

Response to Hammond *et al.* Showing leads to doing, but doing what? The need for experimental pilot-testing

In case readers question our motives: we are extremely anti-smoking and we contribute and have contributed to the research tradition in The Netherlands on smoking prevention and smoking cessation. We are in favour of effective evidence-based anti-smoking interventions; which fear-arousing messages are not.

There are two main issues here: quasi-experimental designs and defensive processes. To start with the latter, Hammond *et al.*¹ refer to Witte and Allen² citing from the abstract: 'Strong fear appeals and high efficacy messages produce the greatest behaviour change', and add that Witte and Allen found no evidence of any iatrogenic or boomerang effects for strong fear appeals. The first citation is misleading when out of context and the second statement is incorrect. Witte and Allen make it very clear that 'practitioners should always ensure that a high threat fear appeal is accompanied by an equally high efficacy (or greater) message' (p. 606). They also state that 'as a fear appeal increases in strength, it produces stronger fear control/defensive responses than danger control responses',

and 'the more one is defensively resisting a recommendation, the less one is making appropriate changes in line with the message's recommendations' (p. 603). Their final sentence is most illustrative: 'Fear appears to be a great motivator as long as individuals believe that they are able to protect themselves' (p. 607). *The crucial issue here is that the targeted smokers should become confident that they indeed can stop smoking.* Most smokers have undertaken several quit attempts, failed, and thus feel they cannot stop smoking.³ Fear-arousing graphic warnings will not help them, even when accompanied by a few words on what to do.

People generally do what they report, *however, not in defensive conditions.* Defensive fear control may lead to positive reported intentions, but not to the desired behaviour change⁴. Defensive responses are often not even measured² and thus missed. And even if people do what they report, people are not capable of adequate introspection into what motivated their behaviour⁵. The only way to garner convincing evidence is by applying experimental designs with reliable behavioural measures. Quasi-experimental designs are sometimes the only possible approach, but they allow only limited conclusions about causality. External validity is no issue when internal validity is insufficient.

In our view, interventions should be systematically, i.e. experimentally, pilot-tested with reliable behavioural measures, before being implemented on

such a large scale that effect evaluations have become impossible. We think that the evidence so far is not supportive of scary graphic warnings. There are better ways to get smokers to stop.

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References

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