

Key References to Accompany the Presentations:

Test Theory

Blinkhorn, S. (1997) Past imperfect, future conditional: Fifty years of test theory. *British Journal of Mathematical and Statistical Psychology*, 50, 2, 175-186

Cliff, N. (1992) Abstract Measurement Theory and the revolution that never happened. *Psychological Science*, 3, 3, 186-190

Embretson, S. (1996) The New Rules of Measurement. *Psychological Assessment*, 8, 4, 341-349.

Embretson, S.E. (1998) A cognitive-design system approach to generating valid tests: applications to abstract reasoning. *Psychological Methods*, 3, 380-396.

Embretson, S.E. (1999) Generating items during testing: Psychometric Issues and Models. *Psychometrika*, 64, 4, 407-433.

Embretson, S.E. (2000, in press) Generating abstract reasoning items with cognitive theory. In S. Irvine and P. Kyllonen (eds.) *Item Generation for Test Development*. Lawrence Erlbaum

Fan, X. (1998) Item Response Theory and Classical Test Theory: an empirical comparison of their item/person characteristics. *Educational and Psychological Measurement*, 58, 3, 357-381.

Frederiksen, N., Mislevy, R. J., and Bejar, I. (1993) *Test theory for a new generation of tests*. Lawrence Erlbaum. ISBN: 0-8058-0593-1

Lawson, S. (1991) One parameter latent trait measurement: Do the results justify the effort? In B. Thompson (Ed.) *Advances in educational research: Substantive findings, Methodological developments* (Vol. 1, pp. 159-168) Greenwich, CT: JAI Press.

Luce, R.D., and Tukey, J.W. (1964) Simultaneous conjoint measurement: a new type of fundamental measurement. *Journal of Mathematical Psychology*, 1, , 1-27

McDonald, R.P. (2000) *Test Theory: a unified treatment*. Lawrence Erlbaum. ISBN: 0-8058-3075-8

Nunnally, J.C. (1979) *Psychometric Theory 2nd Editn.*. McGraw-Hill. ISBN: 0-07-047465-6

Nunnally, J.C. and Bernstein, I. (1994) *Psychometric Theory. 3rd Edition*. McGraw-Hill. ISBN: 0-07-047849-X

Suen, H.K. (1990) *Principles of Test Theory*. Lawrence Erlbaum. ISBN: 0-8058-0198-7

Van der Linden, W. (1994) Fundamental Measurement and the Fundamentals of Rasch Measurement. In M. Wilson (ed.) *Objective Measurement: Theory into Practice Vol. 2*. Ablex Publishing Corp. ISBN: 0-89381-843-1

Wright, B. (1998) Fundamental Measurement for Psychology. Rasch Measurement Transactions (<http://mesa.spc.uchicago.edu/memo64.htm>), Memo 64, , 1-33

The String Measure, Evoked Potential Correlate Research, and Psychometric IQ.

Barrett, P.T. and Eysenck, H.J.(1992) Brain evoked potentials and intelligence: The Hendrickson paradigm. *Intelligence*, 16, 3-4, 361-382.

Barrett, P. T., and Eysenck, H. J. (1992) *Brain electrical potentials and intelligence*. In A. Gale & M. W. Eysenck (Eds.). Handbook of individual differences: Biological perspectives. John Wiley & Sons Ltd

Barrett, P. T., Eysenck, H. J. (1994) The relationship between evoked potential component amplitude, latency, contour length, variability, zero-crossings, and psychometric intelligence. *Personality & Individual Differences*, 16, 1, 3-32.

Barrett, P. T., Petrides, K.V., Eysenck, H.J. (1998) Estimating inspection time: response probabilities, the BRAT IT algorithm, and IQ correlations. *Personality and Individual Differences*, 24, 3, 405-419

Bates, T. C., and Eysenck, H. J. (1993) Intelligence, inspection time, and decision time. *Intelligence*, 17, 523-531

Bates, T., Stough, C., Mangan, G., Pellett, O. (1995) Intelligence and complexity of the averaged evoked potential: An attentional theory. *Intelligence*, 20, 27-39

Batt, R., Nettelbeck, T., Cooper, C.J. (1999) Event related potential correlates of intelligence. *Personality and Individual Differences*, 27, 639-658.

Blinkhorn, S.F. and Hendrickson, D.E. (1982) Averaged evoked responses and psychometric intelligence. *Nature*, 195, 596-597.

Burns, N. R., Nettelbeck, T., Cooper, C. J. (1997) The string measure of the ERP: What does it measure?. *International journal of psychophysiology*, 27, 43-53

Burns, N.R., Nettelbeck, T., Cooper, C.J. (1999) Inspection Time correlates with general speed of processing but not with fluid ability. *Intelligence*, 27, 1, 37-44

Burns, N. R., Nettelbeck, T., Cooper, C. J. (1996) The string measure of the event-related potential, IQ and inspection time. *Personality & Individual Differences*, 21, , 563-572

Caryl, P.G. (1994) Early event-related potentials correlate with inspection time and intelligence. *Intelligence*, 18, 1, 15-46.

Caryl, P.G. and Fraser, I.J. (1985) The Hendrickson “string length” measure and intelligence – a replication. Paper presented at Psychophysiology Society Scottish Conference.

Ertl, J. P., Schafer, E. W. P. (1969) Brain response correlates of psychometric intelligence. *Nature*, 223, 421-422

Fox, S.S. and O'Brien, J.H. (1965) Duplication of evoked potential waveform by curve of probability of firing of a single cell. *Science*, 147, 888-890.

Gilbert, D.G., Johnson, S., Gilbert, B.O., & McCulloch, M.A. (1991) Event related potential correlates of IQ. *Personality and Individual Differences*, 12, 1183-1184.

Haier, R.J., Robinson, D.L., Braden, W., and Kregel, M. (1984) Psychometric intelligence and visual evoked potentials: a replication. *Personality and Individual Differences*, 5, 487-489.

Hendrickson, A. E. (1982) *The biological basis of intelligence. Part 1: Theory*. In Eysenck, H.J. (Ed.). *A Model for Intelligence*. Springer-Verlag. ISBN: 0-387-11676-1

Hendrickson, D. E. (1982) *The biological basis of intelligence. Part 2: Measurement*. In Eysenck, H.J. (Eds.). *A Model for Intelligence*. Springer-Verlag. ISBN: 0-387-11676-1

Mackintosh, N. J. (1986) The biology of intelligence? *British Journal of Psychology*, 77, 1-18

Rhodes, L., Dustman, R., and Beck, E. (1969) The visual evoked response: a comparison of bright and dull children. *Electroencephalography and Clinical Neurophysiology*, 27, 364-372.

Stough, C.K.K., Nettelbeck, T., and Cooper, C.J. (1990) Evoked brain potentials, string length, and intelligence. *Personality and Individual Differences*, 11, 4, 401-406

Stough, C.K.K. and Bates, T. C.(submitted) The Hendrickson evoked potential intelligence paradigm: replication and personality effects. *Personality and Individual Differences*.

Vetterli, C. F., and Furedy, J. J. (1985) Evoked potential correlates of intelligence: Some problems with Hendrickson's string measure of evoked potential complexity and error theory of intelligence. *International Journal of Psychophysiology*, 3, 1-3

Vogel, F., Kruger, J., Schalt, E., Schnobel, R., Hassling, L. (1987) No consistent relationships between oscillations and latencies of visually and auditory evoked EEG potentials and measures of mental performance. *Human Neurobiology*, 6, 173-182

Widaman, K. F., Carlson, J. S., Saetermoe, C. L., Galbraith, G. C. (1993) The relationship of auditory evoked potentials to fluid and crystallized intelligence. *Personality and Individual Differences*, 15, , 205-217

The Robinson “Collection” on Oscillatory “component” AEPs and Arousability Theory.

Robinson, D. L. (1985) How personality relates to intelligence test performance: Implications for a theory of intelligence, ageing research and personality assessment. *Personality and Individual Differences*, 6, 2, 203-216

Robinson, D. L. (1987) Chapter 8: *A neuropsychological model of personality and individual differences*. In J. Strelau, H. J. Eysenck (Eds.). *Personality dimensions and arousal: Part III Neo-Pavlovian concepts of temperament*. Plenum Press.

Robinson, D.L. (1993) EEG and Intelligence: an appraisal of methods and theories. *Personality and Individual Differences*, 15, 695-716.

Robinson, D. L. (1996) A test of the Hendrickson postulate that reduced EEG response variance causes increased AEP contour length: Implications for the "neural transmission errors" theory of intelligence. *Personality & Individual Differences*, 22, , 173-182

Robinson, D.L. (1996) *Brain, Mind, and Behaviour: A New Perspective on Human Nature*. Praeger Press. ISBN: 0-275-95468-4

Robinson, D. L., Behbehani, J (1997) Intelligence differences: Neural transmission errors or cerebral arousability?. *Kybernetes*, 25, 407-424

Joel Michell’s work on Fundamental Measurement and Quantitative Science

Michell, J. (1986) Measurement scales and statistics: a clash of paradigms. *Psychological Bulletin*, 100, 3, 398-407

Michell, J. (1990) *An Introduction to the Logic of Psychological Measurement*. Lawrence Erlbaum. ISBN: 0-8058-0566-4

Michell, J. (1994) Numbers as quantitative relations and the traditional theory of measurement. *British Journal for the Philosophy of Science*, 45, 389-406

Michell, J. (1997) Quantitative science and the definition of measurement in Psychology. *British Journal of Psychology*, 88, 3, 355-383

Michell, J. (1999) *Measurement in Psychology : Critical History of a Methodological Concept*. Cambridge University Press. ISBN: 0-52162-1208

Michell, J. (in press) Teaching and Misteaching measurement in Psychology. *Australian Psychologist*.

Michell, J. (in press) Normal Science, Pathological Science, and Psychometrics. *Theory and Psychology*.

The “in press” articles are available from Joel – email him at:
joelm@psych.usyd.edu.au

See also:

Kline, P.(1998) *The New Psychometrics. Science, psychology, and measurement*.
Routledge, London & New York. ISBN: 0-415-18751-6

Michael Maraun’s work on Meaning and Measurement Relations

Jackson, J.S.H., Maraun, M. (1996) The conceptual validity of empirical scale construction: the case of the Sensation Seeking Scale. *Personality and Individual Differences*, 21, 1, 103-110

Jackson, J.S.H., Maraun, M. (1996) Whereof one cannot speak, thereof one must remain silent. *Personality and Individual Differences*, 21, 1, 115-118

Maraun, M.D. (1998) Measurement as a normative practice: Implications of Wittgenstein's philosophy for measurement in psychology. *Theory and Psychology*, Vol 8(4), 435-461

Ter Hark, M. (1990) *Beyond the Inner and the Outer*. Kluwer Academic Publishers. ISBN: 0-7923-0850-6

Brunswik Symmetry and Werner Wittman’s Group

Werner’s homepage where many papers can be downloaded:

<http://www.psychologie.uni-mannheim.de/psycho2/psycho2.en.php3?language=en>

e.g. Working Memory Capacity and Intelligence: An Integrative Approach Based on Brunswik Symmetry

Abstract

Working memory is conceptually differentiated according to functions and contents. The resulting two-facet framework parallels the structure of intellectual abilities in the Berlin Model of Intelligence Structure (BIS). A battery of 24 working memory tasks was assembled to represent the supposed facet structure of the construct and administered together with a test for the BIS to 128 young adults. General working memory capacity was highly related to general intelligence. The prediction of intellectual abilities through working memory capacity could be enhanced by differentiating both predictor and criterion according to the functional or to the content facet. The relationship between working memory and intelligence was thereby established not only in general, but also for specific corresponding subconstructs. The results show the fruitfulness of Brunswik’s lens model as a methodological tool.

also...

Hammond, K. R. (1998) Brunswik's Challenge. Brunswik Web Essay # 1
(<http://www.albany.edu/cpr/brunswik/essay1.html>), , , 1-6.

Hammond, K. R. (1999) Ecological Validity: Then and Now. Brunswik Web Essay # 2
(<http://www.albany.edu/cpr/brunswik/essay2.html>), , , 1-22. Hammond, K.R. (1998)

Hammond, K. R. (1999) Representative Design. Brunswik Web Essay #3
(<http://www.albany.edu/cpr/brunswik/essay3.html>), , , 1-7.