The Transparency of the Conditional Reasoning Test for Aggression
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Abstract
The conditional reasoning test for aggression (CRT-A; James, 1998) is built upon the assumption that individuals rely on a unique set of implicit biases to help rationalize aggressive behavior. The CRT-A indirectly measures these biases (e.g., Hostile Attribution Bias) via inductive reasoning problems. The purpose of this study was to confirm the indirect nature of assessment by examining the transparency of the CRT-A via a self-report inventory. Participants were given both the CRT-A and a self-report measure and were asked what they believed each test was designed to assess. Open-ended answers were content coded by subject matter experts. Overall, results from 153 participants support our hypothesis that the purpose of the CRT-A is not transparent to college educated participants.

Background
There are two components of personality:
1. Explicit personality is accessible via introspection, the individual is consciously aware of it
   • Self-report surveys are commonly used to assess explicit personality
2. Implicit personality is outside of conscious awareness
   • It is typically assessed using projective or response latency tests
   • More recently, conditional reasoning tests (CRTs) have been used for assessing the implicit component of personality
   • Conditional reasoning tests maintain indirect assessment by targeting implicit biases through using inductive reasoning problems.

An earlier pilot study found that roughly 25% of respondents reported aggression as the purpose of the CRT-A. This pilot study relied on a checklist and permitted respondents to check multiple answers. One explanation for our earlier finding is that the CRT-A is transparent and respondents know what is being assessed. Another explanation is that a subset of respondents were more likely to check a variety of answers, but really did not know what was being assessed. This explanation is consistent with the finding that respondents also believed the CRT-A to be measuring job experiences associated with problem-solving will further reduce the transparency of the conditional reasoning test for aggression.

Hypothesis 1a
• Hypothesis 2 – Priming individuals to think about their interests and experiences associated with problem-solving will further reduce the transparency of the conditional reasoning test for aggression.
• Hypothesis 3- Completing the self-report measure prior to the conditional reasoning test will prime individuals to believe that the self-report test measures their personality, thus increasing the transparency of the conditional reasoning test for aggression.

Method
Sample
•153 undergraduates enrolled in an introductory psychology class participated in exchange for credit.

Measures
• CRT-A (James, 1998). A 25 item test designed to indirectly measure the implicit biases and justifications that individuals use to harm others.
• SRP (Paulhus & Williams, 2002). A 48 item test designed to assess psychopathy. We used this as our self-report measure of aggression because aggression and antagonism are at the core of psychopathy (Lynam & Widiger, 2007).

Design
• Within-subject factor corresponding to the type of test being completed (self-report vs. conditional reasoning).
• Four-level between-subjects factor created by crossing the order of test administration (CRT-A 1st vs. SRP 1st) with priming (primed vs. not primed).

Our dependent variable was calculated as follows:
1) After completing the CRT-A and SRP, respondents were asked to write a brief description of the abilities or traits that they believed the test was designed to measure.
2) Three subject matter experts (doctoral students in I/O psychology with a background in testing and measurement) were asked to content analyze each of the responses into various construct categories. These categories included both cognitive and non-cognitive traits.
3) Interrater agreement was assessed using simple proportions. In those instances in which 2 of the 3 raters believed a response was indicative of a specific construct category, they were coded a “1.” All other instances were coded a “0.”
• Thus, our DV consisted of the proportion of answers that were judged to be representative of a particular response category.

Results

<table>
<thead>
<tr>
<th>Construct</th>
<th>CRT-A</th>
<th>SRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Mental Ability</td>
<td>0.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Inductive Reasoning</td>
<td>53.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Deductive Reasoning</td>
<td>53.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Justice</td>
<td>0.7%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.7%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Openness</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Honesty</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Aggression</td>
<td>0.0%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Self Esteem</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Ethics</td>
<td>9.2%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Personality</td>
<td>4.6%</td>
<td>49%</td>
</tr>
<tr>
<td>Everyday Reasoning</td>
<td>37.3%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

The table contains the percent of individual responses to open-ended questions coded by expert judges as identifying any of the sixteen construct categories.

Hypothesis Tests
Hypothesis 1a and 1b were tested using repeated measures ANOVA.

• The dependent variable was the proportion of individual responses coded by expert judges as correctly identifying the function of assessment as aggression (H1a) or personality (H1b).

Test-type (self-report vs. conditional reasoning) served as the within-person factor.

• Hypothesis 1a (Supported) – a statistically significant difference in proportion of responses coded by expert judges as correctly identifying the tests as measures of aggression as a function of test type (CRT-A vs. SRP).
  \[ F(1,152) = 11.78, p < .001 \]
  7.2% of individuals' responses coded as indicating the SRP measured aggression.
  0% of individuals' responses coded as indicating the CRT-A measured aggression.

• Hypothesis 1b (Supported) – a statistically significant difference in the proportion of responses coded by expert judges as correctly identifying the tests as measures of personality as a function of test type (CRT-A vs. SRP).
  \[ F(1,152) = 10.35, p < .001 \]
  49% of individuals' responses coded as indicating the SRP measured personality.
  5% of individuals' responses coded as indicating the CRT measured personality.

Discussion
• Results support our hypothesis that the CRT-A is much less transparent than the self-report test. Figure 1 clearly illustrates this main effect.

• Thus, future research should seek to better mask the purpose of assessment by doing the following:
  • Include more sophisticated items
  • Embed more “real” reasoning items
  • Include CR items that measure other aspects of personality, i.e. achievement motivation

• Our interaction hypotheses were not supported. However, Figure 1 suggests that there may be differences in transparency as a function of condition type. Specifically, Condition 2 (priming on CRT-A after taking SRP) revealed a major decline in the transparency of the CRT-A. As we continue to collect data, we will see if this trend holds or disappears.

• Our future research will also examine if simply providing a checklist primed individuals to think about personality as a possible purpose of assessment for both the CRT-A and SRP. In addition, perhaps informing individuals that they would be taking “real world employment tests” primed them to focus on “job satisfaction” as a purpose of assessment. In the future we plan to:
  • Provide a checklist, but only allow one selection.
  • Provide an open-ended response instead of a checklist.
  • Omit the description that focuses on “real world employment tests”.

• Finally, future research should seek to cross-validate these findings with other conditional reasoning tests (e.g., the conditional reasoning test of achievement motivation and fear of failure).