Reviewer’s report

Title: Changing Behaviour 'more or less' - Do theories of behaviour inform strategies for implementation and de-implementation? A Critical Interpretive Synthesis

Version: 1 Date: 19 Jun 2018

Reviewer: Leti van Bodegom-Vos

Reviewer's report:

This paper addresses an important issue. It offers a first step towards the understanding of differences/ similarities between approaches for implementation and de-implementation. The authors also searched for theories used in other fields for increasing and decreasing behavior. However, like the editorial office, I also have doubts about the search strategy and whether the focus of the search was not narrow. The authors stated in the response to the editorial office that they defined de-implementation from an individual behavior change perspective and not from a policy or system change. However, it may be necessary to use policy or system changes for changing the behavior of an individual, which certainly true for reducing undesired behavior.

Abstract:

1. Results: the authors write that 9 of the 15 theories do not distinguish between implementation and de-implementation and that only the Operant Learning Theory makes an explicit distinction between techniques for increasing and decreasing frequency. This raises the question what the other 5 theories do (15 = 9 + 1 + 5 (?)). In the manuscript it becomes clear that these theories only focus on decreasing or increasing behavior, but this information lacks in the abstract.

Introduction

2. P 3, row 17-20: "relatively little work has been reported to understand and address systematic methods for designing de-implementation interventions. This raises the question of whether approaches for implementation versus de-implementation are similar or distinct".

a. Please explain why 'this' (that there has been reported relatively little work for designing de-implementation interventions) raises the question of whether approaches for implementation and de-implementation are similar or distinct. Based on 'a lack of reports on designing de-implementation interventions' it is unclear why the reader should expect that the approaches
should be different. Are there any other indications that these approaches for the design should be different?

b. I think the authors are focusing on interventions needed to do less or more, and whether you need different interventions because of different factors influencing implementation and de-implementation. However, because they 'talk' about methods for designing, it is unclear for the reader whether they also mean that the process of designing interventions might be different between implementation and de-implementation. For example, is it for both implementation and de-implementation important to tailor intervention to barriers and facilitators for (de)implementation using for example the intervention mapping approach, or the use of the theoretical domains framework of the authors themselves. Please clarify this issue.

3. P 3, row 48 and further: "Implementation and de-implementation interventions can be administered at any level within the healthcare system: the individual health professional; healthcare groups or teams; organisations providing health care; and the larger healthcare system [20]. The current review focused on changing what individual healthcare professionals do to improve the quality of care delivered to patients. This change can involve either doing some things more often (i.e. increasing the frequency with which a behaviour is performed; e.g. using intermittent auscultation for healthy women in labour) [21] or doing some things less often (i.e. decreasing the frequency with which a behaviour is performed; e.g ordering X-rays for acute uncomplicated low back pain)[22]."

To authors explain above that their review focuses on changing what individual professionals do to improve quality of care delivered to patients. And indeed these interventions to change their behavior can be administered at any level within the health care system. For example, sometimes it is needed to restrict to provision of certain care by individual professionals by changing the reimbursement of low value care, but it can also be that you have to educate individual professionals about the ineffectiveness of certain care. However, it seems that the authors only focus this review on interventions that are geared at individual professionals. I think this is a missed opportunity.

Methods

4. P 7, row 22-24: "Theory provides an organised description of a system that accounts for what is known and explains and predicts phenomena' (p.2)."
Please explain more extensively when an article included a theory according to your inclusion scheme because the reader has to understand why so many articles were excluded based on this criterion. What do you mean by a system?

5. P 8, row 35-39: "Of particular interest were theories that were reportedly applied to both increase and decrease frequency of behaviour. Theories applied for one direction of change would not add further insight into potential differences already identified in Stage 2 and were excluded."

It is not clear why theories that applied for one direction of change from the review of Davies would not add further insight into potential differences. Where the theories identified in the previous review of Davies identical to the theories identified to those in stage 2? Theories that apply for one direction can give insight by comparing the underlying assumption of theories aimed at increasing behavior and theories aimed at decreasing certain behavior. The choice to exclude these theories seems not consistent with stage 2 in which the authors decided to include theories that apply for one direction. Please explain this or add the theories from the review of Davies that only apply for one direction.

Results

6. P 9, row 17-18 "The electronic search returned 1876 articles after removal of duplicates (figure 1) with 7 articles…"

It would be more clear to the reader to add "(n=1883)" at the end of the sentence because 1876 is not included in the figure 1/

7. P11, row 41-50 "In contrast, some authors used reinforcement strategies to decrease undesired behaviours by reinforcing a substitute behaviour that was incompatible with the problematic behaviour. For example, Epstein and colleagues [47] recommended parents give praise (positive reinforcements) to children whenever they ate fruit and vegetables or exercised, regardless of whether the target behaviour was to 'increase fruit and vegetable intake' (implementing behaviour) or to 'decrease fat intake' (de-implementing behaviour)"

To my opinion these sentences do not belong to the subheading "Theories that propose different approaches for increasing and decreasing behaviour" since Epstein and colleagues use the same strategy regardless of the aim (implementation or de-implementation). Apparently the OLT cannot be grouped solely to theories that propose different approaches but also to B?
Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

'I declare that I have no competing interests'

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal