EDITORIAL

EDITORIAL TO THE INVITED SPECIAL SECTION “ADVANCING METHODS TO ASSESS PATIENT-REPORTED OUTCOMES: LESSONS LEARNED FROM THE PATIENT-REPORTED OUTCOMES MEASUREMENT INFORMATION SYSTEM® (PROMIS®) INITIATIVE”

EDWARD HAKSING IP

EDITOR, ARCS SECTION

The Patient-Reported Outcomes Measurement Information System (PROMIS®) is one of the largest applications of item response theory (IRT) outside of educational assessment. The PROMIS project developed a plethora of patient-reported outcome (PRO) measures for use in research and clinical assessment. PROMIS is now the gold standard for patient-reported outcome (PRO) measurement.

Numerous publications have been published during the 17 years since the beginning of PROMIS. However, a systematic examination of the various psychometric challenges faced in evaluating and using PROMIS measures has not yet been presented. What are the lessons learned from over a decade of applying IRT to the relatively new field of PROs? What are the new psychometric challenges that arise for such applications? Are there new psychometric approaches to solve emerging problems? Can what has been learned from PROMIS be used by researchers and practitioners from more traditional fields of IRT application? Answers to these questions are of interest to *Psychometrika* readers.

To address these questions, I organized a special section within the journal’s Application Reviews and Case Studies (ARCS) section and invited two PROMIS experts—Drs. Bryce Reeve and Ron D. Hays—to be guest editors. Dr. Reeve is Professor of Population Health Sciences, Professor of Pediatrics, and Director of the Center for Health Measurement at Duke University School of Medicine. From 2000 to 2010, he served as Program Director for the US National Cancer Institute (NCI). He was instrumental in the creation of the PROMIS initiative and helped to design the initial psychometric analysis plans for the PROMIS measures. Dr. Hays is Professor in the UCLA Department of Medicine, Professor in the Department of Health Policy and Management, and Affiliated Adjunct Researcher at the RAND Corporation. He is Co-Editor-in-Chief of the *Journal of Patient-Reported Outcomes*, serves on the editorial boards of *Quality of Life Research* and *Applied Research in Quality of Life*, and is a member of the special methodology panel for the *Journal of General Internal Medicine*. Drs. Reeve and Hays are both highly cited researchers.

The guest editors invited investigators from PROMIS to contribute to the special section. They also invited commentaries for the invited articles. Our aim is to provide readers with a range of articles that focus on the psychometric advances and challenges in the applications of IRT to PROs.

It is my hope that this special section will stimulate psychometric research in two directions: (1) raising broader interest in applying psychometric methods, including IRT, to fields beyond

Correspondence should be made to Edward Haksing Ip, Wake Forest School of Medicine, Winston-Salem, USA.
Email: eip@wakehealth.edu

psychology and education, and (2) bringing methodologic innovations in measurement from other fields, including PRO, back to “mainstream” psychometrics.

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