

“An Item Response Theory Analysis of the Physical Therapist Manual for the
Assessment of Clinical Skills (PT MACS) and the Physical Therapist
Clinical Performance Instrument (CPI)”

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Item Response Theory Overview

- The information that can be gained from Item Response Theory (IRT)
 - Item difficulty
 - Item discrimination
 - Person ability level
 - Item characteristic curve
 - Item information curve
 - Test information function

- Item Difficulty
 - Value which indicates where the item falls along a continuum in comparison to other items

- Item Discrimination
 - How well the item is able to differentiate between ability levels
 - Does an individual with a higher ability level have a greater probability of doing better on the item?
 - or**
 - Regardless of ability level does everyone seem to fall under the same category?

- Person Ability Level
 - The ability level of an individual can be determined from his/her results on a test where the item parameters are known
 - Ability level placed on a continuum

- Item Characteristic Curve
 - Graphical representation of an item and its parameters
 - Item difficulty
 - Item discrimination
 - Person ability level

- Item Information Curve
 - Indicates at which ability level(s) the item functions best

- Test Information Function
 - Sum of all the item information curves within a test (clinical assessment tool)
 - Provides an estimate of how well a test functions at each ability level

Future Research for Clinical Assessment Tools Using IRT

- Study how a clinical assessment tool and its' items function throughout the complete clinical education process of a student
 - Different clinical settings (acute, rehab, OP...)
 - Different clinical rotation numbers
 - Different lengths of rotations

Significance of IRT and Clinical Assessment Tools

- Identifies a minimum standard to be met specific for each
 - Clinical rotation number
 - Clinical setting
 - Clinical length
- Enables for the selection of items appropriate to the rotation
- Accurate assessment of student ability level and his/her progress over multiple clinical rotations
- Accurate identification of student weakness
- Curriculum deficits accurately identified
- Computer based assessment
- Develop a psychometrically sound clinical assessment tool

Item Response Theory References

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