Validation of a Modified Fresno Test to Assess EBP Skills

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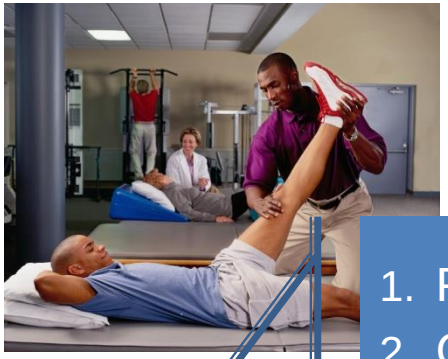
EBP Assessment tools:

- **2006 Systematic Review** Shaneyfelt et al. 2006
  - 104 EBP assessment tools
- **Fresno Test** Ramos et al. 2003
  - Internal medicine
  - 12 questions
    - Content Validity: question, searching, appraisal
    - Reliability: excellent
    - Construct validity: discriminates between novice residents and experts
- **Physiotherapists** – no objective measures

Purpose

1. Modify the Fresno test:
   - Physiotherapists
   - Integration of **patient perspective** & **clinical expertise**
2. Measure reliability and validity
   - Content Validity
   - Construct Validity
   - Reliability

1. **Test modification**
   - ***Physiotherapists***
     - Clinical vignettes
     - Discipline-specific studies
     - Grading rubric
   - ***Evidence Integration:*** 2 new questions
2. **Content Validity:** Expert Panel
3. **Construct Validity:** 3 known groups
4. **Reliability:** 2 raters



1. Patient perspective
2. Clinical expertise

2 EBP PT Faculty
USA, Canada
1 PT Clinical Faculty
1 Master clinician

- Teach EBP to PTs
- Not involved in test development
- 2 hrs training, 5 practice tests
- Independently graded all tests
- Blinded re-grading (22 tests)

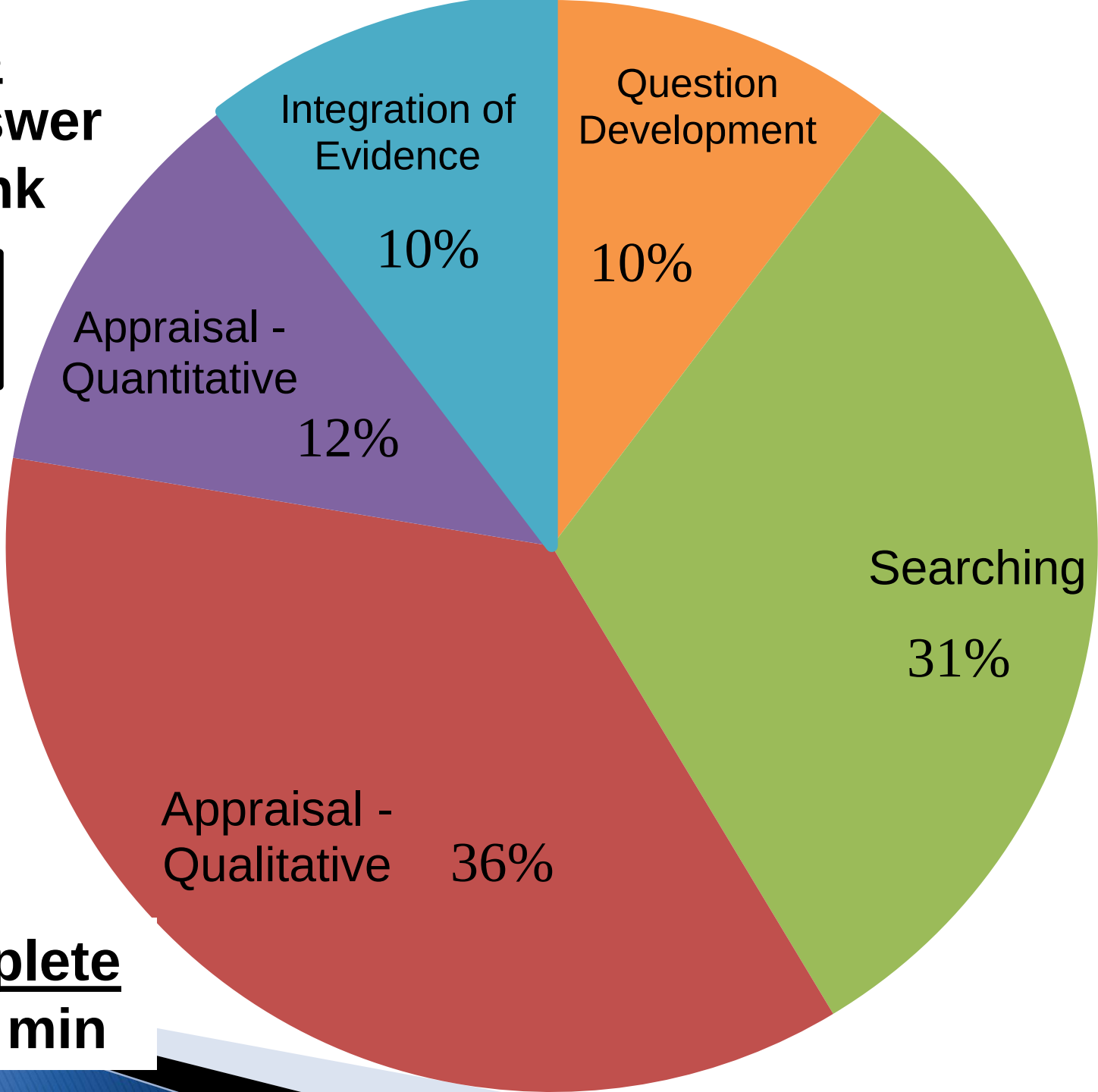
Computer-based test

- EBP-novice PT students (n=31)
- EBP-trained PT students (n=50)
- EBP-expert PT Faculty (n=27)

14 questions

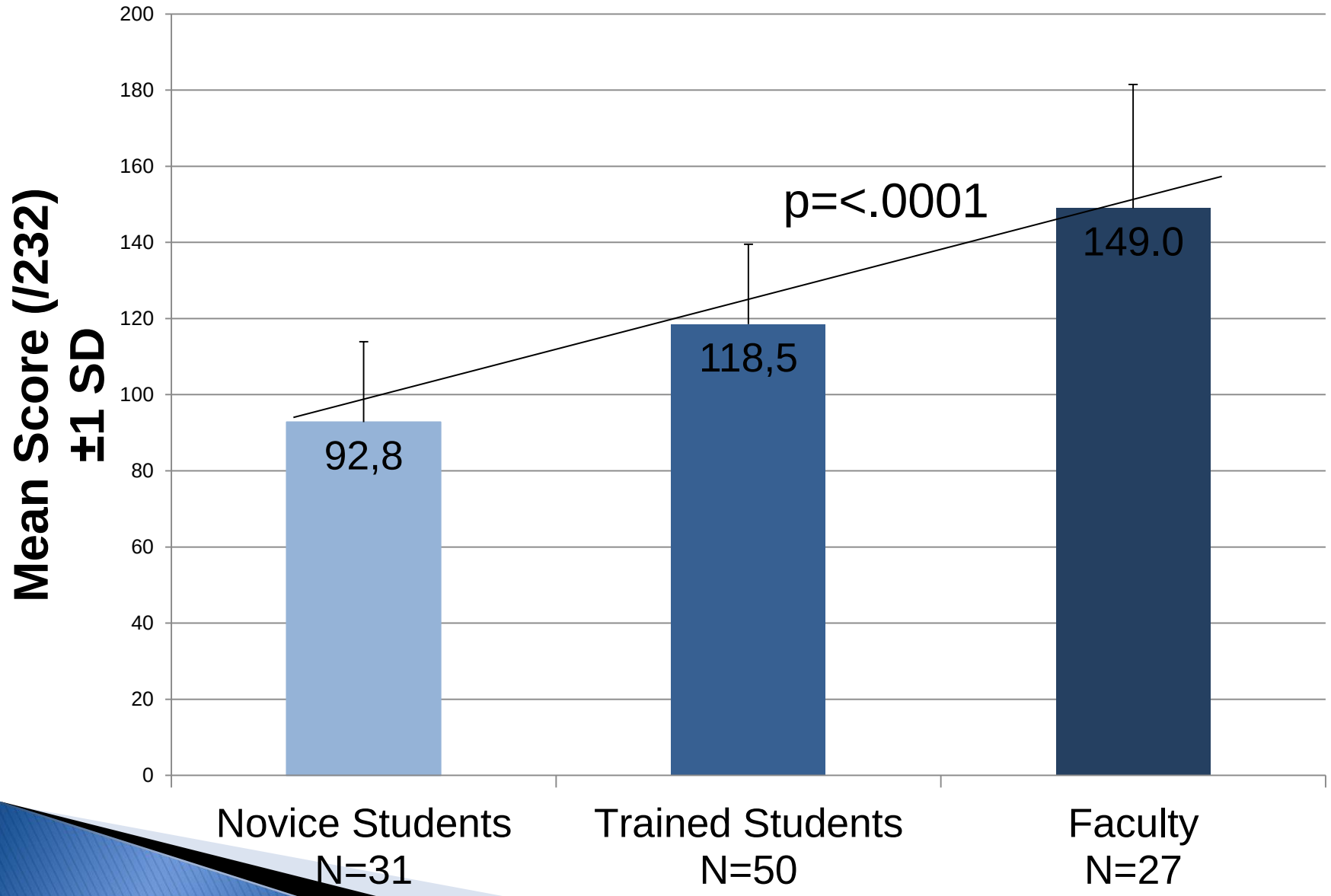
- **9 short-answer**
- **5 fill-in blank**

Total points
232

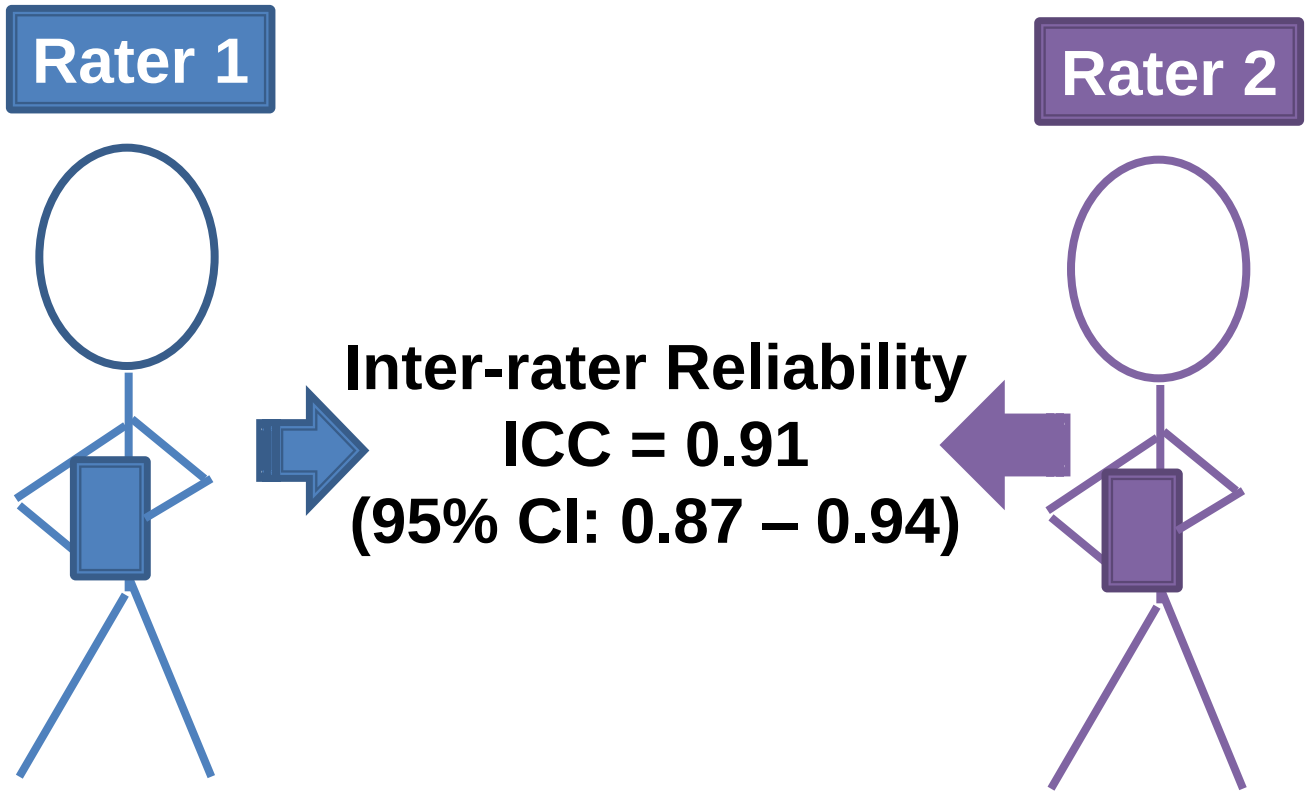


Time to complete
37 ± 12 min

Discrimination between known groups



Total Score Reliability



#	TOPIC	Inter-rater	Intra-rater	Discrimination Index	Difficulty
1	Focused Question	✓	✓	✓	✓
2	Search: Where	✓	✓	✓	✓
3	Search: Design	✓	✓	✓	✓
4	Search: Strategy	✓	✓	✓	✓
5	Appraisal: Relevance	✓	✓	✓	✓
6	Appraisal: Validity	✓	✓	✓	✓
7	Appraisal: Significance	✓	✓	✓	✓
8	Integration: Patient	⚠	✓	✓	✓
9	Integration: Expertise	⚠	✓	⚠	✓
10	Appraisal: Tx Statistics	✓	✓	✓	⚠
11	Appraisal: Dx Statistics	✓	✓	⚠	⚠
12	Appraisal: Conf Interval	✓	✓	✓	✓
13	Study Design: Dx	✓	✓	✓	✓
14	Study Design: Dx	✓	✓	✓	✓

Fresno Test

Validity	
Study	**Finding**
Ramos 2003 (original)	Discriminates between residents and experts
McCluskey 2009 (adapted)	Responsive to change in novices
Current Study (modified)	Discriminates between novice students, trained students, and faculty

EBP Skills Assessment: Future Work

- Fresno test can be modified for use among PTs
- Assessing integration of evidence requires development
- Online format is effective
- Grading is resource intensive
- Validity when **outside resources** are permitted
- Values for **meaningful change**
- **Other constructs**:
  - Use of EBP in practice
  - Impact of EBP on patient outcomes