The Items of the Penn State Worry Questionnaire Function Differently in Older Adults

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INTRODUCTION: Research has found that older adults report lower levels of worry than do young adults (Wisociki 1998). Interpretation of such findings rests on the assumption that current measures accurately capture worry across age groups. We used Item Response Theory (IRT) analyses to test if older and young adults (N = 3269; older n = 538, young n = 2731) respond differently to items on the Penn State Worry Questionnaire.

RESULTS: A series of confirmatory factor analyses supported excellent factor structure with two dimensions (8-item straightforward dimension) and 5-item reverse scored dimension. IRT DIF analyses suggest that older adults are more likely to endorse higher response options than young adults who have the same degree of the latent variable worry, especially in reverse scored items.

DISCUSSION: Our results suggest that the PSWQ measures worry differently in older adults than in young adults. Additionally, our research suggests that the gap between young and older adult worry may be even larger than previously suspected.

INTRODUCTION CONTINUED

Penn-State Worry Questionnaire (PSWQ)
- The PSWQ is one of the most frequently used measures of worry
- The PSWQ exhibits high psychometric properties in samples of young adults
- The PSWQ is able to differentiate generalized anxiety disorder patients from patients with other anxiety disorders in young adults
- Among older adults, problems with factor structure have been reported
- Especially within the reverse scored items
- In the current study we utilized IRT Differential Item Functioning (DIF) Analyses to test if older and young adults respond differently to items on the PSWQ

RESULTS

Confirmatory Factor Analysis
- Confirmatory factor analyses supported an excellent factor structure with two dimensions
  - An 8-item straightforward dimension based on factor analysis research conducted by Hopko et al., 2003 (CFI = .99, TLI = .99, RMSEA = .06)
  - A 5-item reverse scored dimension (CFI = .99, TLI = .99, RMSEA = .05)

IRT DIF Analyses
- In each analysis two items did not contain DIF and could therefore be used as anchor items
  - Straightforward
    - Item 2: My worries overwhelm me
    - Item 9: As soon as I finish one task I start to worry about everything else I have to do
  - Reverse Scored
    - Item 8: I find it easy to dismiss worrisome thoughts
    - Item 11: When there is nothing more I can do about a concern, I don’t worry about it anymore

Overall DIF
- Overall older adults were more likely to endorse higher response options (than young adults) when they had the same levels of the latent variable worry

PARTICIPANTS
- 538 participants were classified as older adults, ranging in age from 55-years to 98-years (M = 72.89, SD = 9.05)
- 2,731 participants were classified as young adults, ranging in age from 16-years to 25-years (M = 18.68, SD = 1.37)

ANALYSES
- Confirmatory Factor Analyses were conducted using Mplus Version 5 (Muthén & Muthén, 1998-2009).
- Item response theory analyses were conducted using IRT-LR-DIF (Thissen, 2001) to identify anchor items and Multilog Version 7.03 (SSI, 2003)

DISCUSSION
- The PSWQ measures worry differently in older adults than in young adults
- Older adults endorse higher response options than young adults even when their latent level of worry is lower
- Worry measures developed on young adults may not be appropriate for use in older adults
- The gap between young and older adult worry may be even larger than previously suspected.
- Clinicians and researchers may want to use worry measures developed on older adults or remove the reverse scored items of the PSWQ

Figure 1. Penn State Worry Questionnaire Differential Item Functioning Summed in reverse scored items.
Figure 2. Penn State Worry Questionnaire Differential Item Functioning Summed in straightforward scored items.

The horizontal axis represents the latent variable worry in SD units and the vertical axis represents the summed response options ranging from 1 (not at all typical of me) to 5 (very typical of me).