

an interview with

Ralf Schwarzer

by Falko F. Sniehotta, Editor

Health Action Process Approach: A magic bullet?

FFS: Theories and models play an important role in the advancement of a science of behaviour change. There has been a growing consensus in recent years that behavioural intentions are not sufficient to explain behaviour and post-intentional processes such as planning need to be incorporated in order to explain how people change their behaviour (e.g., Abraham, Sheeran, & Johnston, 1998; Gollwitzer & Sheeran, 2006). Yet, dominant models in the field such as the Theory of Planned Behaviour (Ajzen, 1991) and the Transtheoretical Model (Prochaska & DiClemente, 1992) do not incorporate this evidence. Your Health Action Process Approach (HAPA; Schwarzer, 1992) explicitly includes post-intentional factors suggesting a distinction between pre-intentional motivation processes resulting in intention formation and post-intentional volition processes that lead to the actual health behaviour. Why is the HAPA not the leading model of behaviour in Health Psychology?

RS: All models of health behaviour have served a purpose in the past and they may be chosen in the future for good reasons. There is no "leading model" in terms of scientific quality. We should not regard this as a horse race. However, some models have been used more frequently than others. Reasons for this might be familiarity and ease of use, among others. The TPB and the TTM have been successful models as reflected by the number of publications. The HAPA is only a recent contribution, although first mentioned in a secluded book chapter in 1992. It was not designed to become a competitor to the other models, and neither myself nor anyone else has been particularly interested in advocating this model. Only in recent years have an increasing number of researchers realized that there is something to be gained by including post-intentional factors to serve as proximal predictors of behaviour. Some colleagues continue to use the TPB but they add, for example, planning and self-efficacy as mediators, and by this inclusion their model becomes about the same as the HAPA.

FFS: When you say that there is no leading model in terms of scientific quality, how does that relate to empirical tests of models? All the models, the TPB, the TTM and the HAPA make different assumptions that should be testable against each other. Do you not think



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we should seek for the best model guided by evidence and discard models that are not in line with this evidence?

RS: There is no acid test that allows a firm conclusion about which model is "better" than the other. Continuum models (such as TPB) are basically different from stage models (such as the TTM) and serve different purposes. The strength of the former lies in the prediction of behavioural intentions, the strength of the latter lies in moving individuals from one stage to the next one. The HAPA is a hybrid model that can be analyzed either as a continuum (mediator) model or as a stage model. When comparing TPB with HAPA, the latter is expected to account for more variance in behaviours than the former. This, however, does not come as a surprise because it simply includes two additional proximal predictors that help to account for more variance. When comparing the TTM with HAPA, the result will be that HAPA is more parsimonious. However, this only applies to studies where most of the participants are motivated (i.e. post-intentional). If proactive recruitment of non-intenders (e.g., smokers) is preferred, then TTM should be superior because it makes a useful distinction between precontemplators and contemplators.

FFS: One paramount aspect of testing models and accumulating theoretical evidence is a clear formulation of the models' constructs, relationships between these constructs and basic assumptions.



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Would you be happy to summarise the HAPA and its core assumptions? From your most recent papers on the HAPA (Schwarzer et al., 2007; in press) I take that motivational self-efficacy, outcome-expectancies and risk perceptions are assumed to be predictors of intentions. This is the motivational phase of the model. The predictive effect of motivational self-efficacy on behaviour is assumed to be mediated by recovery-self-efficacy and the effects of intentions are assumed to be mediated by planning. The latter processes refer to the volitional phase of the model. Is that a decent summary of the HAPA model and its core assumptions?

RS: Yes, this is a summary of the model. The starting point has been the distinction between motivational and volitional processes. In other words: health behaviour change is a self-regulatory process that consists of goal setting and goal pursuit, both of which reflect different mindsets. The second major assumption is that perceived self-efficacy constitutes a key variable in both phases. Motivational self-efficacy is slightly different from volitional self-efficacy (e.g., maintenance self-efficacy, recovery self-efficacy). Third, we can switch from the path-analytic mediator model to a 2-stage model by separating pre-intenders from post-intenders. Moreover, depending on the research question, we usually choose a 3-stage model (pre-intenders, intenders, and actors) which constitutes the best way of reflecting the stage view of the HAPA (Lippke, Ziegelmann, & Schwarzer, 2005).

FFS: *You describe the HAPA as a hybrid model that can be analyzed either as a continuum (mediator) model or as a (2 or 3) stage model. Stage models assume that behaviour change involves passing through an ordered sequence of qualitatively different stages characterized by similar barriers for stage progress and different barriers between different stages. Continuum models on the contrary assume that levels of core social-cognitive variables are linearly related to the likelihood of performing the target behaviour. However, assumptions of continuum models and stage models are usually seen as mutual exclusive (e.g., Weinstein, Sutton & Rothman, 1998). Are there two different models within the HAPA or how can a model at the same time be continuum and stage model?*

RS: The debate about stages of change as opposed to a continuum of change resembles a debate on the scientific truth about the objective world. The quest for the existence of stages assumes that the nature of health

behaviour change is either the one or the other, and that one only has to “discover” whether stages truly exist. However, stage is not nature, stage is a construct. We invent the notion of stages to better understand how people change and to provide better treatment to people who have difficulties to change their behaviours. We construct stages to open another window that allows for a different view on the change process. Thus, the question is not whether stages truly exist, but whether stage is a useful construct. Moreover, there is no difference between stages and “pseudostages.” The latter term refers to a categorization of a “truly existing continuum” into stages. However, continuum is also a construct. A continuum is frequently subdivided into categories because it is regarded as useful to illustrate unique characteristics of a variable’s distribution or its relationship to others. With this in mind, the two ways of making use of the HAPA are not mutually exclusive. Then, the question remains under which circumstances is the deliberate choice of a stage model more useful than the choice of a continuum model?

FFS: *How do you make this choice? Do you think that the classical tests of stage models, in particular longitudinal analyses of stage transitions and experimental matched mis-matched tests as proposed by Weinstein et al (1998) will show if one or the other view is more supported by data?*

RS: Yes, if such an experimental procedure achieves a good fit to the data then it is meaningful to assume that, for the corresponding research question and the sample at hand, a stage approach is appropriate (Schüz, Sniehotta, Mallach, Wiedemann, & Schwarzer, 2007). If we find that certain groups of individuals along a change process share common features and they have similar mindsets that are distinct from those in a different group at a different point on the change process, then we might want to label them as residents of a particular stage, such as preintenders, intenders, or actors. This is useful because we obtain a fresh view on the features of individuals within a hypothetical change process. Whether this process is truly a series of qualitative steps or an underlying action-readiness continuum, remains a matter of choice. We do not discover the existence of one or the other, we rather choose a construct that provides a convenient template for subsequent research efforts. The notion of stage-

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tailored interventions is very appealing, and identifying stages as well as matching treatments is a challenging and exciting research enterprise.

FFS: *What is your general strategy of testing and developing the HAPA? What tests do you find most important to progress your theoretical thinking? What would you need to find to change or amend the HAPA? What is and will be the role of randomised studies modifying HAPA constructs?*

RS: Again, there are two general strategies. The first one refers to the mediator model. To better understand the mechanisms of health behavior change, we need to identify mediator effects as well as moderator effects. The HAPA as a parsimonious mediator model does not explicitly include moderators. Meanwhile, evidence is accumulating that the proposed mediator model works well in some groups, but not in others. By comparing men and women, younger and older individuals, and those from different cultures, we identify moderators (Renner, Spivak, Kwon, & Schwarzer, 2007; Reuter, Ziegelmann, Wiedemann, Lippke, & Schüz, 2007; Ziegelmann, Lippke, & Schwarzer, 2006). The second strategy refers to the intervention designs. Randomized controlled studies, testing stage-tailored interventions are needed. Only if we can demonstrate that matched treatments are more effective than mismatched treatments, can we make evidence-based recommendations for health promotion. However, if such a study fails to demonstrate this, it does not necessarily mean that a stage approach has failed. There is still the possibility that researchers have not identified the optimal treatment component for a particular stage.

FFS: *Can you theorize under which circumstances which of these strategies will be more appropriate? Would we always favour the stage model approach if similar proportions of a sample can be classified as preintenders, intenders, or actors?*

RS: If we want to account for outcome variance in longitudinal observation studies, we are interested in distal and proximal predictors, i.e., in indirect and direct effects. If, moreover, we succeed in making valid classifications, for example into preintenders, intenders, and actors, then we should do so. "Valid" can mean that there is evidence for differential effects of stages. Stage can serve as a moderator which means that a prediction model within one stage group operates

different than a prediction model within a different stage group. This is similar to the assumption that one set of social-cognitive variables can move people from stage A to B, whereas a different set of variables can move people from stage B to C.

FFS: *The question of mediation vs. moderation is challenging especially when it comes to post-intentional processes. By definition, these variables should be moderated by intentions. Planning should be useful only if people formed intentions (Sheeran, Webb & Gollwitzer, 2005). Recovery self-efficacy should be relevant only if people encounter lapses (Scholz, Sniehotta & Schwarzer, 2005). How do you explain findings that show mediation rather than moderation effects?*

RS: Both moderator and mediator effects make sense. If high intenders do not plan, they are less likely to translate their intention into action. The ideal situation is reflected by moderated mediation. For example, the intention – behavior link is mediated by planning, and this mediator effect can be moderated by level of intention (Wiedemann et al., 2007). In other words, only in highly motivated persons does the intention operate via planning on the improvement of adherence, whereas in poorly motivated persons no such mediator effect is visible.

FFS: *I think that your 1992 chapter that first introduced the HAPA is one of the most important papers in health psychology because you integrated theory on a level that was unprecedented at the time. How has your own theoretical thinking developed in the past 15 years? How far has your own and others' research progressed your theoretical positions from 1992?*

RS: My theoretical position has mainly been refined by the excellent research contributions of some outstanding coworkers. Among the refinements is the elaboration of volitional factors such as coping planning and action control (e.g., Sniehotta et al., 2006; Ziegelmann et al., 2006). Another issue lies in a better understanding of the changing role of self-efficacy as people pass through the motivational and volitional phases (e.g., Luszczynska, Tryburcy, & Schwarzer, in press). In particular, it has been found that maintenance self-efficacy and recovery self-efficacy are useful constructs when dealing with long-term adherence of health behaviours (Scholz, et al., 2005).

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FFS: Finally, let us have a look into the future. Where are we going from here? What are/will be the new ideas and directions that will further improve the science of behaviour change?

RS: There will never be a magic bullet that solves the problems of health behavior change. A major challenge is to address more complex lifestyle changes. Much progress has been made to identify treatments for smoking cessation (for example, by using the TTM) but it appears to be more difficult to make people adopt and maintain physical activity along with non-smoking and healthy dietary behaviours. Health behaviour theories need to acknowledge the fact that people do have multiple goals that are often in conflict. For example, the intention to work out every day might serve the goal to become slim, which, in turn, may serve the broader goal to become attractive for a potential partner, and so on. Depending on the value placed on the superordinate goal, the subordinate goal might have a certain chance to be pursued while competing goals (enjoying dinner parties) are being downgraded. A variety of action-control components operate in the volition phase that help to adhere to a chosen regimen. Relapse prevention and harm reduction strategies are needed to stabilize intentions and behaviors in times of conflict. Current health behavior theories do not sufficiently include goal hierarchies and priority management. We need an integration of these theories with more general self-regulation theories.

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