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EDITORIAL

Introduction to "Advancing quality-of-life research by deepening our understanding of response shift"

Jan R. Boehnke[1] · Richard L. Skolasky[2] · Claudia Rutherford[3,4]

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This month's issue opens with an article in which Bruce Rapkin and Carolyn Schwartz reflect on the current state-of-play in response shift research and how to move the field forward [1]. The main proposition of the authors is that response shift research and the (statistical) modeling of this phenomenon need to be grounded in an understanding of cognitive appraisal. "(Cognitive) appraisal" as part of the response shift process has previously been detailed in [2] and described as the cognitive processes involved in forming a response to an item eliciting an evaluation of the respondent's quality of life. In the present commentary, the authors reiterate and specify their argument for the place of the appraisal process in response shift research and suggest four key areas of research and development going forward. These areas cover the questions: (i) which psychological constructs are necessary to adequately describe appraisal processes; (ii) what is the evidential status of the expected scores that we derive from response shift analyses; (iii) how do group-level and individual level conceptualizations and analyses relate to each other; and finally, (iv) whether we should start planning trials in a way that corrects for response shifts.

Readers may ask, why these are important questions and why another discussion of response shift is necessary. Quality of Life Research has a track record of publishing high-quality psychometric research and practice in the field of (health-related) quality of life, maybe even in subjective health measurement more generally. "Psychometrics" as a discipline is concerned with the model-building for, measurement and investigation of latent phenomena (e.g., https://www.psychometricsociety.org/content/what-psychometrics). The investigation of response shift is therefore a prime example of a psychometric research paradigm that deals with the precise measurement of subjective health states as a target construct; it postulates a number of latent processes and variables; and it is heavily embedded in, and important to, the interpretation of observable phenomena relevant in applied research and clinical practice (e.g., clinical trials, routine outcome monitoring).

The four responses to the lead paper reflect the phenomenon's importance and offer additional perspectives and challenges. Finkelstein [3] stresses that response shifts are not only a theoretical phenomenon of interest to researchers, but matter also to clinicians in the interpretation of clinical data, both in practice as well as in intervention evaluation. Better understanding of the process of appraisal may also help to understand discrepant evaluations of outcomes (e.g., surgery) between patients and clinical carers (e.g., surgeons). Sawatzky [4] discusses the response shift phenomenon from the wider perspective of 'response processes' and supports Rapkin and Schwartz' differentiation between analytic methods that try to measure the cognitive processes versus the inference of response shift from a mismatch between model predictions and observed data. Mayo [5] focuses on the question of why a respondent's appraisal changes and asks whether it would be possible in clinical practice to inspire positive, helpful changes in appraisal and how the perspective suggested in the lead paper could support such work. Her commentary stresses that this perspective may imply an individualized concept of response shift and that a "one-size fits all" approach is unlikely to increase our understanding of why people respond differently to similar changes in health states. Finally, Verdam and Oort [6] discuss conceptual and

✉ Jan R. Boehnke
j.r.boehnke@dundee.ac.uk

[1] School of Nursing and Health Sciences, University of Dundee, 11 Airlie Place, Dundee DD1 4HJ, UK

[2] Departments of Orthopaedic Surgery and Physical Medicine & Rehabilitation, Johns Hopkins University School of Medicine, Baltimore, MD, USA

[3] Faculty of Science, School of Psychology, Quality of Life Office, The University of Sydney, Sydney, Australia

[4] Faculty of Medicine and Health, The University of Sydney Susan Wakil School of Nursing and Midwifery, Cancer Nursing Research Unit (CNRU), The University of Sydney, Sydney, Australia

methodological issues with appraisal and response shift to further the debate and stimulate research in this area.

Three of the comments also offer additional methodological perspectives. Strands of response shift research rely on the analysis of residuals from statistical models [1]. As long as they are derived from models investigating inter-individual differences, the results are a nomothetic perspective on the response shift phenomenon, i.e. they rely on the assumption that all parts of the response shift model can be characterized and measured comparably across individuals. How to integrate such a nomothetic approach with more individualized or ideographic approaches is a longstanding challenge to the field [1, 5]. An additional challenge is that the modeling of residuals is even in best case-scenarios easily fraught with error: Residuals would reflect both (i) aspects of the response shift as well as (ii) misfit that is conditional on the model that was used and its (in)correct specification. Such "two-step" approaches have been shown to be sub-optimal, and leveraging the full potential of multivariate latent variable approaches that model both the response shift [4] as well as all constituent parts of the response shift model in one analysis [6] are from a purely statistical point of view more promising ways forward.

The world of (health-related) quality of life assessment is also changing. Electronic data collection and individual case records derived from patient monitoring or support systems are likely to gather ideographic longitudinal health data in practice contexts that will allow exploring advantages and disadvantages of individual and group perspectives in more detail. Maybe the next drive in this debate will not come from research settings, but rather from developments in naturalistic settings.

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