Does the CSM really provide a consistent framework for understanding self-management?

AUTHOR(S)

Frank Doyle, Barbara Mullan

Journal of Behavioral Medicine

Does the CSM really provide a consistent framework for understanding self-management?

--Manuscript Draft--

Manuscript Number:	
Full Title:	Does the CSM really provide a consistent framework for understanding self-management?
Article Type:	Letter to Editor
Keywords:	Common Sense Model; Systematic Review; Meta-analysis; Illness perceptions; Replicability; Bias
Corresponding Author:	Frank Doyle Royal College of Surgeons in Ireland Dublin 2, IRELAND
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	Royal College of Surgeons in Ireland
Corresponding Author's Secondary Institution:	
First Author:	Frank Doyle
First Author Secondary Information:	
Order of Authors:	Frank Doyle
	Barbara Mullan
Order of Authors Secondary Information:	
Funding Information:	
Abstract:	See letter

Does the CSM really provide a consistent framework for understanding self-management?

Frank Doyle, Division of Population Health Sciences (Psychology), Royal College of Surgeons in Ireland

Barbara Mullan, Health Psychology & Behavioural Medicine Research Group, School of Psychology and Speech Pathology, Curtin University

Corresponding author:

Dr. Frank Doyle

Division of Population Health Sciences (Psychology)

Royal College of Surgeons in Ireland

123 St Stephen's Green

Dublin 2

Ireland

Email: fdoyle4@rcsi.ie

Tel: +353 1 4022718

Does the CSM really provide a consistent framework for understanding self-management?

Despite Leventhal, Phillips, and Burns (2016) providing a 50-year overview of their Common-Sense Model of Self-Regulation (CSM), they fail to cite the null findings in relation to the CSM and adherence, as found by at least two reviews (Brandes & Mullan, 2014; Law, Tolgyesi, & Howard, 2014).

Brandes and Mullan (2014) meta-analysed 23 datasets from 30 studies in chronically ill populations (26 studies concerned medication adherence) and assessed the CSM with adherence as the outcome. The results were stark, with effect sizes (r+) ranging from -0.02 (causal [95% CI -0.17 to 0.16] and emotional [95% CI -0.07 to 0.03] representations) to only 0.12 (treatment control [95% CI 0.05 to 0.19] and personal control [95% CI 0.06 to 0.18]). Moderate to high heterogeneity was also evident for all dimensions apart from timeline, coherence and emotional representations, with funnel plots indicative of bias. These results are not supportive of the CSM for predicting adherence, in contrast to the conclusions of Leventhal et al., which cites other meta-analyses, but not this evidence or indeed that of Law et al. (2014).

Psychology has significant reproducibility issues (Open Science, 2015), with substantial evidence of biased literatures (e.g. Donnelly, Hickey, Burns, Murphy, & Doyle, 2015; Ferguson & Heene, 2012; Open Science, 2015). Ignoring the findings of well-conducted systematic reviews, in favour of selected, supportive studies, does not provide sufficient support for any theory (Ferguson & Heene, 2012; Ioannidis, 2005). It also reduces our credibility with other professions (Johnston, 2016; Open Science, 2015). The CSM should be robust to meta-analytic investigations.

Brandes, K., & Mullan, B. (2014). Can the common-sense model predict adherence in chronically ill patients? A meta-analysis. *Health Psychol Rev, 8*(2), 129-153. doi: 10.1080/17437199.2013.820986

Donnelly, N. A., Hickey, A., Burns, A., Murphy, P., & Doyle, F. (2015). Systematic review and meta-analysis of the impact of carer stress on subsequent institutionalisation of community dwelling older people. *PLoS One, 10*(6), e0128213. doi: 10.1371/journal.pone.0128213

Ferguson, C. J., & Heene, M. (2012). A Vast Graveyard of Undead Theories: Publication Bias and Psychological Science's Aversion to the Null. *Perspect Psychol Sci, 7*(6), 555-561. doi: 10.1177/1745691612459059

Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS Med, 2*(8), e124. doi: 10.1371/journal.pmed.0020124

Johnston, M. (2016). A science for all reasons: A comment on Ogden (2016). *Health Psychol Rev, 10*(3), 256-259. doi: 10.1080/17437199.2016.1190292

Law, G. U., Tolgyesi, C. S., & Howard, R. A. (2014). Illness beliefs and self-management in children and young people with chronic illness: a systematic review. *Health Psychol Rev, 8*(3), 362-380. doi: 10.1080/17437199.2012.747123

Leventhal, H., Phillips, L. A., & Burns, E. (2016). The Common-Sense Model of Self-Regulation (CSM): a dynamic framework for understanding illness self-management. *J Behav Med*. doi: 10.1007/s10865-016-9782-2

Open Science, C. (2015). PSYCHOLOGY. Estimating the reproducibility of psychological science. *Science, 349*(6251), aac4716. doi: 10.1126/science.aac4716