Test-Retest Reliability and Minimal Detectable Change of the Modified Fresno Test of Evidence Based Practice in DPT Students

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Background:
- American Physical Therapy Association identifies the need for Evidence Based Practice (EBP) at every level of education. Educators need an assessment tool to evaluate students.
- EBP: thorough and judicious use of the best current evidence in decision making about the care of individual patients.
- Modified Fresno Test (MFT): Validated for use with physical therapists to test EBP knowledge.

Purpose:
1. To determine the test-retest reliability and minimal detectable change of the Modified Fresno Test in 1st, 2nd, and 3rd year DPT students.
2. To compare mean MFT scores among the three student groups.

Setting and Participants:
UNE campus, Portland, Maine, DPT students with differing levels of EBP exposure.

Protocol:
- 13-item MFT: 8 short-answer, 2 math calculations and 3 fill-in-the-blank
- 11-item MFT: 8 short-answer and 3 fill-in-the-blank.
- 2 administrations, separated by 14 days
- 60 minutes to take the paper and pencil test
- Graded by hand by Michael Filleyaw, EBP expert, using MFT scoring rubric

Results:
- The only statistically significant difference in mean total scores between test 1 and test 2 was on the 11-item MFT for 3rd year students.

Discussion:
- Mean total MFT scores increase with increased levels of EBP exposure.
- No difference between 2nd and 3rd years. This could be due to lack of 3rd year student effort.
- A higher ICC is associated with a higher MFT score.
- 3rd year ICC (0.73) is considered good test-retest reliability. 1st year (0.23) and 2nd year (0.63) ICCs are considered poor to moderate test-retest reliability.
- ICC depends on variability among participant scores and agreement of scores from test 1 to test 2.
- MDC is inversely related to ICC.

Conclusion:
- The 13 and 11-item MFTs have good test-retest reliability for UNE’s 3rd year DPT students.
- The 11-item MFT exhibited poor to moderate test-retest reliability for 1st and 2nd year DPT students.
- Of the 3 classes, 1st year UNE DPT student’s had largest MDC. To show meaningful change, a 1st year must score 40.4 points higher or lower. In comparison, 3rd year a student must score 23.0 points higher or lower.
- Future research is needed to assess the test-retest reliability of the validated 13-item MFT for students in the 1st and 2nd year classes of a DPT program.