



# Raven's™ Adaptive

Frequently Asked Questions

## Ravens™ Adaptive Frequently Asked Questions

Ravens™ Adaptive is the new version of RAVEN'S™ which utilises computerised adaptive technology to deliver a shorter and more reliable test. Ravens™ Adaptive delivers a set of 15 questions randomly selected from a pool (item bank) of matrices. This random assignment protects the integrity of the items and ensures that questions are not over- exposed. This document provides answers to the most frequently asked questions concerning the features and administration of Ravens™ Adaptive.

### What does RAVEN'S™ Adaptive measure?

Ravens™ Adaptive is a non-verbal assessment tool designed to measure an individual's ability to think laterally, solve unfamiliar problems, make meaning out of confusion, and the speed with which they learn or "grasp" new things.

### For which type or level of candidates can I use RAVEN'S™ Adaptive?

Ravens™ Adaptive can be used to evaluate a candidate's potential for success a wide range of positions in an organisation. It is suitable for a wide range of ability levels as the items are presented at the ability level of the test taker.

### What are the most important features in the RAVEN'S™ Adaptive?

Compared with traditional fixed form tests (like the Ravens™ APM II) scored using classical test theory, computerised adaptive testing (CAT) presents a modern method of delivering tests to job applicants or students. One of the key features of CAT is that the difficulty of items presented to each test-taker is tailored to their level of ability, meaning that those who answer the items correctly will receive more difficult ones. Despite this, it is possible to compare test scores. Some of benefits of Raven's Adaptive include:

#### Shorter tests:

The Ravens™ Adaptive test is shorter than previous Ravens™ versions, and contains just 15 items. For supervised testing this can translate into financial benefits, as testing venues, supervisors and administrators need to be booked for shorter periods. For unsupervised testing, test-takers are less likely to become distracted or lose focus while completing the test.

#### Item-banking:

As the test items are selected from a large bank, they do not become over-exposed. There is little benefit to test-takers sharing the items as each one will receive a different set of items. This maintains the integrity of the test. Item-banking is especially important for tests completed in an unsupervised environment.

### **Fair:**

Ravens™ Adaptive has been designed so that examinees are all measured with the same level of precision, even though they all potentially see different items. This makes the test extremely fair from a psychometric perspective. In fact, despite being shorter, CAT generally produces more reliable scores than classically scored tests.

### **Test taker experience:**

A CAT will provide an appropriate challenge for each examinee. Low ability examinees are not discouraged or intimidated. High ability examinees enjoy receiving difficult items. If a job applicant receives a poor candidate experience during the assessment process, this may impact on their opinion of the hiring organisation.

### **Increased motivation:**

Because of the better experience, there is likely an increase in examinee motivation. Examinees with lower levels of ability feel better, whilst those with higher levels feel challenged. Both will try harder than with a conventional test.

### **How can we ensure that the randomly generated adaptive tests are equivalent in terms of difficulty and item content?**

Each item is coded by difficulty on a finely incremented scale. Upon test completion, the test-taker is assigned a theta score. Somebody answering 15 difficult questions will receive a different theta score to someone answering 15 easy items.

CAT is a further adaptation to item-banking, presenting items to suit the response of the test taker. If the responder answers an item correctly, the next item will be harder and vice versa.

Our studies have shown that a reliable score can be obtained with 15 items. Therefore, the tests are set to a fixed length of 15 items.

### **How long does it take to complete the test?**

Each test contains only 15 items. When 15 items have been answered the test finishes. If a candidate chooses not to answer 15 items, they will not obtain a score.

The test is untimed, but in our studies the average time taken for someone to complete it is 12 minutes.

### **Questions on Scores and General Scale Interpretation**

#### **Theta Scoring and Item-banks**

An advanced scoring methodology is used to calculate a test-taker's theta score, which is an estimate of someone's ability based on their responses to the items they completed. Each item has a difficulty and discrimination characteristic, based on research data, which is taken into account when scoring.

For example, test-takers will receive higher scores if they successfully answer the more difficult and discriminating items in the test than those that respond correctly to only the easier and less discriminating items. This results in a more sophisticated scoring system to traditional 'number correct' raw scores and also allows for candidates to complete different test items and still be scored on the same scale, which is not possible with traditional scoring.

Theta scores for the RAVEN'S™ Adaptive test range from -4.000 to +4.000. Scores at the lower end of the scale (-4.000) signify very lower levels of ability, whilst scores at the top end of the scale (+4.000) indicate

someone with very high levels of ability.

Theta scores run on a finely incremented decimal point scale, but are not easy to interpret. Therefore, scores are converted to percentiles for interpretation purposes.

### **Why aren't theta scores presented in the profile reports?**

The theta scores are converted to percentiles for easier interpretation and comparison purposes and these are included in the profile reports.

### **Percentile Scores and Norms**

A test score is compared against a Norm Reference Group. For example, if you are using the test to recruit a manager it makes sense to compare the individual's theta score against the scores of other managers who have taken the tests. These are contained in a norm group. There are a number of different norm groups to compare scores against.

Using the example above, if the candidate achieved a theta score of -1.500 (on the scale ranging from

-4.000 to +4.000), if 80% of the people making up the norm group achieved scores of higher than

-1.500, the person with the score of -1.500 is only at the 20th percentile, which is a low percentile score. The maximum score achievable is 99th percentile.

### **What research and validation has been carried out on RAVEN'S™ Adaptive?**

Descriptive statistics and reliability values for the new test are presented in the Technical Manual.

### **What languages are available for RAVEN'S™ Adaptive?**

At launch, the test instructions AND reports will be available in the following languages:

French, Simplified Chinese, Traditional Chinese, Dutch, UK English, US English, German, Indonesian, Italian, Japanese, Korean, Brazilian Portuguese, Portuguese, Latin American Spanish, Spanish, Thai, Turkish, Vietnamese.

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