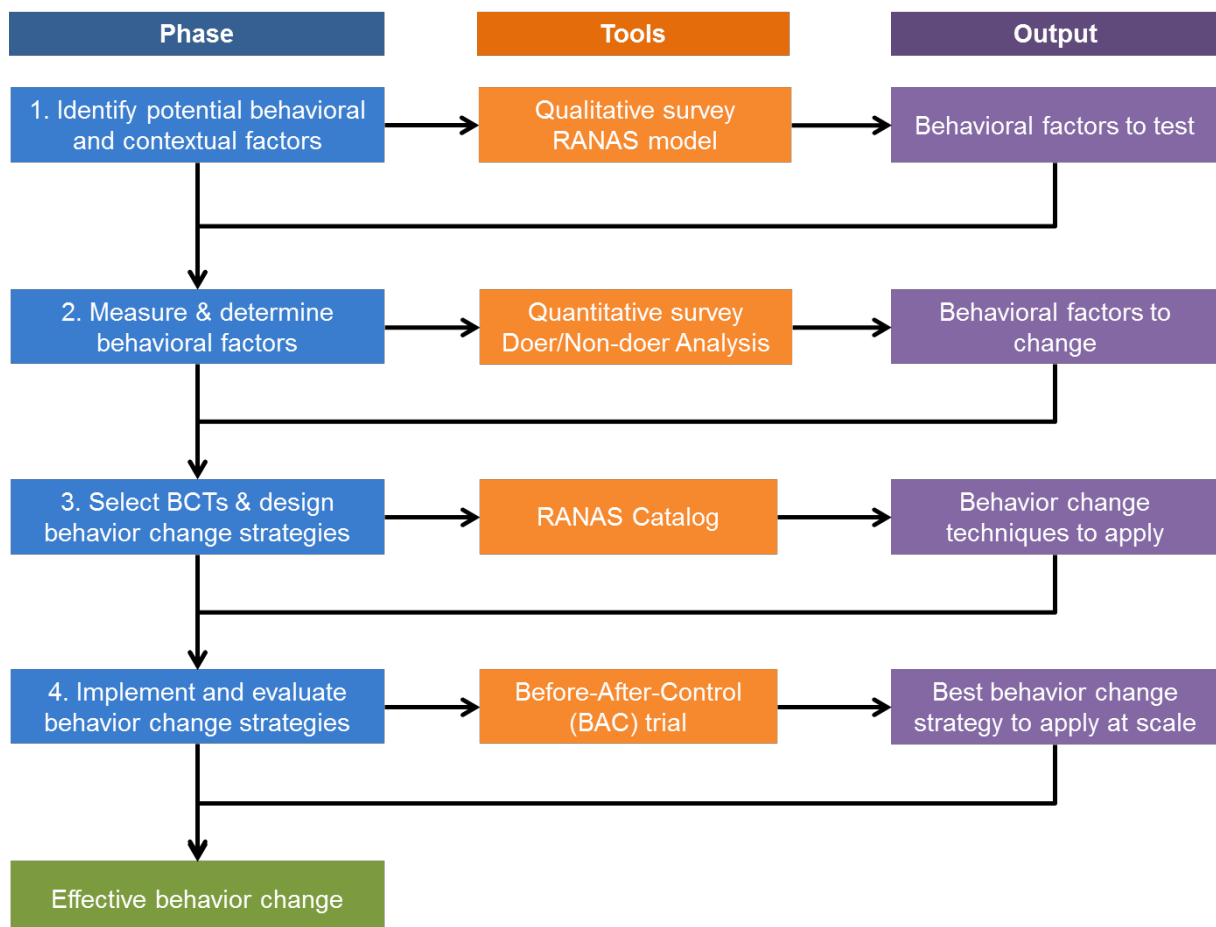


Figure: The four phases of the RANAS approach to systematic behavior change.

Phase 1: Identify potential behavioral factors

First, the exact behavior to be changed and the specific population group to be targeted are defined; we specify who exactly should change which behavior. Then, we collect information on behavioral and contextual factors that might influence the target behavior, for example by conducting short qualitative interviews with various stakeholders at different levels, including the target population. Following this, the potential behavioral and contextual factors that we have identified are arranged in the RANAS model of behavior change, which may involve adapting and extending the model. The RANAS model integrates leading theories of behavior change and findings of environmental and health psychology and thus uses scientific expertise built on decades of research. By using the RANAS model to classify and organize the potential behavioral and context factors, we ensure that no important behavioral factors are neglected. For more information about the RANAS model, see Methodological Fact Sheet 2.

Phase 2: Measure the identified potential factors and determine those steering the behavior

First, we develop a questionnaire to measure the behavior and the potential behavioral factors and a protocol to conduct observations of the target behavior. Template tools have been designed for both questionnaires and observation protocols, and these have to be adapted to the local conditions. A doer/non-doer analysis is conducted to identify the behavioral factors steering the target behavior. This means that the responses of people who perform the behavior (doers) are compared to the responses of those who do not (non-doers); a large difference in the responses between doers and non-doers shows that the behavioral factor in question critically steers the behavior and thus can be addressed through behavior change techniques (BCTs) to change the behavior.

Phase 3: Select corresponding BCTs and develop appropriate behavior change strategies

The BCTs that are thought to change the critical behavioral factors specified in step 2 are selected for application in the behavior change strategies. A catalog of BCTs has been compiled to achieve this. The catalog lists which BCTs are thought to change which behavioral factor, based on evidence from environmental and health psychology. The BCTs have to be adapted to the local context and combined with suitable communication channels, which constitute the mode of delivery of the BCTs. Together, the BCTs and the communication channels form a behavior change strategy.

Phase 4: Implement and evaluate the behavior change strategies

To verify the efficacy of these behavior change strategies and to optimize them, the strategies are evaluated with a before-after control (BAC) trial. This means that the behavior and the behavioral factors are measured with a questionnaire and with observations both before (step 2) and after implementing the strategies. Further, a control group has to be evaluated. This is to control for intervention-independent changes in behavior.

The differences in behavior scores and in behavioral factor scores before and after the strategies' implementation are calculated and compared to those of the control group. The behavior change strategies have been effective when the before-after differences in behavior and behavioral factors are larger for the population that received the strategies than for the control group. The strategies can be refined if needed. Otherwise, they can be applied directly at larger scales or in other, similar areas, backed up by the evidence that they are effective in changing behavior.

Conclusion

Although the RANAS approach takes several months, it is worth applying; it results in behavior change strategies which (1) are tailored to the population, (2) have been proven to effectively change behavior under local conditions, and (3) thus provide an evidence base for further interventions. Not only has behavior been changed effectively but substantial arguments have been gained with which to attract support from local government and donors for future projects.

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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