The Complexities of the Issues

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Discussant

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Overall Responses to Dr. Gervais and Dr. Kaufmann

--Excellent presentations with true insights on issues of relevance and importance
--Will not attempt to deal with small points
Instead, I want to address one aspect of the measurement of “effort”: “Do these tests actually show the expected relationships with other tests and with external variables?”

Basis of question—Clinical practice
An Example: Finding Expected Relationships

Areas of testing:
--Intelligence—WAIS-III FSIQ
--Neuropsych performance--% of scores outside normal limits, expanded HRB
--Emotional adjustment—MMPI-2

Variables of interest:
--Educational level (years of education)
--Focal neurological exam (pos. or neg.)
--Psychiatric history (positive or neg.)
### Years of Education

<table>
<thead>
<tr>
<th>Testing area/variable</th>
<th>Pearson r</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test variable A</td>
<td>.40</td>
<td>.001</td>
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<tr>
<td>Test variable B</td>
<td>.21</td>
<td>.05</td>
</tr>
<tr>
<td>Test variable C</td>
<td>.08</td>
<td>n.s.</td>
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</table>

**NOTE:** Correlations are expressed as absolute values.
## Psychiatric History

<table>
<thead>
<tr>
<th>Testing area/ variable</th>
<th>Student $t$</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test variable A</td>
<td>0.88</td>
<td>0.38</td>
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<tr>
<td>Test variable B</td>
<td>0.03</td>
<td>0.97</td>
</tr>
<tr>
<td>Test variable C</td>
<td>3.19</td>
<td>0.002</td>
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</table>

**NOTE**: Student $t$ scores are expressed as absolute values.
# Focal Neurological Exam

<table>
<thead>
<tr>
<th>Testing area/variable</th>
<th>Student t</th>
<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>Test variable A</td>
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<td>n.s.</td>
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<tr>
<td>Test variable B</td>
<td>2.58</td>
<td>0.01</td>
</tr>
<tr>
<td>Test variable C</td>
<td>1.47</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

**NOTE:** Student $t$ scores are expressed as absolute values.
New Study: Selection of Patients

- **Patient selection**—from a 42 consecutive month period at the UW Regional Epilepsy Center at Harborview

- **Diagnosis** of epilepsy or psychogenic non-epileptic seizures ONLY; diagnosis confirmed by video-EEG monitoring

- **Exclusions**: 1) not given the Word Memory Test; 2) in prior study (Drane, et al., *Epilepsia* 2006;47:1879-1886)
Patient Groups and Tests

- **Epilepsy only**—65 adults (34 f, 31 m), 35.22 yrs old, 12.05 yrs educ, 16.34 onset age, 1.98 AEDs, 25% + neurol exam, 44% + neurol hist, 32% + psych hist

- **PNES only**—32 adults (19 f, 13 m), 42.25 yrs old, 12.70 yrs of educ, 35.00 onset age, 1.52 AEDs, 19% + neurol exam, 41% + neurol history, 72% + psych hist

Tests: WAIS-III, MMPI-2, Word Memory Test, tests from an expanded HRB
The Six Test Variables Under Study

- **WMT** pass vs. fail (Green criteria) + average of IR, DR, and CS
- **WMS-III, Aud. Mem. Immediate**, pass (90+) vs. fail (less than 90) + standard score
- **WMS-III Vis. Mem., Immediate**, pass (90+) vs. fail (less than 90) + standard score
- **Name Writing Total** pass (0.85 letters/sec) vs. fail (less than 0.85) + R+L summary score
- **Finger Tapping Total**, pass (92+ f or 101+ m) vs. fail (slower scores) + R+L summary score
- **Trail Making, Part B**, pass (81 sec or quicker) vs. fail (82+) + usual score in seconds
Variables for Test Evaluation

- **Patient group classification**—ES vs PNES
- **Emotional factors**—MMPI-2
- **Psychiatric history**
- **Neurological history** (other than epilepsy)
- **Intelligence**—WAIS-III FSIQ
- **Brain damage**—presence of left MTS
- **Overall neuropsych performance**—% tests outside normal limits on total battery less the test being studied
Test A

Outcome variable: Pass vs. fail on Test A

- ES vs. PNES: n.s.
- MMPI-2:
  - L: .001  f > p
  - Mf: .043  f > p
  - Pt: .021  p > f
- Psychiatric history: n.s.
- Neurological hist.: .001  f assoc. w + hist
- FSIQ: .002  f assoc. w - IQ
- Left MTS: n.s.
- DDI: .001  f assoc. w + imp
Test B

Outcome variable: Pass vs. fail on Test B

- ES vs. PNES: n.s.
- MMPI-2: D .041 f < p
- Psychiatric history: n.s.
- Neurological history: n.s.
- FSIQ: .001 f assoc. w - IQ
- Left MTS: n.s.
- DDI: .001 f assoc. w + imp
Test C

Outcome variable  Pass vs. fail on Test C

- ES vs. PNES  n.s.
- MMPI-2  L .018  f > p
- Psychiatric history n.s.
- Neurological hist. .021  f assoc. w + hist
- FSIQ .001
- Left MTS n.s.
- DDI .001
<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Pass vs. fail on Test D</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES vs. PNES</td>
<td>n.s.</td>
</tr>
<tr>
<td>MMPI-2</td>
<td>n.s. (all scales)</td>
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<tr>
<td>Psychiatric history</td>
<td>.001 f assoc w – hist</td>
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<tr>
<td>Neurological hist.</td>
<td>.016 f assoc w + hist</td>
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<tr>
<td>FSIQ</td>
<td>.001</td>
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<tr>
<td>Left MTS</td>
<td>n.s.</td>
</tr>
<tr>
<td>DDI</td>
<td>.001</td>
</tr>
</tbody>
</table>
Test E

Outcome variable Pass vs. fail on Test E

- ES vs. PNES n.s.
- MMPI-2 F .044 f > p
- Psychiatric history n.s.
- Neurological hist. n.s.
- FSIQ n.s.
- Left MTS n.s.
- DDI n.s.
Test F

Outcome variable Pass vs. fail on Test F

- ES vs. PNES n.s.
- MMPI-2
  - F .028, Pa .021,
  - Pt .041, Sc .01,
  - Ma .049 All f > p
- Psychiatric history n.s.
- Neurological hist. .039 f assoc. w + hist
- FSIQ .001
- Left MTS .05 f < p
- DDI .006
The Question

Which of these tests (A, B, C, D, E, or F) is the Word Memory Test?
Areas Deserving Review

• Transition *from* an assessment of random responding *to* an evaluation of “effort”
• Methodological factors in test validation studies (e.g., item inclusion criteria; subject exclusion criteria; applicability of findings to other than “effort” tests)
• Assumptions nearly universally held
• Caution in the use of these tests is recommended