Assessing Fit of IRT Models

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Outline

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1. Background information

- IRT
  - Latent constructs
  - Tests/questionnaires
  - Assessing model fit
    - Goodness-of-fit tests
    - Fit indices

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2. The issue

- Esimation and consistency issues
- Few goodness-of-fit tests
  - Issues with current tests
- Scarce studies for TLI and CFI

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3. The current study

- New goodness-of-fit test
- TLI and CFI

3.1. Research questions

1. Required sample size?
2. Comparing performance
3. Performance of TLI and CFI?

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4. Simulation study

4.1. Data generation

- Dichotomous items
- Static item parameters
- Two models: 2PL, 3PL
- Varying four factors

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4.2. Simulation Design

Table: Overview of Simulation Conditions for Each Factor

Factor	Conditions	Description
Test length	5 - 10 - 20	The total number of items that the test will consist of
Sample size	100 - 200 - 500 1000 - 1500	The total number of observations that are available for each item
Model type	2PL - 3PL	The models that we will use as the basis for data generation
Number of groups	2 - 3 - 4	The number of groups that the data gets divided into for the LR Randomisation test calculations

4.3. Performance metrics

Goodness-of-fit tests

- Power
- Empirical α

Fit indices

- Mean (SE)

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Thank you for listening!

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References

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