

Tailor made for Health Psychology: Issues in the design and effectiveness of Internet interventions

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The rapid emergence of the Internet has yielded immense changes in peoples' daily lives, from the way we gather

information to the way we communicate with others. Not without reason the last decades have been labeled the 'digital revolution'.

Naturally, health psychologists have also turned their eyes toward the possibilities of reaching out to people through the Internet. A principle reason for the popularity of online treatment is that, compared to face-to-face interventions, it is potentially much easier and cheaper to implement. Furthermore, target groups that would otherwise be less likely to participate or engage in treatment can be reached at any time. Online interventions, be they for example, fully automated with or without therapist contact, typically have a low threshold to access and thus may also play a role in prevention activities as well as treatment (for a comprehensive description of types of internet supported interventions and relevant terminology see Barak, Klein, & Proudfoot, 2009). That is, for example, they can be accessed and used by people who have no formal diagnosis of a psychological disorder, yet could still benefit from help in various life domains. Lastly, while Internet interventions are particularly suitable for delivering individual-tailored programs, they can also be used to initiate and/or facilitate groups of likeminded people dealing with particular mental or physical health conditions.

Alongside these clear advantages, however, online interventions have limitations and pitfalls that are important to keep in mind. For example, the absence of a regulatory framework/agency and ease of

uploading an intervention means that it is possible that an intervention be made available without due care being taken in its development and testing. Also, Internet interventions may not be suitable for all users: for example, while treatment adherence might increase for certain groups of patients, others may be more likely to disengage or dropout completely from treatment due to having different preferences for modes of communication or types of information. Finally, face-to-face contact might in some cases be necessary to establish patients' motivation or to monitor their understanding and evaluation of the treatment (Paxton, McLean, Gollings, Faulkner, & Wertheim, 2007).

The contributions to this special issue all relate to the considerations raised above. We present a series of articles examining key issues in the design, economic evaluation and dissemination of Internet evaluations. With these contributions we aim to stimulate further thought on how Internet interventions can be used in an optimal way.

Contents of this issue

While Internet interventions have the potential to efficiently reach large numbers of people, enticing people to actually translate curiosity about Internet interventions into using them remains a domain of research that is relatively understudied. Crutzen and Ruiters (2015, this issue) propose a conceptual model that focuses on issues to consider in generating "interest" as a means of enticing potential users of Internet interventions to go on to use the intervention. Drawing upon the works of Silvia (2006), Lazarus (1991) and Rogers (1983), they argue

that “interest” can be viewed as a product of person’s primary and secondary appraisals of a particular intervention. Specifically, and initially, a combination of novelty and complexity is required to draw and sustain attention to an intervention, and is then (assuming an intervention holds the attention of the potential user) followed by an assessment of self and response-efficacy. Crutzen and Ruiters conclude by suggesting areas for further research.

Once people start using an intervention, the challenge for the developers is then to try and increase the likelihood that people will adhere to/or use the intervention for as long as possible. There is after all, research showing that the more people adhere to an intervention, the greater the chance of them benefitting from it. (That is not to say that non-adherence or dropout, necessarily or automatically equates to ineffectiveness as people might stop using an Internet intervention earlier than recommended because they have recovered or at least got what they wanted from the intervention.) Regardless, adherence rates to Internet interventions typically range from approximately 1% (Christensen, Griffiths, Korten, Brittliffe, & Groves, 2004) to levels similar to face-to-face interventions (van Ballegooijen et al., 2014).

Tailoring interventions to individual users’ needs and/or preferences is considered a promising domain/method of improving rates of adherence. This special issue features four articles examining tailoring from different perspectives. First, Wienert and Kuhlmann (2015, this issue) provide important guidelines for designing and reporting on tailored online interventions. The authors argue that individual tailoring has crucial consequences for the comparability of the effects of an intervention within a study as well as between studies. To adequately analyze the effects of a tailored intervention, it does not make sense to use generic analyses grouping all participants (who received different treatments) together. Therefore, Wienert and Kuhlmann (2015, this issue) advocate using larger sample sizes to allow for the possibility of analyzing subgroups of patients

who received similar ‘intervention paths. Second, to improve comparability of tailored interventions *between* studies, the authors argue that it is essential to include a detailed report of used intervention techniques – a reasoning that fits well with the standardized taxonomy of behavior change techniques as proposed by Abraham and Michie (2008). Next, Rodgers and colleagues (2015, this issue) go on to point out that for Internet-delivered interventions to be effective, target groups’ willingness and confidence to use electronic devices should not be taken for granted but instead must be explicitly considered as a factor when designing an intervention, in addition to its content. This is particularly relevant for interventions targeting patient groups that may not be particularly experienced with using the Internet or mobile devices, such as the elderly. Similarly, Smit, Linn and van Weert (2015, this issue) argue that tailoring should consider more than just the content of the intervention. Specifically, they argue that in addition to computer tailoring of content, tailoring of interventions to users’ preferences for mode of delivery and needs for cognition, affect and autonomy need to be incorporated. They suggest that adding this strategy or capacity to existing interventions might be a relatively efficient way of increasing intervention effectiveness. Finally, Short, Rebar, Plotnikoff and Vandelanotte (2015, this issue) propose a model that addresses user engagement. Their model provides an overarching framework and describes a set of relationships between environmental, individual and intervention (including tailoring) factors that ultimately contribute to users’ engagement with a specific intervention.

After the hard work of developing an intervention, naturally we then need to establish how effective the intervention is and critically, whether it represents good value for money. Just as there is no point having an intervention that is too complex to use, there is no point developing one that costs considerably more than a comparative treatment with similar effects. Economic evaluations of Internet

interventions thus play a crucial role in providing evidence to help policy makers with decisions about whether or not to provide funding for a particular intervention. Smit, de Vries, Oberje and Evers (2015, this issue) mention the fact that relatively few economic evaluations of Internet interventions have actually been conducted. However of those that have been conducted, results indicate that health related Internet interventions are indeed likely to be cost effective. There might be many reasons for the relative lack of economic evaluations, but Smit et al. (2015, this issue) discuss and propose possible solutions to five specific challenges that researchers should consider. The issues raised and proposed solutions provide a sound starting point for those considering conducting economic evaluations alongside trials of Internet interventions. Like Smit et al. (2015, this issues), we would encourage researchers to complement their trials with economic evaluations.

Finally, Ruwaard and Kok (2015, this issue) caution against 'quick and dirty' implementations of Internet interventions, and articulate the need for evidence-based intervention programs. Their thought-provoking contribution warns of a "Wild West" arena in which interventions are disseminated too hastily, without any adequate foundation for their effectiveness. The authors argue for the importance of sticking to the 'preferred order of things' and suggest it may be time to 'hold our horses'.

Conclusion

Altogether, the contributions to this special issue illustrate the rich opportunities of Internet interventions in the domain of health psychology, while at the same time pointing towards the pitfalls and considerations that we all should keep in mind.

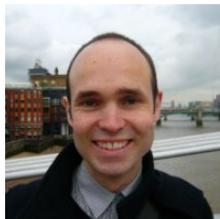
We would also like to take this opportunity to invite all readers to initiate or contribute to discussions on this and other topics on the European Health Psychologist Facebook page or by submitting

commentaries or letters to future editions of the European Health Psychologist. We wish everyone a happy and successful 2015.

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