Utility of $g$

1. Higher levels of $g$ lead to higher levels of performance in all jobs and along all dimensions of performance. The average correlation of mental tests with overall rated job performance is around .5 (corrected for statistical artifacts).

2. There is no ability threshold above which more $g$ does not enhance performance. The effects of $g$ are linear: successive increments in $g$ lead to successive increments in job performance.

3. (a) The value of higher levels of $g$ does not fade with longer experience on the job. Criterion validities remain high even among highly experienced workers. (b) That they sometimes even appear to rise with experience may be due to the confounding effect of the least experienced groups tending to be more variable in relative level of experience, which obscures the advantages of higher $g$.

4. $g$ predicts job performance better in more complex jobs. Its (corrected) criterion validities range from about .2 in the simplest jobs to .8 in the most complex.

5. $g$ predicts the core technical dimensions of performance better than it does the non-core “citizenship” dimension of performance.

6. Perhaps as a consequence, $g$ predicts objectively measured performance (either job knowledge or job sample performance) better than it does subjectively measured performance (such as supervisor ratings).
Utility of $g$ relative to other “can do” components of performance

7. Specific mental abilities (such as spatial, mechanical, or verbal ability) add very little, beyond $g$, to the prediction of job performance. $g$ generally accounts for at least 85-95% of a full mental test battery’s (cross-validated) ability to predict performance in training or on the job.

8. Specific mental abilities (such as clerical ability) sometimes add usefully to prediction, net of $g$, but only in certain classes of jobs. They do not have general utility.

9. General psychomotor ability is often useful, but primarily in less complex work. Their predictive validities fall with complexity while those for $g$ rise.

Utility of $g$ relative to the “will do” component of job performance

10. $g$ predicts core performance much better than do “non-cognitive” (less $g$-loaded) traits, such as vocational interests and different personality traits. The latter add virtually nothing to the prediction of core performance, net of $g$.

11. $g$ predicts most dimensions of non-core performance (such as personal discipline and soldier bearing) much less well than do “non-cognitive” traits of personality and temperament. When a performance dimension reflects both core and non-core performance (effort and leadership), $g$ predicts to about the same modest degree as do non-cognitive (less $g$-loaded) traits.

12. Different non-cognitive traits appear to usefully supplement $g$ in different jobs, just as specific abilities sometimes add to the prediction of performance in certain classes of jobs. Only one such non-cognitive trait appears to be as generalizable as $g$: the personality trait of
Table 4-cont.

... conscientiousness/integrity. Its effect sizes for core performance are substantially smaller than g’s, however.

**Utility of g relative to the job knowledge**

13. g affects job performance primarily *indirectly* through its effect on job-specific knowledge.

14. g’s direct effects on job performance increase when jobs are less routinized, training is less complete, and workers retain more discretion.

15. Job-specific knowledge generally predicts job performance as well as does g among experienced workers. However, job knowledge is not generalizable (net of its g component), even among experienced workers. The value of job knowledge is highly job specific; g’s value is unrestricted.

**Utility of g relative to the “have done” (experience) component of job performance**

16. Like job knowledge, the effect sizes of job-specific experience are sometimes high but they are not generalizable.

17. In fact, experience predicts performance less well as all workers become more experienced. In contrast, higher levels of g remain an asset regardless of length of experience.

18. Experience predicts job performance less well as job complexity rises, which is opposite the trend for g. Like general psychomotor ability, experience matters least where g matters most to individuals and their organizations.

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\(^a\)See Gottfredson (in press) for fuller discussion and citation. Table reprinted from Gottfredson (in press) with permission from Lawrence Erlbaum Associates.