



MAPIEN RADAR WHITEPAPER SERIES #2

Why are ability assessments so valuable

in predicting employee performance?

The value of Ability Assessments



Many workplaces have been using ability assessments for a considerable time as part of their selection process, to predict performance & find the right fit employees for their organisation.

Ability assessments comprise a broad category of psychometric assessments. The term *ability* can go by many names, including general mental ability (GMA), problem-solving ability, and 'g', and is related to concepts like learning agility and trainability.

At their core, ability assessments measure an individual's innate cognitive aptitude, which you might describe to be the raw 'intellectual horsepower' you were built with.

There are different ability assessments which explore this aptitude and 'intellectual horsepower' in various different forms, including:



abstract problem-solving



critical analysis



information processing

However, providing an estimation of an individual's GMA overall is what most ability measures seek to do, and is the most widely used.

What a lot of people don't realise is that GMA is a very complex construct under the surface^[1] (with many subdimensions), and it is therefore difficult to get a single assessment or type of question that reliably measures it.

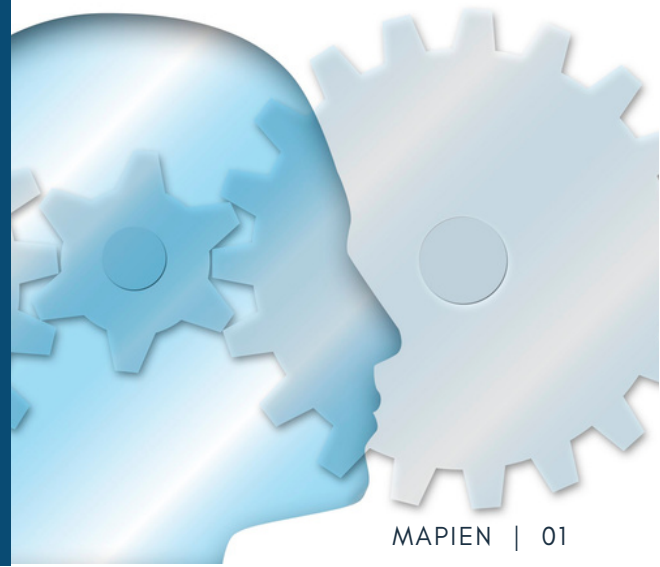
In fact, the research and science will tell you that you need to be able to measure at least three of these underlying dimensions together before being able to reach a valid estimation of a person's GMA^[2] like we typically want to.

[1] CHC Model: <https://doi.org/10.1016/j.intell.2008.08.004>

[2] Hunter's Positive Manifold Theory: <https://doi.org/10.1080/09540269974483>

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ABILITY ASSESSMENTS
MEASURE YOUR RAW
INTELLECTUAL HORSEPOWER



A recruitment & selection tool



This is why, in a well-designed recruitment and selection process, we usually see organisations measure ability using three separate abilities assessments.



Abstract Reasoning Assessments:

Measure an individual's ability to effectively identify the underlying logic of a pattern and determine an appropriate solution. Abstract reasoning ability is also believed to explore an individual's capacity to quickly learn new concepts.



Verbal Reasoning Assessments:

Measure an individual's ability to understand and think logically about written and verbal information, and to apply this understanding to reach well-informed conclusions.



Numerical Reasoning Assessments:

Measure an individual's ability to interpret and analyse numerical data (such as that presented in graphs and tables), and to apply this understanding to reach well-informed conclusions.

These types of abilities are featured in the full intelligence model, and are selected most often because they most strongly reflect the sorts of things that a job usually involves (which we call 'face validity'), like writing, comprehending verbal information, analysing numerical or quantitative data, and solving unique & novel problems from scratch.

Indeed, most roles are likely to benefit from individuals having strong capacity within these areas; however, there are also other ability assessments that can be applied to roles and contexts in which they are appropriate and important, such as mechanical reasoning assessments and spatial reasoning assessments for engineering roles.



Why we use Ability Assessments



As a standalone measure of problem solving, general mental ability is the most valid and reliable, from which to make defensible and informed decisions.

Indeed, as might be expected, there has been extensive research conducted into ways to predict an individual's performance within the workplace.

Research over the past 100 years has consistently demonstrated that GMA tends to be one of the strongest predictors of future job performance across most industries and most jobs.^[1] Abilities assessments such as the ones described above can provide an estimation of GMA when used in a battery with other ability assessments.^[2]

The predictive strength of GMA is such that it can individually account for upwards of 25% of what makes up a person's performance (that is, without the inclusion of any other information, such as interviews)^[3] and, although the relative strength of GMA does change slightly as research is updated,^[4] it remains a very powerful method in supporting an organisation to make a 'correct hire'.



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EMPLOYERS WHO USE COGNITIVE SKILLS TESTS FOR RECRUITMENT ARE 24% MORE LIKELY TO HAVE A HIGH PERCENTAGE OF EMPLOYEES WHO EXCEED PERFORMANCE EXPECTATIONS.

Aberdeen Group; cited from Harver

As such, whilst it may be tempting to also look to individual abilities scores like numerical reasoning or verbal reasoning for a more detailed account of relative strengths for a candidate, these are less reliable and really only constituent components of the more useful and reliable GMA. This is so much the case, that some psychometric assessment suppliers will use the three abovementioned ability assessments to measure GMA, but will not provide the individual scores of each assessment when releasing the results – instead reporting only a single overall score so as not to create undue fairness issues and misinterpretation.

[1] Schmidt and Hunter: <https://psycnet.apa.org/record/1998-10661-006>

[2] Test Partnership: <https://www.testpartnership.com/blog/ability-tests-recruitment.html>

[3] Schmidt and Hunter: <https://psycnet.apa.org/record/1998-10661-006>

[4] Sackett et al: <https://doi.org/10.1037/apl0000994>

When to use Ability Assessments



It is Mapien's recommendation that, given the effectiveness of ability assessments for predicting performance in a role, they should be used as part of the recruitment and selection process.

Our caveat is they should always be used in an appropriate, equitable, and non-discriminatory manner.

The utilisation of ability assessments is considered to be particularly valuable as the complexity of a role increases, as the predictive power of GMA also increases for these roles.

It is, however, noted that ideally ability assessments are not used in isolation, but rather integrated with various other sources of information, such as interviews and behavioural-style assessments, to arrive at a more holistic understanding of an individual and their likely 'fit'.

This is because a highly capable individual who does not fit with the broader environment and culture may not be motivated to apply their talent.



Ultimately, we will almost always recommend GMA as the most appropriate & powerful choice when using psychometric assessments in your selection process.

Indeed, our jobs typically require analysis, decision-making, and problem-solving at their core, and it therefore makes sense to develop some insight into peoples' capacity in these areas as early as you can.

Connect with us!

If you would like to further discuss psychometric assessments, and how they may benefit you &/or your workplace, please contact us:

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