

# The g factor

SIR — N. J. Mackintosh in his review of *The g Factor* by Christopher Brand<sup>1</sup>, is incorrect in stating that neither Brand nor anyone else “ever established that inspection time [IT] owes its correlation with IQ scores to its correlation with *g*”.

IT is the speed with which a person can make a simple visual (or auditory) discrimination. The *g* factor is the largest or highest-order factor common to all of the tests in a battery of psychometric measures of cognitive abilities, such as the collection of diverse subtests typically used to obtain an IQ score<sup>2</sup>. A factor analysis of the correlations among various cognitive tests invariably yields a general factor (*g*) and two or more other factors that are correlated with more specific abilities, such as verbal, spatial and memory. A meta-analysis of all the reported correlations between IT and various IQ and other psychometric tests published before 1989 gave an average correlation of  $-0.54$  after correction for artefactual sources of error ( $-0.30$  before correction)<sup>3</sup>.

The question raised by Mackintosh, put more precisely, is whether IT is correlated more with the *g* factor than it is with factors other than *g* in test batteries used to measure IQ. There are three ways to answer this question empirically: (1) factor analyse IT among a battery of psychometric tests of an IQ battery, and (3) correlate the column vector of (a) the correlations between IT and each of the subtests, and (b) the column vector of the correlations between each of the subtests and *g*. Application of these methods shows that the *g* factor is in fact the main source of the commonality between IT and IQ.

IT had larger correlations with *g* than with any other psychometric factors (independent of *g*) in two studies<sup>4,5</sup>. Both studies also show a high correlation between the vectors of IT and *g* subtests. In a factor analysis of the correlations between IT and eleven psychometric tests (Raven's Advanced Progressive Matrices and the ten subtests of the Multidimensional Aptitude Battery) administered to 101 college students, IT has its largest correlation with the *g* factor, a much smaller correlation with the spatial factor and a near-zero correlation with the verbal factor, both factors independent of *g*. (The correlations used for this factor analysis, all from one study, can be found in refs. 6 and 7.)

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