COMMENTARY

Who has the authority to change a theory? Everyone! A commentary on Head and Noar

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Head and Noar (2013) wrote an interesting and challenging paper; we agree with many of their statements but disagree on a number of essential issues. We think that Head and Noar are (1) too negative about the current state of health behaviour theories, for example, the Reasoned Action Approach (RAA; Fishbein & Ajzen, 2010) and (2) too coercing with their recommendations.

Head and Noar expect too much from a theory. Our interpretation of the concept of theory is somewhat different. We see a theory as a formal and abstract statement about a selected aspect of reality. Theories are reductions of reality. That is not a shortcoming but a definition to understand and solve real life problems. We need a multi-theories approach (Bartholomew, Parcel, Kok, Gottlieb, & Fernández, 2011; Buunk & van Vugt, 2008). From that perspective, real life problems are a jigsaw puzzle and various theories contribute to parts of the solution. The argument that one theory, in this case the RAA, does not explain all the possible variances in behaviour or behaviour change is not convincing. For example, RAA is self-defined as a theory about reasoned behaviours, not a theory about automatic behaviours.

RAA is not a magic bullet. Glanz, Rimer, and Viswanath (2008) distinguish between theories of the problem and theories of the action: explaining behaviour and changing behaviour. RAA is a theory of the problem. RAA's contribution to the action is the content of the intervention: the specific beliefs that should be targeted for change. We need other action theories to identify effective behavioural change methods and develop change interventions. Head and Noar suggest that Fishbein and Ajzen present RAA also as a change theory. That might be the case, but it is clear that RAA is not an action theory as it focuses completely on the identification of beliefs that need to be reinforced, changed or added (Witte, 1995), to change the target behaviours. Researchers and intervention developers who solely work with RAA in developing interventions are ignoring that important distinction between theories of the problem and theories of the action.

We agree with Head and Noar that, for theory testing, we need other systematically varied experimental designs than for the evaluation of theory-based interventions. Evaluation studies of real life interventions are unlikely to have designs that allow for

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theory testing. That is no incompetency of the researchers; it is a different objective, as Head & Noar mention. Therefore, if interventions are not as effective as the planner expected, that does not say much about the value of the theory. Head and Noar seem to interpret that as a defensive mechanism to protect the theory. However, most of our experience is that planners did not apply the theory correctly. It is, for example, surprising how many authors apply RAA without the careful elicitation of beliefs through adequate qualitative and quantitative research, a procedure which Fishbein and Ajzen proscribe as an essential prerequisite for application.

Head and Noar state that they never see theories being abandoned. It is true that some theories seem to survive longer than they should (Glanz et al., for example, select theories based on their popularity in the past). But in the literature, there are clear examples of theories that are repeatedly reported to be less useful than expected. For example, the Transtheoretical Model is clearly not as popular as it used to be, with many papers suggesting that there are in fact only two stages: motivation and action (Brug et al., 2005). Moreover, why is it necessary that a theory changes all the time? Some theories have been developed into a state that everyone applies them and researchers have given up on improving: cognitive dissonance theory, for example (Aronson, 2012), is an excellent theory for application while there is not much to study anymore.

Head and Noar state that RAA has not changed much over time and one should add more variables. Obviously, that is an interpretation. We found the addition of PBC at that time as a huge improvement; we think the addition of descriptive norm next to subjective norm is very relevant, etc. We are not surprised that theory developers are reluctant to change the theory. At some point they will have to, and of course, these changes are preceded by a series of studies in the literature. Applied researchers are completely free to use every theory and every adaptation they want as long as they can convince journal editors and reviewers that it makes sense. Head and Noar criticise Fishbein and Ajzen about their reluctance to add the so-called ‘fourth variable’. They give self-identity as an example. This is intriguing, because Fishbein and Ajzen write extensively about self-identity in their book. They formulate strict criteria for adding a ‘fourth variable’ to RAA (p. 282) mentioning that it deserves careful consideration:

- (1) The variable should be measurable in terms of target, action, context and time.
- (2) The variable can be conceived as a causal factor determining intention and action.
- (3) The variable has to be conceptual independent of the existing predictors.
- (4) The variable should be applicable to a wide range of behaviours.
- (5) The variable should consistently improve prediction of intention and behaviour.
- (6) Fishbein and Ajzen also state that: Inclusion of a new variable should decrease the residual effect of past behaviour on intentions after controlling for the existing predictors (p. 290).

With respect to self-identity, Fishbein and Ajzen suggest that, based on the way self-identity is measured, most aspects of self-identity are already integrated in Theory of Planned Behaviour (TPB) and RAA. When self-identity is connected with a behaviour that is important for the person, it might be conceptually equal to attitude but would capture aspects of attitude that are not represented in the standard RAA questionnaires. This could be solved by adding the extra semantic differential scales: the behaviour is important – unimportant, essential – not essential, significant – insignificant. When self-identity refers to descriptive norms, Fishbein and Ajzen expect self-identity to improve

prediction of intention in applying TPB, but not in applying RAA because the descriptive norm is already integrated in RAA. A last possibility is that self-identity represents self-reports, which would not add new insights according to Fishbein and Ajzen, because self-reports only account for current and past behaviour, while the purpose of identifying determinants is to decrease the influence of past behaviour in the prediction of future behaviour (criterion 6). Fishbein and Ajzen conclude that self-identity does not fulfil their criteria for being included as a 'fourth variable'. One can agree or disagree with their reasoning, and there are indeed studies that provide alternative data and suggestions, but in our view Fishbein and Ajzen are not just defensive; they present clear and testable arguments. Head and Noar should applaud Fishbein and Ajzen for presenting this set of hypotheses that can be put to test in a series of experimental studies.

Head & Noar prefer utility over generalizability. We do not. We agree with Fishbein & Ajzen that theoretical concepts should be generalizable over various behaviors. If the application of the theory differs over behaviours, or diseases, or target populations, that should be part of the theory. Cancer patients and AIDS patient both have scary diseases, but one is contagious and that makes a difference with respect to people's reactions. Public behaviours are more influenced by social norms than private behaviours; one-time behaviours are different from continuous behaviours and it goes on. We do not want one theory about people's reactions to cancer patients and a different theory about people's reactions to AIDS patients; we want a theory that explains both reactions at a higher level. The same applies to cultural sensitivity of theories. Some scholars claim that most theories are Western theories, because they do not include all possible concepts. Our opinion is that those scholars do not understand the essence of a theory (and ignore the successful application of those theories, for example, RAA, in many different cultures), and researchers simply failed to elicit the most relevant beliefs underlying the general evaluations related to attitude, perceived norm and behavioural control through systematic qualitative and quantitative research.

Who has the authority to change a theory? Everyone, as long as it makes sense to the scientific community. Nevertheless, we agree with Head and Noar that it might be good to publish very carefully designed theory testing studies. At some point, others will add those insights to the theory in applied studies, ultimately leading to adaptation of the theory. If not adapted, the theory will be used less and less. Would it help to have workshops with theorists, led by funding agencies? Theory developers are not the best in out-of-their-box-thinking, and funding agencies have already too much influence on our research as it is.

Summarising, we are not convinced that there is a serious problem here that needs to be solved. Freedom of research and of theory is good.

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