Critiques of health behaviour change programs

Brendon R. Barnes

Psychology Department

University of Johannesburg

Abstract

Critics have raised concerns about health behaviour change programs in the global South. However, there has been very little reflection about what those critiques are critical of and, in particular, what psychology has come to mean within those critiques. The aim of this paper was threefold: to describe existing critiques of behaviour change programs, to reflect on how psychology has been written into those critiques, and to determine what theoretical resources critiques overlook. The paper identifies four types of critiques (efficacy, sociological, ethical and governance), argues that critiques tend be psychologized and miss important insights from resources related to discourse, gender, knowledge production and resistance. It is hoped that this paper will stimulate further debate about the role of psychology in behaviour change interventions in the global South.

Behaviour change programs are ubiquitous in public health programs in the global South (Briscoe & Aboud, 2012). Programs attempt to, inter alia, encourage people to adopt protective behaviours through education and/or policy change; to incentivise certain behaviours over others; to facilitate the uptake of 'simple' technologies such as condoms, soap, improved cooking technologies and insecticide treated bed nets; to create enabling environments to make healthier choices easier; and, importantly, to provide the scientific evidence to 'scale up' programs (Fox & Obregan, 2014). Health behaviour change programs are typically constructed as apolitical responses to the disease burden in the global South and draw on powerful notions of 'agency', 'volition' and 'responsibility', that is, with the right intervention and a supportive environment, people have the potential to think differently, change their behaviours and improve their health should they desire to do so.

Critiques have highlighted a number of problems with health behaviour change programs (Lyons & Chamberlain, 2006; Barnes, 2007). However, there are two notable gaps in the literature that is critical of health behaviour change programs. First, there have been no attempts to thematise behaviour change critiques in the global South. Written from different disciplinary perspectives, a cursory analysis of the literature suggests that not all critiques share the same position in terms of their 'criticality'. Some critiques function to improve behaviour change programs while others are critical of the place of behaviour change in the first instance. Some critiques have a biomedical focus while others draw our attention to governance aspects of behaviour change. The first question that informed this paper, therefore, is what are critiques of health behaviour change programs in the global South critical of?

Second, there has been very little critical analysis of the ideological assumptions of *critiques* of health behaviour change and, in particular, what psychology has come to mean in those critiques. Predictably, 'mainstream' health psychology has been called on to strengthen behaviour change programs by providing the theoretical tools to more precisely understand, measure and manipulate human behaviour as well as to elucidate the causal pathways of behaviour change (Briscoe & Aboud, 2012) in a more specific manner than other social science disciplines can. Psychology, it is also assumed, has developed the scientific tools to measure the complexity of the link between the mind, behaviour and health. While psychology's role in health behaviour change programs continues to be galvanised and celebrated (Aboud, 1998), there has been very little attention paid to how psychology has been written into *critiques* of behaviour change. This silence is somewhat surprising given the increasing popularity of critical forms of (health) psychology in the global South (MaClachlan, 2006) as well as critiques of 'lifestyle' interventions and health more broadly (Korp, 2010).

This paper draws on a reflexive tradition within critical psychology of interrogating the assumptions of critique (Dafermos & Marvakis, 2006) and rendering the 'critical' visible to scrutiny (Parker, 2014). By taking this approach, however, it is not my intention to be dismissive of health behaviour change programs in the global South. Nor is it my intention to be dismissive of critiques of health behaviour change programs. It would be irresponsible, for example, to suggest that people should not be encouraged to practice safer sex, eat healthier, exercise more or protect themselves from environmental risks. Yet, I am uncomfortable with the fact that exorbitant amounts of money are spent on behaviour change programs that have little evidence of impact; have little or no underlying theory and are poorly evaluated (if they are evaluated at all). I am equally uncomfortable with the fact that behaviour change

interventions typically ignore the structural factors that cause ill health, that poor women are usually inadvertently blamed for their own and their families' health problems, and that behavioural change interventions are increasingly driven by multinational organisations bent on creating markets for their products. What has concerned me, however, is the lack of attention paid to the assumptions of critiques and, specifically, to what psychology has come to mean in those critiques.

In response to these gaps, this paper was driven by three questions: What are critiques of health behaviour change programs in the global South critical of? How has psychology been written into those critiques? What have critiques overlooked?

What follows is a description of four dominant critiques of behaviour change followed by an analysis of how psychology is written into those critiques. I will attempt to argue that despite being critical of behaviour change, critiques tend to draw on psychology to bolster their position in surprisingly 'mainstream' ways. I argue that, partly because of this particular representation of psychology, critiques tend to overlook important theoretical resources that could deepen our theorising of health behaviour change programs in the global South.

What are critiques of health behaviour change critical of?

Four dominant critiques have been critical of health behaviour change interventions. First, efficacy critiques have been critical of the effectiveness of behaviour change programs.

Efficacy critiques stem from the fact that behaviour change programs have yielded mixed results and scepticism about the effectiveness of behaviour change programmes were driven,

in part, by the lack of rigour of the scientific evidence (see Loevinsohn, 1990; Cave & Curtis, 1999 for early reviews). The rigour of scientific studies, systematic reviews and meta analyses have improved for behaviour change programs in certain domains (see, for example, Fiebelkorn et al., 2012, Curtis & Cairncross, 2003; Rabie & Curtis, 2006; Gamble, Ekwaru, Garner & ter Kuile, 2007; Goodwin et al., 2015). However, taken together, behaviour change interventions continue to yield modest health impacts and concerns still remain about the weaknesses of evaluation designs and, by implication, the inferences that can be drawn from studies.

A second set of critiques, sociological critiques, have been critical of the individualist assumptions of behaviour change programs (Korp, 2010) particularly the assumption that improving the manner in which people 'think' about their health will stimulate behaviour change if they are motivated enough and if their environments are conducive to change. Critics have pointed out, however, that contrary to the assumption that people are largely ignorant of the health effects of a particular health risk, program 'beneficiaries' often have good understandings of health risks prior to the intervention (Hubley, 1986). Importantly, structural, environmental and material barriers beyond the control of individuals such as poverty and income inequality (Chopra, 2008) are stronger predictors of ill health than perceptions, attitudes and behaviours. Educating people of what they probably knew already, and not addressing the wider socio-political challenges that cause or, by the very least, inhibit the performance of protective behaviours may not be sufficient to influence health (McKinlay & Marceau, 2000). Sociological critiques, therefore, offer possible explanations for why behaviour change interventions (when based on social cognitive assumptions) yield mixed results but, more importantly, highlight the upstream causes of ill-health in the global South that behaviour change programs often overlook.

A third set of critiques have raised numerous ethics concerns about health behaviour change programs. In addition to the question of whether it is ethical to promote behaviour change in contexts where the evidence to support them is weak, some ethics critiques have also focused on the gendered assumptions of health behaviour change programs. Women are often targeted in behaviour change programs which often place the blame and responsibility for health on them (Brown Travis & Compton, 2001). Women's perceived roles as nurturers and caregivers are used to place extra burden on them to maintain healthy behaviours. In some reproductive health programs, for example, women are portrayed as 'disease vectors' whose behaviours require modification to inhibit the spread of disease to their male partners and families (Amaro, Raj, & Reed, 2001) without addressing the economic, political and patriarchal structures that enhance women's vulnerability in the first place.

Ethics critiques have also focused on the manner in which top-down programs are imposed on the poor in the global South usually with little or no consultation or with problematic ideas of 'participation' (Cooke & Kathari, 2001). The impact on autonomy is especially stark for behaviour change programs that aim to diffuse behaviour change at scale (for example, at the country level) where participants usually have little choice in whether they participate in health behaviour change programs (Smith-Oka, 2009). Critics have also argued that behaviour change programs may exacerbate health inequality by having a greater impact on higher income groups who tend to have higher health literacy as well as the means to afford behaviour change interventions (Tengland, 2012). Ethics critiques have also focused on the unintended consequences of behaviour change programs including the negative impact on participants' intrinsic motivation and self-worth when they cannot live up to the expectations

of the goals of the program or are inadvertently blamed for their ill health (Bennet Johnson, 2012).

A fourth set of (governance) critiques have focused on the relationships between the citizen and the state and the role of behavioural change within that relationship. The focus of governance critiques has been on how behaviour change has been used (and abused) by governments to produce a particular kind of citizen who is agentic, empowered and healthy. Importantly, behaviour change dovetails with the 'third way' in public health (Muntaner, Lynch, & Smith, 2001) that promotes the idea of agency and responsibility while also in ensuring equity and health promoting environments. In other words, without forcing them to engage in health promoting interventions and without leaving health to be dictated by market forces, behaviour change offers citizens the choice to engage in healthy behaviours while providing the support to engage in those behaviours. Perhaps the most contentious example of this is how 'Nudge' (a behaviour change approach informed by behavioural economics and social psychology) has been used by Western governments to formulate policy and influence decisions. Behavioural change is used to provide a middle ground 'libertarian paternalism' (Leggett, 2014) that offers more behavioural 'choice' in matters affecting them compared to less flexible *statism* where the state exclusively drives policy or neoliberalism where the market dictates choice in health (Leggett, 2014). Governance critiques have also focused on how behavioural change interventions have been used by governments in the global South to further the agenda of the full or partial privatisation of water and other essential services, often through public private partnerships, with negative health and social consequences (Barnes, 2009). Critics have also called attention to the neoliberal assumptions embedded in the partnering of state functions with large private enterprises that favour the

intrusion of large multinationals such as water companies, soap manufacturers, stove manufacturers into markets in the global South (Moodley, 2012).

How has psychology been written into health behaviour change critiques?

Despite being critical of behaviour change programs, psychology has been written into behaviour change critiques in mainstream ways. Critiques slip easily into a language of psychology to bolster their positions and reinforce the notion that there exists 'true' inner mental processes that can be described, understood, measured and manipulated; and that these psychological variables cause or influence behaviours and ultimately influence health.

For example, for efficacy critiques the failure of many behaviour change programs has been attributed to the lack of integration of psychological theories that explain the causal pathways between the psychology, behaviour and health (Briscoe & Aboud, 2012). It is assumed that programs have a range of social cognitive theoretical resources to assist with the design, implementation and evaluation of programs, and that the reason for the failure of many behaviour change programs is, in part, because they have failed to adequately draw on those theoretical resources. Efficacy critiques also draw on psychological theory to improve the effectiveness of the communication channels used to deliver health behaviour change interventions (see, for example, Fox & Obregan, 2014; Wakefield, Loken, & Hornik, 2010; Web, Joseph, Yardley, & Michie, 2010). When interventions fail, efficacy critiques sometimes use psychological explanations, for example, depression to explain why programs fail (see Lennon, Huedo-Medina, Gerwien, & Johnson, 2012).

Similarly, some ethics critiques suggest that behaviour change programs need to include a stronger emphasis on empowerment as an alternative to the top-down programs that impact choice and autonomy (Tengland, 2012). The suggestion that empowerment should involve communities taking an active role in the design and implementation of interventions provides an appealing argument for how psychology could be used in interventions in ways that are not coercive or impede autonomy. This argument superficially sidesteps several problems of current behaviour change approaches in that interventions are not imposed on the poor, communities (especially women) take ownership and are in control of their health issues, potentially lead to improved health and, in the global South, offer opportunities to develop economically and educationally. Yet, the argument still assumes that behaviours exist, that those behaviours can be changed and that there are psychological processes that underlie those changes.

Similarly, sociological critiques draw on psychology to *explain* the mechanisms that moderate the relationship between structural factors and health. One criticism of sociological critiques is that while they point to structural and 'upstream' factors as root causes of morbidity and mortality, they do not offer explanations for how these factors influence health. In response to these criticisms, somewhat paradoxically, sociological critiques look to psychology to explain the causal mechanisms underlying the theory that structural factors influence health. For example, a growing body of literature suggests that income inequality is one of the strongest predictors of ill health worldwide but do not offer explanations for how income inequality influences health. Wilkinson and Pickett (2011) (prominent scholars who focus on income inequality and health), for example, suggest that rising levels of anxiety, self-esteem, narcissism, social evaluative threats and self-confidence could explain how income inequality affects selected behavioural risks and health. Despite being quick to

dismiss behavioural change in favour of a focus on income inequality, the authors use a language of psychology to provide an explanation for how inequality operates to influence behaviour and health in the Global South. Similar criticisms have been directed at the concept of social capital and how it uses a language of psychology to explain how social capital influences health (Muntaner, Lynch, & Smith, 2001).

In sum, it is difficult to speak outside of a language of mainstream psychology when criticizing health behaviour change interventions in the global South. Psychology is drawn on to describe, understand and control 'behaviours' to bolster critiques of behaviour change but which paradoxically serves to reinforce psychologized understandings of health. In the following section, I attempt to argue that, partly because of the limited representation of psychology, critiques have overlooked four important theoretical resources.

What have critiques overlooked?

First, critiques have paid very little attention to the theoretical resources emanating from critical psychology(ies) that have emerged over recent decades. In particular, how 'behaviour change', 'psychology' and 'public health' are constituted in discourse, how these discourses reproduce constructions of how people in the global South should 'behave' and 'develop' and what functions these might serve. An important feature of the discursive turn in psychology is the assumption that language is not merely a reflection of inner world constructs or behaviour but reflects broader ideas about 'psychology', 'behaviour change' and 'health'. A turn to discourse also implies an analysis of 'psychology' as it is constituted in behaviour change

discourse as opposed to *using* 'psychology' in a scientific sense to describe, explain and control behaviour (de Vos, 2013).

One notable absence from existing critiques is how discourses of 'development' are evoked in behaviour change programs. In many health behaviour change programs, the poor are positioned as in-need-of-developing to become healthier and financially better off. The behaviour change discourse dovetails with broader neoliberal ideas of health and development in the global South (consider, for example, in the increasing popularity of public-private partnerships that draw on behaviour change interventions in the global South). Thus, 'psychology' becomes central to the idea of how the poor should think and behave independent of poor government systems, to improve both their health *and* financial positions. There is a need to critically analyse how behaviour change interventions reproduce 'psychologized subjectivities' that draw on notions of 'agency', 'responsibility' and 'motivation'. Importantly, there is a need to interrogate how these discourses foreclose alternative accounts of health, for example, rights-based approaches to health (Barnes & Milovanovic, 2015).

Second, while critiques have pointed out the gendered assumptions of behaviour change interventions, they have largely overlooked theoretical resources emanating from other forms of feminism, particularly post-colonial feminism. The main point of departure is that women's experiences are not universal and that the argument put forward by existing critiques that women are unfairly targeted by programs provides only a partial account of the gender politics of health behaviour change programs. Women's experiences in the North cannot be compared to women's experiences in the global South primarily because of the

intersectionality (Crenshaw, 1993) of class, race, globalization and colonialism intersect at different historical moments to make their condition radically different from white Western women (Mohanty, 1988).

Not only does the 'poor Black women as victims of behaviour change' argument ignore the power differentials between those making those claims and those targeted in their critiques, but critiques also position poor Black women as there-to-be saved from various oppressors including poor Black men, inefficient governments and insidious behaviour change interventions that are likely to make their lives more difficult. In some critiques 'psychology' is called upon to empower women to take control of their lives to be become healthier and be more economically productive and be less dependent on their (problematic) male partners. In the few instances when men are targeted in behavioural intervention they are usual targeted to be considerate, caring and nurturing and 'more like women'. The assumptions that poor Black men and women are different and have clearly defined gendered roles remain intact.

Third, critiques have largely failed to reflect on the politics of North-South knowledge production (Spivak, 2003). Written overwhelmingly from the North, one assumption of critiques is that we-who-are-critical-in-the-North know better than health behaviour change advocates in the North about what goes on in the South. Not only do critiques fail to take into account the perspectives of those in the South, when perspectives of those in the South are written into critiques, it is usually in the form of promoting problematic assumptions of participation, culture (that often assume racist assumptions of how poor Black people 'behave' that impedes their health) and gender (that poor, Black women need to be saved from their patriarchal societies).

We see, therefore, the rise of a 'critical' expertise that draws on forms of scientific knowledge that are assumed to be more effective, more empowering, and more ethical than a mainstream behaviour change expertise. By virtue of a superior moral positioning, critiques invoke claims of a better way of using 'psychology' in behaviour change programs than other ways of using 'psychology' or no 'psychology' at all. In saying this, I am not suggesting that we need more writings from the global South simply because they emanate (geographically) from the global South. Indeed, many voices that identify with the 'global South' often reproduce conservative and orthodox ideologies (Palmary & Nunez, 2009). Moreover, it is difficult to identify who can lay claim to critique in the global South, for example, would a global South identity exclude scholars who originate in the global South but write from the North, or people who originate from the North but write critically about the global South? What I am suggesting, however, is that there has been very little attempt to *politicize* behaviour change critique not just in terms of simplistic North-South geographical bifurcations but in the ideological assumptions of the knowledge(s) produced across those contexts.

Fourth, critiques have overlooked how behaviour change interventions are resisted by their intended 'beneficiaries'. Many examples exist of health and social movements that aim to unsettle dominant ideologies about health and specifically to resist behaviour change interventions in favour of calls for health rights reforms. Increasingly, protests take on an embodied function - for example, naked protests or the strategic placement of human excrement in public spaces - that aim to resist health interventions and highlight the indignity of the poor. The poor Black body becomes the site of intervention but also of symbolic

resistance to programs. Despite this, there has been very little theoretical reflection of how programs are resisted and, in particular, the role of psychology in that resistance. Importantly, there has been little critical work drawing on theoretical resources such as embodied health movements (Brown et al., 2004) and body politics to understand resistance to health behaviour change programs in the global South.

Concluding remarks

In an effort extend behaviour change critique, I have argued that while critiques highlight important problems with behaviour change, they have tended to reproduce ideas about 'psychology', 'behaviour change' and 'health'. The point of departure from existing critiques is that problematizing behaviour change should not be limited to the instrumental shortcomings of health behavioural programs but necessitate an analysis of how the idea of health behaviour change functions within broader societal and development discourses, how they reproduce psychologized notions about behaviour and health, how they reinforce problematic notions of North-South knowledge production, how they may foreclose alternative accounts of health and development in the global South, and, importantly, how critiques tend to reinforce mainstream ideas about psychology. As behaviour change programs continue to develop in the global South and critiques respond to those programs, it is important to be vigilant about how well intentioned critique may inadvertently reinforce dominant ideologies. It is hoped that this paper will stimulate further interest in behaviour change critique in the global South.

References

- Aboud, F. E. (1998). Health Psychology in Global Context. Thousand Oaks: SAGE.
- Amaro, H., Raj, A., & Reed, A. (2001). Women's sexual health: the need for feminist analyses in public health in the decade of behaviour. *Psychology of Women Quarterly*, 25 (4), 324-334.
- Barnes, B. R. (2007). The politics of behavioural change for environmental health promotion in developing countries. *Journal of Health Psychology*, 12 (3), 531-538.
- Barnes, B. R. (2009). Community 'Participation', resistance and the water wars. *Journal of Health Management*, 11(1), 157-166.
- Barnes, B. R., & Milovanovic, M. (2015). Class, resistance, and the psychologization of development in South Africa. *Theory & Psychology*, 25(2), 222-238.
- Bennett Johnson, S. (2012). Addressing the obesity epidemic: don't blame the victim. *APA Monitor on Psychology*, 43(9), 5.
- Briscoe, C., & Aboud, F. (2012). Behaviour change communication targeting four health behaviours in developing countries: a review of change techniques. *Social Science & Medicine*, 75, 612-621.
- Brown, P., Zavestoski, S., McCormick, S., Mayer, B., Morello-Frosch, R., & Gasior Altman, R. (2004). Embodied health movements: new approaches to social movements in health. *Sociology of health & illness*, 26(1), 50-80.
- Brown Travis, C., & Compton, J. D. (2001). Feminism and health in decade of behaviour.

 *Psychology of Women Quarterly, 25, 312-323.

- Cave, B., & Curtis, V. (1999) Effectiveness of promotional techniques in environmental health. London, UK: London School of Hygiene and Tropical Medicine.
- Chopra, M. (2008). Inequalities in health in developing countries: challenges for public health in J. Greene & R. Labonte (Eds), *Critical Perspectives in Public Health*. Milton Park: Routlege. pp 25-34.
- Cooke, B., & Kothari, U. (2001). Participation: The new tyranny? Zed Books.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241-1299.
- Curtis, V., & Cairncross, S. (2003). The effect of handwashing with soap on diarrhea risk in the community: a systematic review. *The Lancet Infectious Diseases*, *3*(5), 275-281.
- Dafermos, M., & Marvakis, A. (2006). 'Critiques in Psychology Critical Psychology'. *Annual Review of Critical Psychology*, 5, 1-20.
- de Vos, J. (2013). Psychologization and the subject of late modernity. Palgrave Macmillan.
- Fiebelkorn, A. P., Person, B., Quick, R., Vindigni, S. M., Jhung, M, Bowen, A., & Riley, P. L. (2012). Systematic review of behavior change research on point-of-use water treatment interventions in countries categorized as low- to medium-development on the human development index. *Social Science & Medicine*, 75(4), 622-633.
- Fox, E., & Obregon, R. (2014). Population-level behavior change to enhance child survival and development in low- and middle-income countries. *Journal of Health Communication*, 19(sup 1), 3-9.

- Gamble, C., Ekwaru, P. J., Garner, P., & ter Kuile, F. T. (2007). Insecticide-treated nets for the prevention of malaria in pregnancy: a systematic review of randomised controlled trials. *PLoS Medicine*, *4*(3): e107.
- Goodwin, N. J., O'Farrell, S. E., Jagoe, K., Rouse, J., Roma, E., Biran, A., & Finkelstein, E. A. (2015). Use of behavior change techniques in clean cooking interventions: a review of the evidence and scorecard of effectiveness. *Journal of Health Communication:*International Perspectives, 20(sup 1), 43-54.
- Hubley, J.H. (1986) Barriers to health education in developing countries. *Health Education Research*, 1(4), 233-245.
- Kennedy, C., Medley, A. M., Sweat, M. D., & O'Reilly, K. R. (2010). Behavioural interventions for HIV positive prevention in developing countries: a systematic review and meta-analysis. *Bulletin of the World Health Organization*, 88(8), 615-623.
- Korp, P. (2010). Problems of the healthy lifestyle discourse. *Sociology Compass*, 4(9), 800-810.
- Leggett, W. (2014). The politics of behaviour change: nudge, neoliberalism and the state. *Policy & Politics*, 42(1), 3-19.
- Lennon, C. A., Huedo-Medina, T. B., Gerwien, D. P., & Johnson, B. T. (2012). A role for depression in sexual risk reduction for women? A meta-analysis of HIV prevention trials with depression outcomes. *Social Science & Medicine*, 75(4), 688-698.
- Loevinsohn, B.P. (1990) Health education interventions in developing countries: a methodological review of published articles. *International Journal of Epidemiology*, 19(4), 788-794.

- Lyons, A. C., & Chamberlain, K. (2006). *Health psychology: A critical introduction*. Cambridge, UK: Cambridge University Press.
- MaClachlan, K. (2006). Towards a global health contribution for critical health psychology. *Journal of Health Psychology*, 11(3), 361-365.
- McKinlay, J. B., & Marceau, L. D. (2000). Upstream healthy public policy: Lessons from the battle of tobacco. *International Journal of Health Services*, 30(1), 49–69.
- Mohanty, C. T. (1988). Under Western eyes: Feminist scholarship and colonial discourses. *Feminist review*, *30*(1), 61-88.
- Moodley, J. (2012). Critical reflection of handwashing behaviour change interventions in context of development. *International Journal of Psychology*, 47 (sup1), 454.
- Muntaner, C., Lynch, J., & Smith, G. D. (2000). Social capital and the third way in public health. *Critical Public Health*, *10*(2), 107-124.
- Palmary, I., & Nunez, L. (2009). The orthodoxy of gender mainstreaming: reflecting on gender mainstreaming as a strategy for accomplishing the millennium development goals. *Journal of Health Management*, 11(1), 65-78.
- Parker, I. (2014). Psychology after the Crisis: Scientific Paradigms and Political Debate.

 East Sussex: Routledge.
- Rabie, T., & Curtis, V. (2006). Handwashing and risk of respiratory infections: a quantitative systematic review. *Tropical Medicine and International Health*, 11(3), 258-267.
- Smith-Oka, V. (2009). Unintended consequences: exploring the tensions between development programs and indigenous women in Mexico in the context of reproductive health. *Social Science & Medicine*, 68(11), 2069-2077.

- Spivak, G. C. (2003). Can the subaltern speak?. Die Philosophin, 14(27), 42-58.
- Tengland, P. A. (2012). Behavior change or empowerment: on the ethics of health-promotion strategies. *Public Health Ethics*, *5*(2), 140-153.
- Wakefield, M. A., Loken, B., & Hornik, R. C. (2010). Use of mass media campaigns to change health behaviour. *The Lancet*, *376*(9748), 1261-1271.
- Webb, T., Joseph, J., Yardley, L., & Michie, S. (2010). Using the internet to promote health behavior change: a systematic review and meta-analysis of the impact of theoretical basis, use of behavior change techniques, and mode of delivery on efficacy. *Journal of medical Internet research*, 12(1), e4.
- Wilkinson, R., & Pickett, K. (2011). *The spirit level: Why greater equality makes societies stronger*. New York: Bloomsbury Press.