Rating Scale of Impairment™ (RSI™): Introduction and Application

Your Presenter

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Disclosure

I am employed by Multi-Health Systems (MHS), publisher of the assessments we will discuss today.

Ratings scales should not be used as the sole source of information for eligibility determination.
Today’s Learning Objectives

Define Impairment

The role of impairment in the diagnostic process

The essential features of the RSI™

The psychometric properties of the RSI™

Correlates, Questions, and Impairment

The administration, scoring and reporting of the RSI™

Case Study Example using the RSI™

Defining Impairment

Impairment is the reduced ability to meet the demands of life because of a psychological, physical, or cognitive condition.
Why is the assessment of impairment critical to a comprehensive evaluation?

The prevalence of mental health and physical symptoms are increasing. It’s not surprising that there’s a need to demonstrate functional impairment during diagnosis.

Assessing Impairment in the Diagnostic Process

Currently only for Adults
Best Practices and Using Rating Scales

A few things to consider...

- Psychometric Properties
- Normative Sample
- Other things to consider:
  - Usability
  - Social Validity
  - Perceived importance from stakeholders

Behavior Rating Scales

Advantages
- Time efficient and provide a lot of information
- Respondents have observed the student in their naturalistic environment
- Allow for normative comparisons between age-matched peer group

Disadvantages
- Undesirable variability in ratings
- Rater variance
- Setting variance
- Instrument variance

(Campbell & Hammond, 2014)
Key Features of the RSI

Fast completion time
Age-appropriate items
Assess youth ages 5 to 18 years
Large representative normative sample
Assess impairment clearly regardless of the diagnosis

Key Features of the RSI

Available in Spanish
Monitor progress across time
Satisfies the impairment criteria of the DSM-5
Multiple raters for a more accurate assessment
Assist in forming intervention and treatment planning
Aligned with WHO’s domains of functioning found in ICF

RSI: Rating Scale of Impairment

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Uses for the RSI

User Qualifications

- To administer the RSI, practitioners must have B-level qualifications
- B-level qualifications require, at a minimum, that graduate-level courses in testing and measurement at a university or have received equivalent documented training
  - Familiarity with the standards for education and psychological testing
  - Members of professional associations or licensed professionals

Structure of the RSI
RSI: Rating Scale of Impairment

**Rating Scale of Impairment (RSI) Forms**

- **RSI (5-12 Years)**
  - Parent Form
  - Teacher Form
  - 62 Items
  - Total Score

- **RSI (13-18 Years)**
  - Parent Form
  - Teacher Form
  - 41 Items
  - Total Score

**RSI Scales**

- School
- Social
- Mobility
- Domestic
- Family
- Self-care

**Guidelines for T-Scores**

Higher T-scores on the RSI indicating higher levels of impairment.

<table>
<thead>
<tr>
<th>T-score</th>
<th>Percentile Ranks</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;60</td>
<td>1-82</td>
<td>No Impairment</td>
</tr>
<tr>
<td>60-64</td>
<td>84-92</td>
<td>Mild Impairment</td>
</tr>
<tr>
<td>65-69</td>
<td>93-97</td>
<td>Moderate Impairment</td>
</tr>
<tr>
<td>&gt; 70</td>
<td>98-99</td>
<td>Considerable Impairment</td>
</tr>
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</table>

**Directions on the RSI**

INSTRUCTIONS: Read each statement that follows the phrase: "During the past four weeks, how often was your child..."

*Child's Name:* ____________________________

Page 1 of 3

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RSI Scales & Descriptions

RSI Structure: Scales

School/Work  Mobility  Family
Social  Domestic  Self-Care

Standardization, Reliability & Validity
Standardization Sample
- Data collection took place from September 2012 to August 2014
- Data was collected in all 50 states
- Data collection included information about the age, gender, race/ethnicity, state of residence, and parental education level
- The sample matched 2010 U.S. Census Data
- Over 8,000 ratings were completed across the 4 RSI forms

<table>
<thead>
<tr>
<th>Parent RSI 5-12 Years Form</th>
<th>Teacher RSI 5-12 Years Form</th>
<th>Parent RSI 13-18 Years Form</th>
<th>Teacher RSI 13-18 Years Form</th>
<th>Normative Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>800</td>
<td>600</td>
<td>600</td>
<td>2,800</td>
</tr>
</tbody>
</table>

Excellent Psychometric Properties

<table>
<thead>
<tr>
<th>Scale</th>
<th>Normative Sample</th>
<th>Clinical Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>School/Work</td>
<td>10</td>
<td>.80 - .94</td>
</tr>
<tr>
<td>Social</td>
<td>10</td>
<td>.86 - .90</td>
</tr>
<tr>
<td>Mobility</td>
<td>9</td>
<td>.79 - .91</td>
</tr>
<tr>
<td>Domestics</td>
<td>7</td>
<td>.85</td>
</tr>
<tr>
<td>Family</td>
<td>5</td>
<td>.76 - .82</td>
</tr>
<tr>
<td>Self Care</td>
<td>8</td>
<td>.75</td>
</tr>
<tr>
<td>Total Score</td>
<td>29-49</td>
<td>.96 - .95</td>
</tr>
</tbody>
</table>

Internal Consistency
Test-Retest Reliability

- Assessed over a 2- to 4-week interval and within a general population sample
- Total Score corrected $r = .89$ to .96
- RSI Scales corrected $r = .85$ to .97

Stability

- 84% to 99.3% of the difference between Time 1 and Time 2 fell within +/- 10 T-score points

Inter-Rater Consistency

- Looked at agreement between 2 parents or 2 teachers rating the same child
- Parent Raters:
  - RSI Scales corrected $r = .65$ to .87
  - RSI Total Score corrected $r = .87$
- Teacher Raters:
  - RSI Scales corrected $r = .56$ to .59
  - RSI Total Score corrected $r = .77$
Criterion-Related Validity

- Will look at differences between mean score differences by clinical groups
- This includes the following areas:
  - Primary diagnosis
  - Number of diagnoses

T-scores by General Population and Clinical Groups: RSI Parent Forms

T-scores by General Population and Clinical Groups: RSI Teacher Forms
Mean T-scores by General Population and Number of Diagnoses: RSI (5–12) Parent Form

Mean T-scores by General Population and Number of Diagnoses: RSI (5–12) Teacher Form

Mean T-scores by General Population and Number of Diagnoses: RSI (13–18) Parent Form
RSI: Rating Scale of Impairment

Mean T-scores by General Population and Number of Diagnoses: RSI (13–18) Teacher Form

Relationship between the RSI and Other Impairment Measures

- RSI and the Barkley Functional Impairment Scale (BFIS–CA)
  - Child sample corrected $r = .55$ to $.67$
  - Youth Sample corrected $r = .63$ to $.71$
- RSI and the Children’s Global Assessment Scale (CGAS)
  - Corrected $r = -.34$ to -.51

Relationship between the RSI and Other Measures

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Administration, Scoring, & Interpretation

Administration and Scoring Options

- Paper-and-Pencil Administration
- Online Administration

Paper-and-Pencil Scoring
Online Scoring

MHS Online Assessment Center

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Features of the RSI Reports

Easy to Interpret Reports

Interpretive Report
Progress Monitoring and Treatment Effectiveness Report
Comparative Report

Interpretive Reports
RSI: Rating Scale of Impairment

Comparative Reports

Progress Monitoring & Treatment Effectiveness Report

RSI Interpretation
RSI: Rating Scale of Impairment

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Case Study: Joey
Joey

- 13 years old
- History of ADHD
- Described as extremely literal
- Misses social cues
- Socially isolated
- Referred to the school psychologist

Joey: Assessment Plan

- Interviews with Joey's mother
- Complete the RSI and behavior checklists
- Administer neurological, intellectual, and achievement tests

Results of the Interview

- Joey's mother has not been satisfied with the effect of medical and educational intervention
- Joey appears to be advanced in some academic areas, but very behind in others
- Joey is passive and avoids social interactions
- At home, he demonstrates poor hygiene
- Refuses to complete household chores
- Joey displays disruptive behavior

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Assessment Results

- Concerns in both home and school settings for emotional distress, social impairment, academic challenges, inattention, depression, and anxiety
- Achievement scores demonstrated average intellect with problems noted in Processing Speed, Planning, and Attention
- When assessed for reading, math, and written language, Joey was placed several grades below his current placement.

Results of the Parent RSI

<table>
<thead>
<tr>
<th>Scale</th>
<th>Raw Score</th>
<th>T-score</th>
<th>99% Confidence Interval</th>
<th>Percentile Rank</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>School/Work</td>
<td>42</td>
<td>80</td>
<td>77 to 86</td>
<td>99</td>
<td>Considerable Impairment</td>
</tr>
<tr>
<td>Social</td>
<td>37</td>
<td>79</td>
<td>68 to 81</td>
<td>99</td>
<td>Considerable Impairment</td>
</tr>
<tr>
<td>Mobility</td>
<td>2</td>
<td>47</td>
<td>42 to 53</td>
<td>38</td>
<td>No Impairment</td>
</tr>
<tr>
<td>Domestic</td>
<td>33</td>
<td>79</td>
<td>68 to 81</td>
<td>99</td>
<td>Considerable Impairment</td>
</tr>
<tr>
<td>Family</td>
<td>13</td>
<td>63</td>
<td>54 to 67</td>
<td>90</td>
<td>Mild Impairment</td>
</tr>
<tr>
<td>Self-Care</td>
<td>24</td>
<td>80</td>
<td>68 to 85</td>
<td>99</td>
<td>Considerable Impairment</td>
</tr>
<tr>
<td>Total Score</td>
<td>438</td>
<td>81</td>
<td>76 to 83</td>
<td>99</td>
<td>Considerable Impairment</td>
</tr>
</tbody>
</table>
Synthesize All Data

- RSI Data
- Interview Data
- Assessment Data
- Observation Data

Intervention Planning for Joey

- Areas of impairment as noted by Joey's Parent

Treatment Plan for Joey
Intervention Planning for Joey

- Adjustments to medication dosage and administration time
- Parents worked with a behavioral consultant
  - Implemented a multi-level response cost behavioral program
- Revisions to Joe’s IEP
- School psychologist worked with Joey in a social skills group

Joey’s Treatment Progress

Case Study: Megan
Megan

- 11 years old
- History of ASD, OCD, ADHD, and Anxiety disorders
- Treated with multiple psychiatric medications
- Impairments in the home and school settings

Megan: Assessment Plan

- Interviews with Megan's parents and her teacher
- Complete the RSI and behavior checklists
- Administer neurological, intellectual, and achievement tests

Results of the Parent Interview

- Megan is the second of four children
- Megan was a difficult child.
- She receives special education service
- She has difficulty concentrating and following instructions, is often very disorganized, and loses her belongings.
- She is also very uncooperative at home
- Megan displays a range of disruptive and non-disruptive behaviors
Results of the Teacher Interview

- Megan’s teachers have also noted a number of areas of impairment.

Assessment Results

- Megan scored lower on the working memory domain of the WISC-IV and Planning and Successive Scales of the CAS2.
- Parent and teacher reports for behavior characteristic of executive functioning assessed with the Comprehensive Executive Function Inventory (CEFI; Naglieri & Goldstein, 2013) noted symptoms as well, particularly with behaviors related to attention, organization, planning, and self-monitoring.

Determine Statistical Significance
- Evaluating Meaningfulness of change

RSI Scales
- Total Score
- Item-Level Responses
- Examine
- Interpret the RSI T-scores
- Compare Results Across Raters
- Compare Results Over Time
- Determine Statistical significance
- Evaluating Meaningfulness of change

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Results of the RSI

Synthesize All Data

Intervention Planning for Megan
Treatment Plan for Megan

- Areas of impairment as noted by Megan's parents and teachers

Intervention Planning for Megan

- Megan qualified for an individual aid at school
- Megan's family referred for in-home behavioral therapy
- Megan began working with a cognitive therapist on a weekly basis
- A response cost point system was implemented at school
- No changes were made to Megan's medication regimen

Megan's Treatment Progress: Parent Report
How does impairment differ from symptoms?

Symptoms vs. Impairment

Inattention vs. Difficulty completing homework
How does impairment differ from adaptive behavior?

Adaptive Behavior vs. Impairment

Skill vs. Performance

Do you know HOW to do it?

Do you ACTUALLY do it?

Using utensils vs. Not using utensils to eat