The Complexities of the Issues

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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

Testing area/ variable	Pearson r	*Signifi-cance*
Test variable A	.40	.001
Test variable B	.21	.05
Test variable C	.08	n.s.

NOTE: Correlations are expressed as absolute values

Psychiatric History

Testing area/ variable	Student t	Significance
Test variable A	0.88	0.38
Test variable B	0.03	0.97
Test variable C	3.19	0.002

NOTE: Student t scores are expressed as absolute values

Focal Neurological Exam

Testing area/ variable	Student t	Significance
Test variable A	1.55	n.s.
Test variable B	2.58	0.01
Test variable C	1.47	n.s.

NOTE: Student *t* scores are expressed as absolute values

New Study: Selection of Patients

- <u>Patient selection</u>—from a 42 consecutive month period at the UW Regional Epilepsy Center at Harborview
- <u>Diagnosis</u> of epilepsy or psychogenic non-epileptic seizures ONLY; diagnosis confirmed by video-EEG monitoring
- <u>Exclusions</u>: 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

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

Variables for Test Evaluation

- <u>Patient group classification</u>—ES vs PNES
- <u>Emotional factors</u>—MMPI-2
- <u>Psychiatric history</u>

- <u>Neurological history</u> (other than epilepsy)
- <u>Intelligence</u>—WAIS-III FSIQ
- <u>Brain damage</u>—presence of left MTS
- <u>Overall neuropsych performance</u>--% 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 hist.	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.
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- Neurological hist. .021 f assoc. w + hist
- FSIQ   .001
- Left MTS   n.s.
- DDI   .001

Test D

Outcome variable   Pass vs. fail on Test D

- ES vs. PNES   n.s.
- MMPI-2   n.s. (all scales)
- Psychiatric history .001 f assoc w – hist

- Neurological hist. .016 f assoc w + hist
- FSIQ   .001
- Left MTS   n.s.
- DDI   .001

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