Examination of a Combined Response Inconsistency (CRIN) Scale for the MMPI-2-RF: Basic Properties in Normative and Forensic Inpatient Samples

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Examination of a Combined Response Inconsistency (CRIN) Scale for the MMPI-2-RF: Basic Properties in Normative and Forensic Inpatient Samples

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Introduction

• The Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF) is a 338-item self-report personality and psychopathology inventory used commonly in forensic settings.
• Variable Response Inconsistency (VRIN) identifies random (i.e., variable) responding.
• True Response Inconsistency (TRIN) identifies fixed (i.e., acquiescent, counter-acquiescent) responding.
• Combined Response Inconsistency (CRIN), originally developed for the Minnesota Multiphasic Personality Inventory-Adolescent Restructured Form (MMPI-A-RF) identifies mixed (i.e., partial random and fixed) responding.
• CRIN is calculated by summing VRIN-r, TRIN-r (True), and TRIN-r (False) raw points.
• Researchers have examined CRIN’s utility on the MMPI-A-RF but no previous studies have examined CRIN for use on the MMPI-2-RF.

Method

Current Study

• We examined CRIN’s basic properties in the MMPI-2-RF normative sample and a forensic inpatient sample.

Participants

MMPI-2-RF Normative Sample

• 2,276 participants were retained from the US population.

Psychiatric Inpatient Sample

• Archival MMPI-2/MMPI-2-RF data were culled from a maximum security forensic inpatient setting.
• Of the 1,081 individuals retained in the final sample, demographic characteristics include 72.7% male; mean age = 39.9 years (SD = 11.2); approximately 55% Caucasian, 24% African American, 17% Hispanic/Latino, 2% Asian American, and 2% from other ethnicities.

Method, continued

Procedures

MMPI-2-RF Normative Sample.

• Of 2,276 participants, we retained 2,273 after excluding those with notable unscorable responding (CNS ≥ 18).
• We calculated CRIN and then converted CRIN’s raw points to Linear T Scores (Table 1).

Psychiatric Inpatient Sample.

• Of 1,110 patients, we retained 1,081 after excluding those with notable unscorable responding (CNS ≥ 18).
• 84% of participants completed the 567-item MMPI-2. Data were rescored into MMPI-2-RF scores and CRIN raw and Linear T Scores were calculated.

Measures

• The MMPI-2-RF is a 338-item personality and psychopathology measure with 9 Validity Scales and 42 substantive scales.
• The current study utilizes two existing non-content-based Validity scales, VRIN-r and TRIN-r, as well as an experimental measure, CRIN.

Table 1: CRIN Raw-to-T Conversion

<table>
<thead>
<tr>
<th>Raw Score</th>
<th>T Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>101</td>
</tr>
<tr>
<td>18</td>
<td>97</td>
</tr>
<tr>
<td>17</td>
<td>94</td>
</tr>
<tr>
<td>16</td>
<td>90</td>
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<td>15</td>
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<td>14</td>
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<td>13</td>
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<td>11</td>
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<td>9</td>
<td>65</td>
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<td>8</td>
<td>62</td>
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<tr>
<td>7</td>
<td>58</td>
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<td>6</td>
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<td>51</td>
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<td>44</td>
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<tr>
<td>1</td>
<td>37</td>
</tr>
<tr>
<td>0</td>
<td>33</td>
</tr>
</tbody>
</table>

Figure 1: VRIN-r, TRIN-r, & CRIN-r Elevation Overlap in the Forensic Inpatient Sample (n = 1,081)

No Elevation

VRIN-r ≥ 80T

<table>
<thead>
<tr>
<th>1%</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>n = 0</td>
</tr>
</tbody>
</table>

CRIN ≥ 80T

<table>
<thead>
<tr>
<th>5%</th>
<th>n = 58</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>n = 24</td>
</tr>
<tr>
<td>3%</td>
<td>n = 37</td>
</tr>
<tr>
<td>3%</td>
<td>n = 28</td>
</tr>
</tbody>
</table>

Total n = 1,081

Results

MMPI-2-RF Normative Sample

• As expected, few individuals exceeded 80T on VRIN-r (0.9%), TRIN-r (1.7%), or CRIN (0.8%).
• Given these rare rates of elevation, CRIN uniquely flagged only a very small number of protocols not already identified by VRIN-r and TRIN-r using 80T cut scores (0.2% of the total sample).

Psychiatric Inpatient Sample

• Elevations at 80T or above for VRIN-r (8%), TRIN-r (11%), and CRIN (14%) were more common in the forensic sample.
• 17% of protocols were flagged as non-content-based invalid based on VRIN-r or TRIN-r elevations.
• Of those, 65% were also flagged by CRIN.
• CRIN uniquely identified 28 (3% of total sample) invalid protocols not already identified by VRIN-r or TRIN-r at 80T (Fig. 1).

Implications

• CRIN exhibited a modest unique elevation pattern compared to VRIN-r and TRIN-r.

Limitations & Future Directions

• We had no data on the frequency of mixed responding.
• Future studies should utilize simulation designs.

References


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