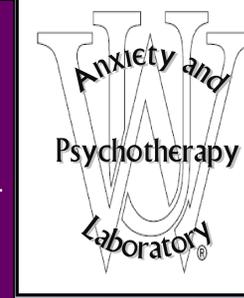


The Items of the Penn State Worry Questionnaire Function Differently in Older Adults

Cheri A. Levinson¹, Steve Balsis², Thomas L. Rodebaugh¹, Patrick J. Brown³, Richard G. Heimberg⁴, Eric J. Lenze¹
¹Washington University in St. Louis, ²Texas A & M, ³Columbia University, ⁴Temple University



ABSTRACT

INTRODUCTION: Research has found that older adults report lower levels of worry than do young adults (Wisocki 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

•Worry

- Older adults report lower levels of worry than do younger adults (Wisocki, 1998)
- Interpretation of such findings rests on the assumption that current measures accurately capture worry across age groups
- Most measures used to assess worry were developed through work with young or middle-age adults (Kogan, Edelstein, & McKee, 2000)
- Some authors have argued that instruments developed on young adults are inappropriate for older adults (La Rue & Markee, 1995)
- One of the most commonly used measures is the Penn State Worry Questionnaire (Meyer et al., 1990)

INTRODUCTION CONTINUED

Penn-State Worry Questionnaire (PSWQ)

- The PSWQ is one of the most frequently used measures of worry
- The PSWQ exhibits excellent psychometric properties in samples of young adults (Brown et al., 1992)
- The PSWQ is able to differentiate generalized anxiety disorder patients from patients with other anxiety disorders in young adults (Brown et al., 1992)
- Among older adults, problems with factor structure have been reported (Hopko et al., 2003)
 - 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

MEASURE

Penn-State Worry Questionnaire (PSWQ)

- The PSWQ assesses pathological worry: A key characteristic of generalized anxiety disorder
- Consists of 16-items
 - 5 reverse scored items
 - 11 straightforward items
- Hopko et al., (2003) found a good factor structure for 8 of the 11 straightforward items in older adults
- Assesses worry on a 1 (not at all typical of me) to 5 (very typical of me) Likert-type scale

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 Multi-log Version 7.03 (SSI, 2003)

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

Figure 1. Penn State Worry Questionnaire Differential Item Functioning Summed in reverse scored Items.

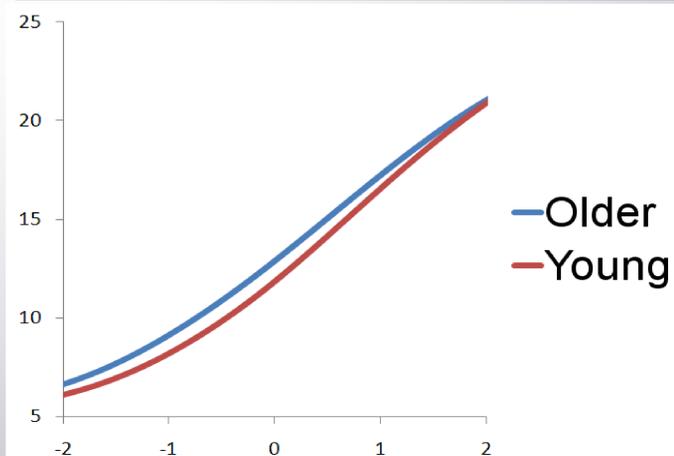
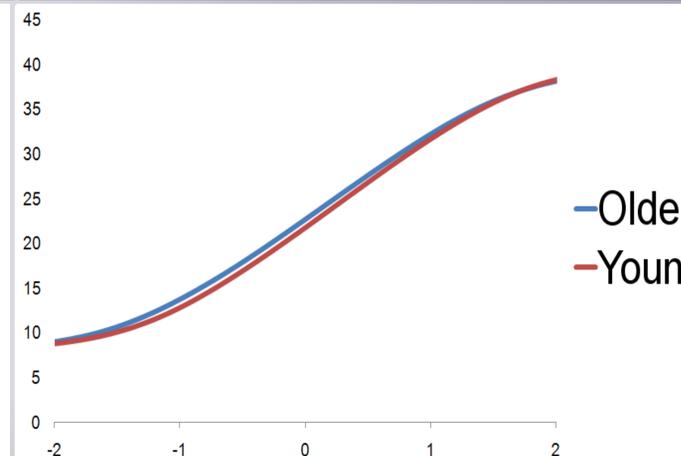


Figure 2. Penn State Worry Questionnaire Differential Item Functioning Summed in straightforward scored Items.



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* to 5 *very typical*.

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