KU Leuven Open Science Day

Harnessing the benefits of pre-registration for non-experimental studies: Personal experience and examples from psychological research

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Abstract

Open science is on the rise within psychological research. In the last decennia, the field has demonstrated an increasingly self-reflective and self-critical stance, and with this has come a proliferation of recommendations and best practices for improving the openness, reproducibility, and trustworthiness of empirical findings. One promising development is the more common adoption of pre-registration: the explicit specification of research questions, methodological and analytical approach, and, when applicable, hypotheses before the start of data collection and/or analysis.

However, there seems to be a persistent idea among some scholars that pre-registration is only relevant to a certain type of psychological research, more specifically quantitative research, preferably experimental. We argue that the spirit of open science and the benefits of pre-registration can be applicable to any type of empirical research. With examples from qualitative and longitudinal questionnaire studies from our own lab, we show that pre-registration should not be seen as a straightjacket but can be used as a flexible tool in non-experimental studies as well. Importantly, we approach pre-registration as an exercise in which one can make mistakes and learn and grow along the way. We discuss, for example, how we have dealt with deviations from pre-registration plans, pre-existing knowledge of data, and the integration of progressive insight into updated pre-registrations.

Systematically implementing pre-registration as a practice in our lab has provided us with important benefits, including more thorough and reflective insight, transparent and efficient communication with colleagues, an optimized workflow, better anticipation of risks and difficulties, and extra credibility for our claims. We do not advocate for pre-registration as an enforced obligation, but as a useful tool that can work to your advantage. Although not all types of research will likely benefit equally from pre-registration in the narrow sense, we believe that systematically performing some form of registration exercise is to the benefit of both science and scientists.

Slides

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Author biographies

[Laura Dewitte](#) (KU Leuven) is a postdoc in the Meaning Research Late Life team of prof. Jessie Dezutter (Research Unit for School Psychology and Development in Context). Her research focuses mainly on the experience of meaning in life for older adults with dementia and its relation to their well-being and cognitive functioning. Her interest in open science was sparked during her master's thesis under guidance of prof. Wolf Vanpaemel and dr. Sara Steegen, for which she performed a replication study for the Reproducibility Project Psychology. Since then, she has been following the open science debate and developments with great interest.

[Tine Schellekens](#) (KU Leuven) obtained her master's degree in Clinical and Health Psychology from KU Leuven in July 2004. She has been working for over a decade as a clinical psychologist and therapist in a multifunctional centre for children, adolescents, and families with severe emotional and behavioral problems. In 2018, she started her PhD research which focuses on the psychological understanding and experience of grace. Tine uses a combination of qualitative and quantitative methods, including self-report questionnaires, web-based tools, and in-depth interviews. She is interested in the lay conceptualization of grace and the delineated psychological experience of grace. Furthermore, she is interested in existential psychology, posttraumatic growth, and conceptualizations of self and other.

[Judith Appel](#) (KU Leuven) is a PhD student in the Meaning Research Late Life team of prof. Jessie Dezutter since 2020, after obtaining master's degrees in Behavioral Science (Radboud University Nijmegen) and Positive Psychology and Technology (University of Twente). In her PhD research, Judith investigates the role of existential anxiety in the experience of tiredness of life/'completed life' in old age. She makes use of a mixed method design to explore both the lived experience and the development of existential anxiety and tiredness of life over time. For this research, she received a PhD fellowship grant for fundamental research of the Research Foundations Flanders (FWO).

[Jessie Dezutter](#) (KU Leuven) is an associate research professor conducting research that sits at the boundaries of positive psychology, existential psychology, and gerontology. She directs the Meaning Research Late Life Lab and co-directs, with her colleague prof. Siebrecht Vanhooren, the KU Leuven Meaning & Existence Research Center. She is the chair of LIRAM, the KU Leuven Interdisciplinary Center Lived Religion and Meaning. Her current research lines focus on how meaningfulness is related to late life psychological functioning and mental health, how existential givens

are experienced at highly advanced age, and whether and how existential struggles are related to psychological suffering. She is an advocate for a biopsychosocial-existential approach of elderly care. Her research and her team is interdisciplinary in nature and she combines quantitative and qualitative studies.