Jan R. Boehnke

Narrative Curriculum Vitae

Dr. rer.nat (2013, Trier, Germany)

Dipl.-Psych. (2007, Konstanz, Germany)

Guest Scientist and Head of Research Group at the Department "Public Mental Health", Central Institute of Mental Health, Mannheim, Germany

Research Group "Outcome assessment and health economics"

Senior Lecturer, School of Health Sciences, University of Dundee, United Kingdom

1. Narrative academic profile:

In my training as a psychologist, I focused on three areas: research methodology, human decision making, and clinical psychology. These perspectives underpin until today my interest in the application of advanced quantitative methods to understand interindividual differences in a variety of behaviours and subjective experience. My career path since then allowed me to learn, explore, and apply these methods in a variety of contexts, which enables me today to deliver high-quality design and analysis for quantitative studies and to build methodological bridges in inter- and multi-disciplinary teams.

Evaluation Design

My track record in developing research designs and analytic expertise was greatly supported during the early stages of my career by working as a freelance statistical consultant. The work covered secondary analyses of health service and trial data (2005-2006, Central Psychiatric Services Weißenau, Ravensburg, Germany), computerised-adaptive tests for health-related quality of life in palliative care (2006-2009, Kantonsspital St. Gallen, Switzerland), and as a biostatistician working on observational studies and clinical trials (phases III & IV; 2008-2012, DAaCRO, Clinical Research Organisation, Trier, Germany). In 2007, I was awarded a research fellowship to plan a repeated cross-sectional survey in North-East Afghanistan to assess the effectiveness of aid projects at the Collaborative Research Centre SFB700 at the Free University (Berlin, Germany). I led the statistical analyses for this project and combination of traditional quantitative with extensive qualitative data from field work. I worked closely with colleagues from different social science backgrounds (e.g., social anthropology, political science). The work of this multidisciplinary network has provided crucial insights into the relationships between international development cooperation, security, and state perception and was described by BMZ/DEval as "exemplary for the generation of strategic evidence".

My experience of working with a range of questionnaire data (social survey responses, health-related quality of life, symptom data), motivated me to understand response styles better, which people responding to questions might exhibit. Together with Eunike Wetzel (University of Koblenz-Landau, Germany), we compared methods to detect response style effects in questionnaires empirically and in simulation studies. These methods evaluate potential biases of diagnostic systems and predictive algorithms, and they can be used to

improve the representation of health and illness in diverse populations. Especially a resulting publication showing that such behavioural styles occur with some consistency both across types of questions as well as over eight years (https://doi.org/10.1177/1073191115583714) remains one of the few studies in the field having

investigated this phenomenon with this perspective. More recently, this expertise fed into my work in the 'Response Shift - in Sync Working Group' (led by the Universities of Amsterdam and Nantes), where I was part of a task force developing a formal model that describes the causal pathways underlying response shifts and a research agenda.

Mental health services research

I pursued my methodological interests during my PhD and as a lecturer at Trier University (Germany, 2007-2013), focusing on the analysis of naturalistic psychotherapy data, the analysis of patient-reported outcome data, and the development of expert decision support systems. My doctoral research (supervisor: Prof. Dr. Wolfgang Lutz) exploring the use of mixture models for the analysis of patient-reported outcome data received an award for an exceptional dissertation, recognising especially translational aspects of psychometric concepts into clinical practice (Förderpreis des Freundeskreises der Trierer Universität e.V.).

My Post-Doc at the University of York (UK, 2013-2015) enabled me to combine this work with my longstanding interest in population surveys and epidemiology: I extended work on how to combine epidemiological and psychometric perspectives on population mental health and illness (with Prof. Dr. Tim J. Croudace; https://doi.org/10.1007/s00127-015-1022-5). I continued this work after my appointment as lead of the research theme "Psychometric Epidemiology" within the Mental Health and Addiction Research Group at the University of York (Prof. Dr. S. Gilbody; 2015-2017).

Research profile

Today, my research focuses on the connections between mental and physical health, the impact of chronic conditions, and as well as methodological contributions underpinning such research. I fulfil a central role in collaborative research by providing quantitative expertise and taking leadership responsibility for the rigorous and efficient design of studies and their analyses. My research spans primary data from observational studies to complex multi-site trials testing the effectiveness and implementation of interventions; and secondary analyses of epidemiological and health service data.

This work is situated right at the interface of psychological assessment, health economics, and health-related quality of life measurement, and especially my position as head of the research group "Outcome assessment and health economics" (Central Institute of Mental Health, Germany) and member of the Leibniz Science Campus Ruhr have enabled me to integrate health economic perspectives into my work. Collaborations in this area exploiting the overlap between psychological assessment, psychiatry, and health economics are working towards delivering multidisciplinary methods innovation (e.g., .pdf; at 2017 ISOQOL selected for presentation in the Cutting Edge Research Plenary Session).

Generation of Knowledge

In addition to areas described above, I have contributed as a trial statistician to the planning and delivery of four well-powered cluster-randomised school-based pragmatic trials which evaluated classroom-based teaching practices (one mental health-focused), which suggested that none of the interventions were effective when compared to normal practice. Today, I serve as trial statistician on two more such studies, one being the "Education for

Wellbeing" programme involving more than 400 schools in England to evaluate the implementation of low-intensity universal interventions to improve pupils' mental health. Delivering practice-based evidence with well-planned studies, especially when the absence of effects is shown, is an important part of building our knowledge and direct public resources, and they led to current key co-investigator or consultancy roles in consortia like DIAMONDS (https://www.diamondscollaboration.org.uk/) or IMMERSE (https://immerse-project.eu/).

Development of Individuals and Collaborations

Developing the next generation of researchers is a core task, and I am an experienced post-graduate supervisor (incl. four completed PhDs). Since 2010 I have held more than 48 invited workshops at external institutions and conferences, training participants in advanced quantitative methods. One key accomplishment in this area is my co-investigator position on the IMPACT collaboration (https://www.impactsouthasia.com/). Among many other spin-offs, the collaboration succeeded in its goal to strengthen local research capacity around multimorbidity and established, despite the pandemic, the seed of a large health service cohort in psychiatric services (https://doi.org/10.1186/ISRCTN15571919; https://doi.org/10.1186/ISRCTN88485933)

Supporting the Research Community

Since 2018 I serve as Research Excellence Framework Unit of Assessment coordinator. In this role I support the operational implementation of our research strategy, which requires close collaboration with numerous partners across the University of Dundee. In addition to leadership of the submission to the Excellence Framework in 2021, I lead on the development and implementation of quality standards and their evaluation (e.g., incl. DORA principles) as well as developing bibliometric tools that serve the need of our school. A recent strategic contribution was the development of the role of an "Open Research Champion" to integrate the diverse approaches to knowledge exchange and impact across the diverse set of researchers and disciplines represented in our School.

Since 2017 a substantial part of my research capacity flows into developing and publicising the contributions of others and promoting good publishing practices as Co-Editor in Chief of "Quality of Life Research". Recently, I led on the implementation of the Registered Reports format (https://doi.org/10.1007/s11136-020-02638-8). And together with Claudia Rutherford (University of Sydney, Australia) I developed the calls for three special issues, focusing on topics indicating frontiers of knowledge and methods in the community of health-related quality of life researchers, edited the papers, and the editorials for two special issues on "Using feedback tools to enhance the quality and experience of care" (https://doi.org/10.1007/s11136-021-03008-8); and "Research Waste" (https://doi.org/10.1007/s11136-022-03194-z); and one together with Andries van der Ark (University of Amsterdam, The Netherlands) and Klaas Sijtsma (University of Tilburg, The Netherlands) on "Non-parametric Measurement for Patient Reported Outcomes" (https://link.springer.com/article/10.1007/s11136-021-03073-z).

2. Key output of the years 2020-now:

1. Mansfield, R., Santos, J., Deighton, J., Hayes, D., Velikonja, T., Boehnke*, J. R., & Patalay*, P. (2022). The impact of the COVID-19 pandemic on adolescent mental

*Shared last authors, contribution according to CRediT taxonomy conceptualization, funding acquisition, methodology, supervision, writing—original draft, writing—review and editing.

This paper offers at the time of writing the only pre-registered study describing the size and direction of the potential causal impact of the (societal response to the) pandemic on mental health of secondary school students in England. As described in the output, this is additionally one of the few studies internationally that (i) used a large and socio-geographically diverse sample, (ii) could analyse data from the same sample population before and after the pandemic, and (iii) control both for pre-pandemic baseline levels of mental health and a range of relevant control variables. The study offers therefore a unique and robust insight into the impact of an emerging health-threat with society-wise consequences.

As co-designer of the original study, lead on the development of the response planning for the trial design in the response to the pandemic, and providing leadership on how to translate the trial design into the framework of cohort study analyses, this output exemplifies my qualities as a study designer and analyst with experience in both randomised and observational settings.

2. Humphrey N, Hennessey A, Troncoso P, Panayiotou M, Black L, Petersen K, et al. The Good Behaviour Game intervention to improve behavioural and other outcomes for children aged 7-8 years: a cluster RCT. Public Health Res 2022;10(7) https://doi.org/10.3310/VKOF7695

I provided expert input and leadership on the analysis and interpretation of study data and contributed important intellectual content to drafts of the report.
The output presents the result of a rare long-term evaluation of the potential impact of an internationally well-accepted classroom-based intervention to manage pupil behaviour. It shows as one of the few international larger and well-powered pragmatic trials on this intervention, that given the developed materials and implementation, no long-term effect of this intervention was found.

3. Vanier, A., Oort, F.J., McClimans, L. et al. Response shift in patient-reported outcomes: definition, theory, and a revised model. Qual Life Res 30, 3309–3322 (2021). https://doi.org/10.1007/s11136-021-02846-w

I was invited as an external expert with experience in formal model development and questionnaire design. CRediT taxonomy: contribution to conceptualisation, formal analysis, methodology, writing - review & editing.
This output presents the results of an international collaboration, the 'Response Shift - in Sync Working Group', that reviewed the state of the art regarding the formalisation of response shift research and developed a formal model as well as a research agenda.