

Psychometric Review of the SpeedRun IQ Test

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I conducted a preliminary psychometric review of the SpeedRun IQ Test using three datasets comprising 55 items and 1,437 valid test sessions. The purpose was to evaluate data quality, score distribution, item behaviour, and the extent to which the timed format influences the final score.

1. Data quality

The statistical report indicates a reasonably strong data-cleaning process. The original dataset contained 1,820 records. After the removal of duplicate and invalid sessions, 1,437 valid sessions remained. The final dataset includes item responses, total scores, elapsed time, and the number of items reached. Numerical responses were also normalized where formatting differences represented the same answer.

The resulting sample is adequate for an initial psychometric evaluation, although it should not yet be considered a representative normative sample of the general population.

2. Score distribution

The overall score distribution is highly suitable for further psychometric analysis:

* Mean = 26.75/55

* Median = 27

* SD = 8.73

* Skewness = -0.11

* Excess kurtosis = -0.02

The distribution is therefore very close to normal in practical terms. This is encouraging for a continuous cognitive-performance measure.

However, a normal score distribution does not by itself demonstrate that the test measures general intelligence or IQ.

3. Item difficulty

The 55 items show a broad difficulty range, with approximately 10%–98% correct among participants who attempted each item. This is potentially a strength because the test contains items capable of differentiating across a wide range of performance.

However, item reach decreases substantially for later items. Consequently, observed item difficulty is partly confounded with item position and participant selection: later items are attempted by a smaller and potentially higher-performing subgroup.

4. Most important finding: speed effect

The strongest finding concerns the relationship between performance and test progression.

The correlation between total score and number of items reached is $r^* = .702$. By comparison, the correlation between score and elapsed time is $r^* = .266$. A regression using items reached and elapsed time explains approximately 52% of the variance in total score ($R^{*2} = .520$).

This demonstrates that the 13-minute constraint materially influences the final score.

The SpeedRun therefore appears to measure a combination of:

cognitive ability + processing speed + test-taking strategy under time pressure**

This is not necessarily a weakness if this combination is the intended construct. It does, however, mean that the score should not automatically be interpreted as equivalent to a conventional IQ score.

5. Overall conclusion

The evidence so far is promising, but establishing the SpeedRun as a validated IQ test should be approached with caution.

The items appear to have a useful range of difficulty, and the overall score behaves well statistically. The principal psychometric issue is the substantial influence of speed and item progression.

It is therefore recommended that the instrument be described conservatively as a speeded measure of cognitive ability and problem-solving performance until further validation establishes its relationship with established measures of general intelligence.

Signature:

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