

O74 An Eight-Item PROMIS Profile for screen-to-CAT use in clinical practice

Xiaodan Tang¹, Maja Kuharic¹, Jiwon Kim¹, Nejma Benzaari¹, Patricia M. Herman², A. Simon Pickard³, Janel Hanmer⁴, Ron D. Hays⁵, David Cella¹

¹Northwestern University, Chicago, USA. ²RAND Corporation, Santa Monica, USA. ³University of Illinois at Chicago, Chicago, USA. ⁴University of Pittsburgh, Pittsburgh, USA. ⁵University of California, Los Angeles, Los Angeles, USA

Objective: The PROMIS 29+2 Profile measure collects information on seven domains (physical function, fatigue, pain interference, depressive symptoms, anxiety, social roles, sleep disturbance), each with four items, cognitive function with two items, and pain intensity with one item. Recently, a 16-item PROMIS Profile was developed using two items per domain, excluding pain intensity. We propose the PROMIS-8 Profile with one item per domain to serve as a screening tool in clinical practice, leveraging the computer adaptive testing (CAT) functionality built into PROMIS.

Methods: We conducted a secondary analysis using data from a general US population probability-based sample of 4,102 participants. One item per domain was selected from the PROMIS 29+2 using the following three criteria: 1) content relevance; 2) strong correlation with the domain score; and 3) able to estimate the PROMIS Preference (PROPr) score accurately. When other criteria were similar, we prioritized items included in the PROMIS-16 Profile. We calculated the sensitivity and specificity of each item, using a cutoff T-score of 40 for items scored in the positive direction and 60 for items scored in the negative direction to determine recommended thresholds with sensitivity higher than 0.8 for triggering CAT.

Results: Table 1 shows the selected items and recommended CAT-trigger thresholds. Some items, such as depression and pain interference, met all criteria. Others were chosen for greater content relevance. For example, we selected the item “walk at least 15 minutes” ($r = 0.86$ with domain score) over “doing yard work” ($r = 0.92$), as the latter may not apply to all respondents. The CAT for a given domain is triggered if respondents select any of the two worst response options for the social roles (“Always” or “Usually”) and cognitive function (“Not at all” or “A little bit”) items; “Quite a bit” or “Very much” for both the fatigue and sleep disturbance items; or any of the three worst responses for the remaining items.

Conclusions: The PROMIS-8 can be implemented as a “screen-to-CAT” tool in clinical practice. This enables efficient assessment and has the potential to significantly expand the utility of the PROMIS Profile in routine clinical care.