Report

Open Science in Health Psychology: Launching the EHPS Open Science SIG

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What is Open Science?

Open Science is a growing global movement aiming to make all aspects of research, education and scholarship accessible, transparent, and available to all audiences as early as possible. Open Science involves interdisciplinary scientists, funding bodies and universities working collaboratively to increase reproducibility and transparency in the scientific process, reporting and teaching (Norris & O'Connor, 2019; O'Connor, 2020; Zecevic et al., 2020). Open Science includes:

- pre-registration of research methods and analyses (using repositories such as AsPredicted)
- making data [1], materials and analysis scripts openly available (using repositories such as the Open Science Framework and understandable code such as using RMarkdown)
- making the full paper available via pre-prints prior to journal publication (such as on PsyArXiv) and subsequent Open Access publishing.

You can find a great introductory guide to Open Science and how to incorporate it into your research in Kathawalla et al.'s recent preprint (Kathawalla et al., 2020).

[1] Or "As open as possible, as closed as necessary" to protect participants where the data cannot be fully and irreversibly anonymised (British Psychological Society, 2020).

Why is Open Science important for health psychology?

Health psychology has much to gain from incorporating Open Science principles and methods (Hagger et al., 2017; Peters et al., 2017). For example, opening access of effective intervention materials to wider audiences maximises the potential for wider intervention adoption, whilst also allowing greater use of materials: often produced after much thorough development work. The recent COVID-19 pandemic has also highlighted the benefits of Open Science, where health psychology and human behaviour changes are at the heart of disease management in lieu of an effective vaccine or treatment. Pre-prints have enabled important research to be urgently published in preprint servers, whilst being concurrently peer reviewed in traditional journals. This has facilitated an accelerated uptake of research findings, whilst allowing open scrutiny of data and results (Homolak et al., 2020).

The European Health Psychology Society (EHPS) Open Science Special Interest Group (SIG) was established in late December 2019, and in collaboration with the EHPS and other international organisations, we aim to:

- Bring together health psychologists interested in Open Science behaviours
- Share best practices/innovations in Open Science to health psychologists
- Provide guidance and/or training on Open Science
- Promote the role of health psychology for improving Open Science across disciplines
- Liaise with organisations which promote Open

Science

- Encourage and reward replication and reproducibility within health psychology

Progress so far

Since the SIG was accepted in December 2019, we have been busy establishing our network, priorities and future initiatives. Despite some interference with planned activities during the COVID-19 pandemic, the SIG has been extremely active with ongoing plans for future development.

Roundtable at EHPS 2020 online conference

We ran a successful launch event at EHPS' online conference in August 2020: a roundtable entitled 'What is Open Science and how can it improve the quality of health psychology research?'. Over 50 live attendees heard from some fantastic speakers including Professor Daryl O'Connor (University of Leeds, UK) presenting on international strategies to increase Open Science, Dr Talea Cornelius (Columbia University, USA) who presented on The Science of Behaviour Change measures repository (Sumner et al., 2019) designed to open accessibility of psychological measures, Dr Gjalt-Jorn Peters (Open University of the Netherlands) who presented on linking resources and promoting 'interoperability' in Open Science resources, and Professors Susan Michie and Robert West (University College London, UK) who discussed how we can update and sustain Open Science tools in the long-term. This was followed by a lively Q&A session. You can find slides from the roundtable event here. A recording of the session will be made available shortly via the conference organising team (will be made available on Open Science Framework when released).

A range of initiatives to widen understanding and access to health psychology research was presented. These included Acyclic Behavior Change Diagrams by Dr Gjalt-Jorn Peters and an ontology-based modelling system for representing behaviour change theories (Hale et al., 2020). However, one key discussion point involved how best to sustain Open Science initiatives beyond their initial funding and development. Professor Susan Michie suggested international professional bodies such as EHPS could collaborate with other groups to pool resources and funding, providing a managed long-term solution. Discussions with EHPS are set to continue on this.

Discussion also continued after the event on Twitter. Dr Laura König (University of Bayreuth, Germany) asked for recommendations and experiences of writing Registered Reports for PhD students and early career researchers. In brief, Registered Reports in participating journals split conventional peer review in half to reduce risk of publication bias, i.e. publishing positive/statistically significant findings more than negative/non-significant findings. The overview background literature, hypotheses, methods and analysis plan are first reviewed prior to study commencement, with the study either given 'in-principle acceptance', revisions or rejection based on these essential details alone (Stage 1 review). Upon acceptance, the study is then pre-registered (such as on Open Science Framework), before full appraisal of the entire study, paper and data upon completion (Stage 2 review; Chambers, 2019). This Twitter discussion included tips on how to schedule Registered Reports (RR) within strict PhD timelines and advice on managing the altered associated publication timelines from RR champion Prof Chris Chambers (Cardiff University, UK): Full thread available here.

Future plans

We're just getting started! We have recently been awarded EHPS SIG grant funding to run a research prioritisation exercise to identify key priorities of Open Science research as applied to health psychology. We are currently drafting the protocol and pre-registration for this research. We will be consulting EHPS members as part of this work, so stay tuned for more information! We are also in discussions to run online Open Science introduction sessions over the next year. Meanwhile, it will be interesting to see which health psychology journals show leadership by taking up the registered report article format, and how our community responds to these initiatives! Get in touch and stay tuned on Twitter: @EHPS_OS_SIG, with an EHPS website and mailing list coming very soon!

By

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On behalf of the SIG Committee: Alex Dima, Chris Noone, Gjalt-Jorn Peters, James Green, James Reynolds, Jo Brooks, Keegan Knittle, Matti Heino, Neza Javornik & Sean Grant. Also thanks to our Advisory Group: Daryl O'Connor, Martin Hagger, Nelli Hankonen & Susan Michie.

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