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.

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 Fillyaw, EBP expert, using MFT scoring rubric

Results:
- Table 1. Differences between test 1 and test 2 for each class
- Table 2. Comparison of each question and total score among classes
- 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.
- ANOVA: significant difference in mean total score for the 11-item MFT among three student groups.
- Bonferroni post hoc analysis: second and third year groups were different from the first years.

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.