

DESIGMA[®]-A

Design a Matrix – Advanced

Sample Report

ID 467-627

Date 23/11/2017

Overview

Structure of this report

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Only qualified psychologists or appropriately trained test administrators should interpret psychometric test results. Please follow the relevant guidelines from the appropriate professional body.

DESIGMA®-Advanced

Introduction

DESIGMA®-Advanced is a figural matrices test for assessing general cognitive ability. It is distinguished from conventional matrices tests by its innovative response format, which requires the respondent to assemble the solution from individual building blocks. The test is suitable for use in any context that requires selection on the basis of general cognitive ability, for example in recruitment. It can also be used in relevant research fields.

The DESIGMA test score measures the ability to analyse figural material in order to recognise patterns or rules and apply them further. In the research literature, this ability is referred to variously as logical reasoning, geometric reasoning, or fluid intelligence. It should be emphasised that, due to the use of geometric shapes, culture- and education-dependent skills such as language or acquired knowledge are of little relevance; the test score predominantly reflects the cognitive abilities of the test taker.

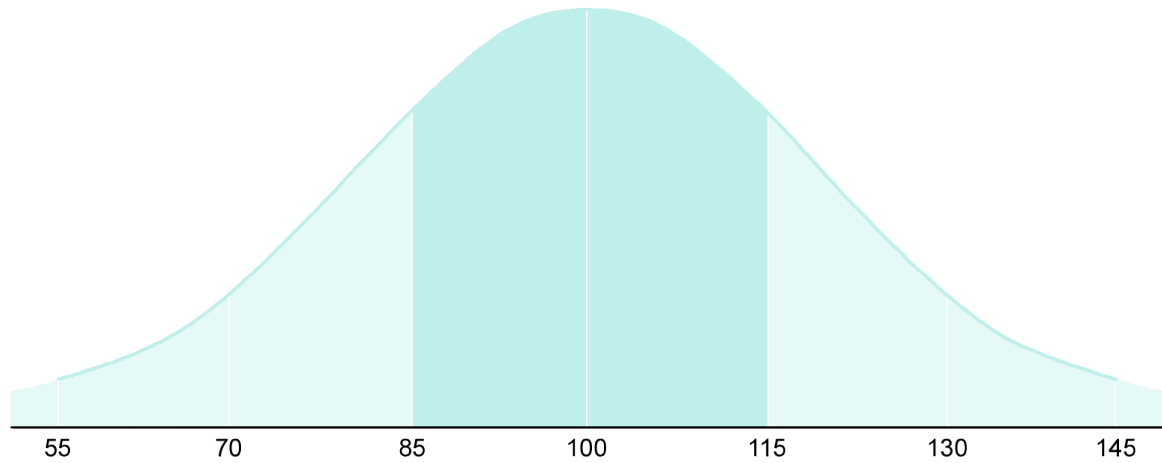
Each item of the test is based on a 3x3 matrix, filled with geometric shapes according to particular rules. Eight cells are shown while one is initially left blank. The task for the test taker is to infer the rules and thereby deduce how the matrix can be logically completed. This solution must then be assembled from elementary building blocks; it cannot be arrived at by guessing or by comparing item stem and answer format in order to discard distractors. Consequently, DESIGMA remains effective at the higher end of the cognitive ability spectrum.

Interpretation of standardised scores

The DESIGMA test score is reported as a standardised score: it compares an individual performance with the performance of a reference group of other people. Different groups are available, allowing the respondent to be compared with people who are similar in characteristics such as nationality, age or gender. The group used for this report is named 'UK norm, total sample'.

The result is typically expressed as an IQ score. IQ scores are calibrated to have a mean of 100 and a standard deviation of 15. Scores below 85 are considered below average, scores above 115 as above average, and those between 85 and 115 as lying broadly in the average range.

The curve in the diagram below shows the distribution of scores in the norm sample; a distribution with this shape is called 'normal' or 'Gaussian'. The 'average range' (IQ scores 85–115) is emphasised through darker shading. Average scores occur very frequently and the peak of the curve is at the mean score of 100. The further a score lies from the mean, the less frequently it occurs and hence the lower the curve. It is instructive to plot a respondent's score on this curve (as in the 'Scale Details' section normally included later in this report). Such a plot shows at a glance whether the score is above or below average. Further, it helps in visualising what proportion of people in the norm sample achieved higher or lower test scores; this is indicated by the area under the curve to the right or left of the given score. If a respondent scored 100, it means that 50% of the norm sample achieved a higher test score and 50% a lower or equal score. About 68% of all test scores lie between 85 and 115. Only about 16% of people in the norm sample scored more than 115, and only about 2.5% scored more than 130. Similarly, only 16% of people in the norm sample scored less than 85 and only about 2.5% scored less than 70.



Results

For the chosen norm, two scoring methods are available: *classical scoring* and *partial credit scoring*. Classical scoring awards one raw score point for each correctly solved item; no credit is given for solutions that are not completely correct. Partial credit scoring awards one raw score point for each correctly applied rule contributing to the solution (up to 5 points for the most complex items). In this method, complex items are ‘worth more’ and partial credit is given for partially correct solutions.

In applications, the choice of scoring method should be based on the ability level of the respondents being assessed. Due to its rather high difficulty level, the results of classical scoring are more suitable for differentiating in the high ability spectrum. For respondents of average or low ability, partial credit scoring is recommended, due to the medium item difficulties obtained under this approach. Further analysis may be found in the DESIGMA®-Advanced (UK Adaptation) test manual, available from Hogrefe.

Test score (classical scoring)

The score achieved suggests that the respondent’s general cognitive performance is above average compared with the reference group.

Test score (partial credit scoring)

Taking into account partially correct solutions, the score achieved suggests that the respondent’s general cognitive performance is above average compared with the reference group.

Profile sheet

Design a Matrix – Advanced

UK norm, total sample · IQ Score (100+15z)

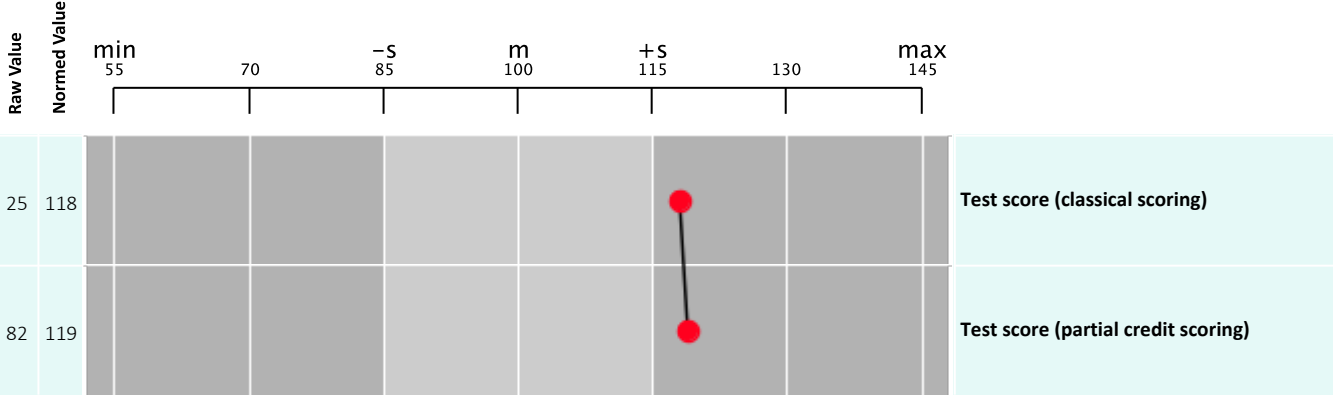


Table of scores

Design a Matrix – Advanced

UK norm, total sample · IQ Score (100+15z)

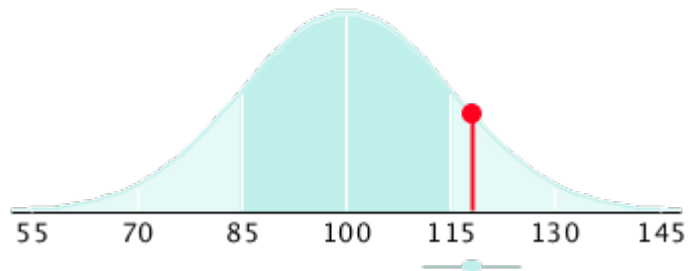
Scale	Raw val	Normed val
Test score (classical scoring)	25	118
Test score (partial credit scoring)	82	119

Scale details

Test score (classical scoring)

UK norm, total sample · IQ Score (100+15z)

Raw val	25
Normed val	118
Missing vals	0
Confidence interval	[111 - 125]



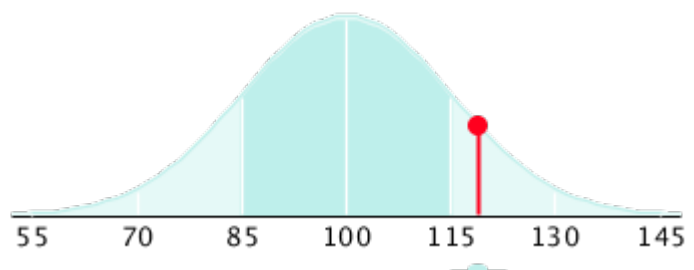
This score is a measure of general cognitive ability: higher scores signify greater cognitive ability. The raw score is simply the number of correctly solved items. All 38 items carry equal weight.

The distribution of scores in the reference group is illustrated above. The average range, containing 68 per cent of all test results, is shaded in a darker colour. The test taker's result is plotted in red.

Test score (partial credit scoring)

UK norm, total sample · IQ Score (100+15z)

Raw val	82
Normed val	119
Missing vals	0
Confidence interval	[115 - 123]



This score, too, is a measure of general cognitive ability: higher scores signify greater cognitive ability. Under partial credit scoring, one point is scored for each correctly applied rule contributing to the solution. Items become 'worth more' as they become more complex (up to 5 points for the most complex items) and it is possible to gain partial credit for responses that are not fully correct.

The distribution of scores in the reference group is illustrated above. The average range, containing 68 per cent of all test results, is shaded in a darker colour. The test taker's result is plotted in red.

Item-level analysis

No.	Item (abbreviated)	Response	Time (sec)
1	Matrix 1	correct solution	8.6
2	Matrix 2	correct solution	9
3	Matrix 3	correct solution	5.4
4	Matrix 4	correct solution	12.1
5	Matrix 5	correct solution	36.8
6	Matrix 6	correct solution	23.2
7	Matrix 7	correct solution	24.1
8	Matrix 8	correct solution	32.9
9	Matrix 9	correct solution	33.6
10	Matrix 10	correct solution	20.3
11	Matrix 11	correct solution	29.8
12	Matrix 12	correct solution	39.4
13	Matrix 13	correct solution	46.2
14	Matrix 14	correct solution	38.8
15	Matrix 15	correct solution	31.5
16	Matrix 16	correct solution	22.4
17	Matrix 17	correct solution	44.4
18	Matrix 18	correct solution	23.9
19	Matrix 19	correct solution	25.9
20	Matrix 20	correct solution	28.4
21	Matrix 21	correct solution	55.4
22	Matrix 22	incorrect answer	90
23	Matrix 23	correct solution	87
24	Matrix 24	correct solution	45.1
25	Matrix 25	correct solution	46.4
26	Matrix 26	correct solution	90
27	Matrix 27	incorrect answer	82.5
28	Matrix 28	incorrect answer	48.9
29	Matrix 29	incorrect answer	25.5
30	Matrix 30	incorrect answer	34.8
31	Matrix 31	incorrect answer	35.3
32	Matrix 32	incorrect answer	69.8
33	Matrix 33	incorrect answer	32.6
34	Matrix 34	incorrect answer	36.3
35	Matrix 35	incorrect answer	39.2
36	Matrix 36	incorrect answer	35.5
37	Matrix 37	incorrect answer	66.1
38	Matrix 38	incorrect answer	45.3
Total item response time			28:12

Response statistics

Page focus events

No page focus events were detected during this test.

Page focus events occur when a test taker switches away from the test to another window on the computer. For a detailed explanation, please consult the Hogrefe Testsystem Glossary.