

Growth Scale Values



What are GSVs?

Growth scale values (GSVs) describe the examinee's absolute level of performance on a test. GSVs are a linear transformation of the Rasch ability scale, obtained by multiplying the Rasch ability score by 9.1024 and adding a constant to eliminate negative values. Because they are based on a Rasch calibration, GSVs have equal intervals.

How are GSVs useful?

GSVs are useful for comparing an examinee's performance relative to their own past performance for measuring change or progress over time.

Can't I just use standard scores or raw scores to measure growth?

GSVs are preferred over standard scores and percentile ranks for measuring growth because GSVs reflect the examinee's absolute (rather than relative) level of performance. Raw scores by themselves are undesirable for measuring growth because they are not on equal interval scales, which means that a given difference in raw score points does not have the same meaning at different score levels.

Remember:

- Comparing standard scores (and percentile ranks) over time indicates whether the examinee has improved faster than, slower than, or at the same rate as their peers in the normative sample.
- Comparing GSVs over time indicates whether the examinee's performance, or skill level, has changed relative to their own previous performance.

How do I measure an examinee's change in performance using GSVs?

The following guidelines apply when using GSVs:

- An examinee's GSVs for the same subtest across administrations can be subtracted or averaged, which makes them well-suited for progress monitoring.
- GSVs obtained on different subtests cannot be averaged or compared.
- Use caution when interpreting scores if fewer than 3 months have passed between testing sessions; with short testing intervals, growth rates may be inflated due to practice effects.
- Use caution when interpreting fewer than three GSVs—fewer than three GSVs may not form a reliable growth trend.
- Consider whether the change in GSVs is significant when reporting results. When the difference between GSVs is large enough to be statistically significant, the probability of the true scores being equal is very small. Thus, one can have confidence that a significant difference indicates a true change in the examinee's performance over time. Reporting GSVs without reference to the significance of score differences only provides information about the direction of change.