Administrator's Guide to the

PI Cognitive Assessment™

Contents

1. Introduction

The purpose of this guide is to provide you, a PI Cognitive Assessment (CA) administrator, with an overview of how to implement the CA at your organization and to help you get the most out of the tool. In this document, we will cover seven key areas of information:

- The basics of the assessment

- Setting organization policies regarding its use

- Setting Target Scores for open positions

- Administering the assessment

- Understanding the assessment results

- Establishing an objective talent process

- Optimizing that process by using the PI Behavioral Assessment™ with the PI Cognitive Assessment.

2. PI Cognitive Assessment Basics

The CA is a 12-minute timed assessment that consists of 50 multiple-choice questions representing three categories: verbal, numeric, and abstract reasoning. participants are instructed to answer as many questions as possible in the allotted 12 minutes. The score of the CA is a scaled score based on the number of correct responses and is a measure of general cognitive ability, or the ability to quickly learn and grasp new information. According to decades of research, general cognitive ability is a strong predictor of workplace performance (Schmidt, 2002), so the CA is intended to be used as a data point when making talent management decisions such as hiring and promotion.

Development of the Assessment

All development work on the CA was conducted following the best practices detailed in Principles for the Validation and Use of Personnel Selection Procedures (SIOP, 2003), and the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014).

The CA uses multiple choice questions that reflect a variety of domains that are influenced directly by a participant's cognitive ability. The questions are selected to cover a range of relevant content areas and difficulty levels, while also being comprehensible to the general adult population (e.g., one does not need to have advanced, specialized knowledge to answer any of the questions).

3. Setting your Company's Assessment Policies

To maximize the value of any assessment and to help ensure that it is used consistently and defensibly, your company should clearly document policies and procedures about the use of assessments. Each company may have its own rules and processes that reflect its specific requirements, employment policies, or applicable laws. Clarity about the use of the CA will help you, the administrator, ensure that the assessment is used exactly as intended for each of your participants. For example, your organization may wish to consider policies to address questions like these:

- For what applications should the assessment results be used?

- Who is eligible to take the assessment?

- Who is qualified to administer the assessment?

- Will the CA sample questions be emailed to participants?

- When should the assessment be administered?

- Will the assessment be administered remotely or in a proctored setting?

- How and when will you set Target Scores for open positions?

- Who will have access to the scores?

- Under what circumstances can candidates be retested?

- How will your company address requests for accommodations?

- How will your company respond to allegations of cheating?

The following sections provide some guidance and considerations around these topics; however, **it is ultimately your company's responsibility to determine the policies around use of the CA.** No matter what policies you decide upon for administering the CA, it is of utmost importance that you **use the same assessment administration process for everyone**. Doing so will help keep your implementation of the CA fair and objective.

Questions to Address when Setting Organization Policies

What are your applications of the PI Cognitive Assessment?

The CA is designed to provide a standardized measure of cognitive ability that is expected to correlate with performance in the workplace. **It should solely be used for hiring decisions, whether you are hiring an external candidate or promoting an existing employee**. The CA is intended to function as a *criterion-referenced* exam, meaning that you should have a Target Score set for each job role for which the assessment will be used.

Who is eligible to take the assessment?

The CA is designed for a working adult population and Target Scores produced by the PI Job Assessment™ (as well as the validity research behind the assessment) are based on samples of working adults. The CA should not be used with minors or outside of a workforce selection or hiring situation. The CA may not be appropriate for positions that do not have the potential for advancement, for positions that have negligible cognitive demand, or for people with disabilities where the participants' disability would impede their ability to access or complete the assessment. Finally, the CA should not be used with populations that are not fluent in any of the available languages for the assessment (for a full list of the available languages, see page 16). More information surrounding considerations for the fair use of and access to the assessment is discussed in the section "Establishing an Objective Talent Process," beginning on page 21.

At your company, the participants will likely be either job candidates or existing employees being considered for a new role or assignment. When using the CA for a position, unless exempt based on a company policy (e.g., on the basis of a disability), everyone being considered in a decision with respect to that position should take the CA. For example, if your company uses the assessment as one point of reference to decide on which candidates will proceed to the next round of interviews, then every candidate who might be considered for that next round of interviews should take the CA, unless exempted under another policy.

When administering the assessment, all participants should know your company's policies about the assessment, and they should know how the results will be used. If your company's policy is to not share the final scores with participants, then they should be told this before taking the assessment, and they should acknowledge that they will not receive their scores.

When should the assessment be administered?

Some companies choose to use the CA to screen participants prior to interviewing, while others choose to wait until later in the selection process. This choice is up to your company and generally depends on your objectives and operational capabilities in administering the assessment to the candidates. Screening before interviewing can be a good idea if the candidate pool is so large and otherwise well-qualified that it is difficult to narrow down to a few final candidates; however, if your company sets a policy where the assessment is only administered with a proctor onsite, then it may only be feasible to use the assessment in later rounds of the selection process when the candidate pool is smaller. No matter what, the sequence should be the same for all candidates for a given job.

Who is qualified to administer the assessment?

Your company should have a clear policy about who can administer the assessment. The administrator may be the hiring manager or someone from Human Resources. Regardless of who sends the assessment and has access to scores, that person should be familiar with your company's policies and should be able to use the CA software and answer questions from the participants. You should also decide if the administrator is someone who is going to be involved with the selection decision. For example, if a manager is looking to

hire someone for a new role, is that manager allowed to administer the assessment to the candidates, or should the administration be handled by someone from another department (e.g., Human Resources) to ensure standardized administration, privacy, and impartiality? This can be an important consideration when administering the assessment to populations that may require accommodation, such as a participant who asks for extended time to accommodate a disability.

Will the PI Cognitive Assessment sample questions be administered and if so, when?

The [CA sample questions](#) are publicly available and we recommend that companies include the link to the questions in their email invitation. The sample questions consist of 20 questions which participants have 4 minutes and 48 seconds to answer. These questions are intended to prepare participants for the official assessment, eliminate any "shock" or nerves associated with completing cognitive tests, and increase fairness by providing all applicants with the same level of preparation. Your company should develop a clear policy about if, when, and how the CA sample questions are administered. If your company opts to administer the sample questions, it is up to you to decide when the sample questions are provided. We recommend including the link to the sample questions in your default CA invitation by [customizing the email message](#) under their account settings. This can be done by using the "Invite by email" function of the PI Software. Because the sample questions are currently only provided in English, it will be important to decide to whom and for which positions the questions are provided. It is also important to communicate and explain the sample questions and their purpose to applicants when they are provided.

Under what conditions will the assessment be administered?

The CA can be administered on the participant's personal device (the assessment can be taken on computers, laptops, and larger tablets), and the participant can take the assessment anywhere with an internet connection; however, your company may wish to limit some conditions for administration. For example, your company may wish to administer the CA onsite, using company-provided devices, or with a proctor present, although in our experience, this doesn't occur frequently. If assessing onsite, you may wish to specify whether participants will be taking the assessment in a room with others, or whether they will be assessed individually.

There are currently no explicit restrictions on aids that participants can use during the CA except for the use of calculators. As an administrator, you should let participants know if your company will permit them to access things like scratch paper, a dictionary, or the internet (note that the CA instructions prohibit the use of calculators). Although these types of aids are acceptable, your assessment policies should prohibit participants from asking other people for help on the assessment or from accessing any content that provides answers or guidance specifically related to the CA, such as cheat sheets or content from an exam preparation company.

Who determines the Target Score?

The CA a criterion-referenced assessment, which means participants are evaluated based on how their scores compare to a Target Score for a given job role. Target Scores are intended to improve fairness by eliminating arbitrary selection of the highest score when two or more applicants meet the minimum score required. Section 4 (see page 8) discusses methods for setting Target Scores, but your company should have a policy for who is involved in the Target Score setting process. It is common for multiple people to work together to set a Target Score before administering the CA. These people should be familiar with the cognitive demands of the job. Oftentimes, managers are responsible for determining Target Scores for a job role, but your company may wish to set policies to collect input from employees who are already in the role, clients or stakeholders served by the role, or other experts who are familiar with the role.

Who will have access to the scores?

Scores on the CA are measures of a participant's cognitive ability, and these scores typically need to be kept private and confidential, just as one would not share someone's IQ or weight without that person's permission. Knowledge of a participant's scores may create perception biases amongst peers if shared. For example, because the CA is only one data point in a selection decision, it's possible that a person may be hired despite a lower assessment score. In that case, one would not want this score shared with the person's manager or teammates, as this might prejudice their perceptions of the new employee. For these reasons, it is important to have a clear policy in place about who has access to scores and how score confidentiality will be maintained. Your policies should also state whether or not the participant will be allowed to see their scores, and if not, that should be communicated to participants prior to administering the assessment. Please note that if the CA sample questions are provided, participants will not have access to their score, nor will any stakeholders within your company. participants will, however, receive feedback on which questions were correct and incorrect.

Will you retest participants?

It is up to your company whether to allow participants to retake the CA. Permitting a single assessment is more efficient in terms of time and managing results, whereas allowing participants to take the assessment multiple times provides participants with an extra opportunity to do their best but increases time and administrative burdens. Allowing participants to retest may also help to more accurately assess participants who perhaps are less familiar with timed, computerized assessments. The CA sample questions would be a good alternative if your main goal is to familiarize and equally prepare participants for the official CA.

Whichever you choose, clearly communicate the policy to participants in advance. If they get only one opportunity to take the assessment, they should understand this requirement so that they can prepare accordingly. If you allow participants to retest, all participants should be given this opportunity, though it should not be mandated. participants will see a different configuration of questions at each administration (although the sample questions will remain consistent); however, participants should not be allowed to take the CA more than three times. If a participant takes the CA multiple times, the selection decision should be based on their highest score, regardless of which attempt is associated with that score.

If your company chooses to only assess participants once, there are still some conditions under which a retest may still be warranted:

- A participant reports technical problems, like an unreliable internet connection.

- A participant reports being highly distracted during the assessment due to unforeseen circumstances, like a fire alarm.

Finally, it is neither fair nor appropriate to administer the CA to a candidate a second time just because a candidate did not perform as well as they or you expected on their first attempt unless you also provide the same opportunity to all participants.

How will you address requests for reasonable accommodation?

The Predictive Index offers two extended time formats of the CA: 18-minute and 24-minute versions, which allow for time-and-a-half or double the original time limit, respectively. These extended time formats of the CA are intended to support reasonable accommodations for people who require more time to access the content of the assessment or who need extra time to implement other accommodations, such as a scribe.

Your company should have a policy in place for when an accommodation cannot be provided on the CA.[1] This may include using an alternative cognitive assessment or exempting that participant from the assessment requirement. A participant exempted from the assessment requirement should still be considered for the position based on other sources of evidence, like their experience, education, behavioral measures, and your interview findings.

How will you address allegations of cheating?

The configuration of questions changes between administrations of the CA, so although each participant receives an assessment with comparable difficulty, the questions and the order in which they are presented is different each time. This design helps to discourage cheating and minimizes any positive score gains from cheating. Despite this, there is still the possibility that some dishonest behavior will occur. Unless your company imposes rigorous monitoring and proctoring around the CA, it may be difficult to identify cheating behavior, and what you may consider to be an abnormally high score is not in and of itself evidence of cheating.

Nevertheless, your company should have a clear policy about consequences for cheating, and participants should be aware of this policy prior to testing. If you have evidence of cheating, your company should be prepared to act on this policy. Your policy may include information about what constitutes cheating (e.g., discussing the content of the assessment with other participants, even outside of the administration), the consequences of cheating, whether the participant will be asked to retest, and the people responsible for deciding if cheating has taken place.

How and when will you set Target Scores for open positions?

The Predictive Index recommends that a Target Score be set for all open positions for which you intend to send the CA. A Target Score is meant to set a minimum level of cognitive ability that would be necessary for adequate performance in a role. Note that this does not mean that *all* open positions should have a Target Score – only those for which you intend to send the CA. The CA is not recommended for positions that require only a modest level of cognitive ability. For roles for which you do decide to use the CA, a Target Score should be set for a position using the PI Job Assessment™ as described in the following section.

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[1] Companies who use the CA should be familiar with country-based, regional, and local laws relating to employment and accommodations in assessment. Accommodations may be considered on the basis of protected class status, such as disability or religious belief. Typically, requests for accommodations pertain to a participant's disability and the potential impact it may have on their ability to access the content or provide responses. With that being said, The Predictive Index and its consultants cannot provide guidance on your organization's process for requesting and implementing accommodations, and we recommend consulting your in-house or external legal counsel when deciding upon such matters.

4. Setting a Target Score for a Job Role

Why set a Target Score

The CA is designed so that participants are evaluated based on how their scores compare to a Target Score set for the job role. There are several reasons why The Predictive Index recommends setting a Target Score for a position, as opposed to simply selecting candidates with the highest scores:

- Not all positions require the highest level of cognitive ability. Selecting only the participants with the very highest scores may inadvertently remove candidates from the pool who are just as well-qualified and who have scores that are acceptable for the job for which they applied.

- Setting a Target Score makes it possible to describe participants' scores in terms of whether they match the job requirements rather than in terms of "high" or "low" scores, which does not provide much information about how scores align with job requirements.

- Setting a Target Score helps promote standardization in the selection process, ensuring that all participants are compared against the same benchmark.

- While research suggests that higher cognitive ability correlates with higher performance in many jobs, caution should be taken not to over-interpret score differences. Small score differences likely will not have meaningful differences in job performance. For example, people with small differences in scores will likely have similar performance at work.

Given these considerations, the most effective strategy for setting a Target Score is to identify the lowest possible CA score that corresponds to the expected demands of the job.

While it is recommended that a Target Score be set for all positions for which the CA will be used, there are some positions where it may not be appropriate or advisable to use the CA at all, such as where the role is highly standardized or does not require high cognitive demand. For example, consider a job with low cognitive demand, where the cognitive ability of the candidate may not be critical to on-the-job performance. To assess the job's cognitive demand, you and other stakeholders can complete the PI Job Assessment™. If the output of the Job Assessment is below the recommended threshold for use of the CA, a caution message will appear on the job page, alerting you to the fact the role may not have enough cognitive-based requirements to justify the use of the CA for informing hiring decisions. However, the decision to use the CA for a given role is at the sole discretion of the company.

How to set a Target Score

When setting a Target Score, it is important that your company use a methodical and rational process to defend the decision. Remember, the Target Score affects who may get the job, so setting a Target Score should not be an arbitrary decision and should always be done in accordance with all applicable laws. Your company may have its own policies for how to set Target Scores in workforce assessments. Common options include conducting a standard-setting study with an assessment professional, conducting a validity study, or using the PI Job Assessment.

The PI Job Assessment is a two-part assessment that is designed to inform decisions about what behavioral result and cognitive score should be set for a job role. The first part of the PI Job Assessment is the behavioral portion of the assessment, which is designed to help users set behavioral job target ranges. The second part of the PI Job Assessment is the cognitive portion, which is the key focus in this document, as it is designed to help users set a cognitive Target Score for a role. The results of the cognitive portion of the

PI Job Assessment provide a suggested minimum required score (i.e., the Target Score) for any job role for which it is completed. Although the PI Job Assessment provides a suggested Target Score, it is ultimately your company's responsibility to accept or modify the Target Score based on what you deem to be appropriate for a given job role.

Using the PI Job Assessment to set a Target Score

There are two steps to setting a Target Score through the PI Job Assessment.

Step 1 – Select a standardized job role. The first step is not in the assessment itself, but in the preliminary stages of creating a job in the PI software. When you initially create a job, you will have the option to select a job family for that job. The job family that you select will be used to set a baseline Target Score, which will be adjusted based on your and/or other contributors' responses to the Cognitive portion of the PI Job Assessment. The job family does not need to be an exact match to the title of the job at hand but should reflect a similar area of practice and level of cognitive demand. Be sure to select a job family that has duties that are the closest match to the job role. If you do not feel that any of the available job family options are a close match to the duties associated with the job role, then select "No Match". Selecting "No Match" will set the baseline for the Cognitive Target at the average Cognitive Score, which is 250.

Example of the "Create Job" page in the Predictive Index Software, where a standardized job title may be selected for a job role.

Step 2 – Complete (or have others complete) the PI Job Assessment. The second part of setting a Target Score is to complete and/or have others complete the PI Job Assessment for that role.

Once you select the job family of your role, you can choose to send the PI Job Assessment to stakeholders. This process allows you to designate individuals who have been strong performers in the role in the past. It also allows you to seek feedback from stakeholders on what types of cognitive demand the role requires.

If responses to the PI Job Assessment represent cognitive demand that is higher or lower than the baseline that was initially set in creation of the job, the Target Score will be adjusted accordingly. If responses reflect cognitive demand that is similar to the previously set baseline, then the score will remain the same.


The beginning of the cognitive portion of the PI Job Assessment.

Rater Alignment

If there are large discrepancies between multiple contributors to the Cognitive Target Score, then a cautionary message will appear in the software to call your attention to the discrepancies. When this happens, it is a good idea to consider whether all contributors are aligned on the job requirements for the role at hand. A discussion with the contributors on their expectations for the role may be necessary, after which you may wish to have one or more contributors retake the Job Assessment or have all contributors take the Job Assessment and set the Target Score together. The final target score is typically the hiring manager's decision.

Monitoring and Adjusting the Target Score

Target Scores may need to be adjusted occasionally. Job demands, participant populations, or stakeholder feedback may alter the job requirements and require your company to reevaluate the criterion set for the job role. Similarly, performance data from employees in the role may serve to inform whether the Target Score needs to be altered. For example, if hired employees are consistently underperforming, it may be advisable to set a higher Target Score at the next selection period. Ideally, any adjustment should be made outside the selection period, as changing a Target Score during the selection process may change the decisions that have already been made about some participants. You may also wish to consider adjusting the Target Score based on too many or too few candidate matches.
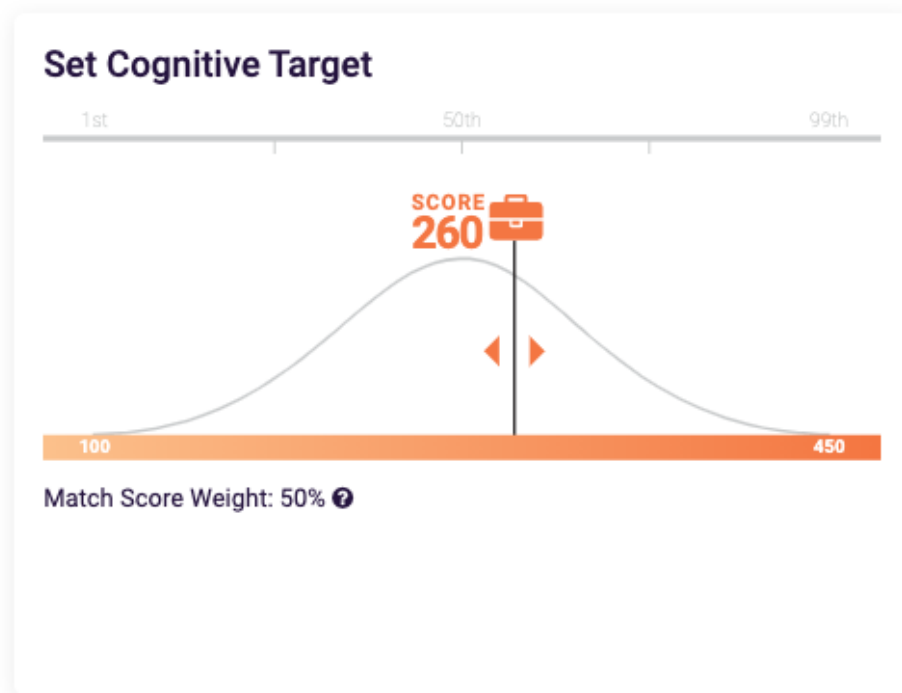
Once the behavioral target ranges are set, the administrator has the ability to modify the target if there are any major disagreements or inconsistencies among stakeholders.

5. Administering the Assessment

Depending on your company's assessment policies, you may be administering the CA as either a proctored or unproctored assessment. When the assessment is administered without a proctor, it is typically taken by participants remotely, allowing the participants to take the assessment at their convenience. This section discusses considerations and best practices for administering the CA in both a proctored or unproctored setting.

For information on administering assessments, visit the Assessment Center Support Page. For instructions on how to navigate the software to send an assessment, visit the Support page in the PI Software.

Introducing the Assessment to Participants

When administering the CA, be sure to let all participants know the following information:

- What the CA measures

- What the format of the assessment will be

- How their results will be used in the decision-making process

- Whether they will have access to their results

- How they can request reasonable accommodations

- A link to the CA sample questions (optional)

When you administer the CA remotely, it is important to explain that participants will receive the link to the assessment via email and should complete it online on a computer or tablet (the assessment should *not* be completed on a smartphone or other small- screen device). When participants open the link, they will find the necessary instructions for how to take the assessment. If you are not proctoring the assessment, you need only send the assessment from the Predictive Index software after introducing it as outlined above— no further instructions are needed. The figure below shows an example of the email invitation that is sent to participants.

When proctoring the assessment in person (less common), consistently use the same instructions for every candidate and say only what is already written in the instructions on the screen. To avoid confusion, do not elaborate on the assessment instructions or give examples of the questions. If the assessment is to be taken by a group of people, ask the group not to discuss the assessment with each other during the process. Make sure that everyone understands the instructions and that cell phones or other electronic devices are turned off during the administration session. Allow the participants plenty of time to read the instructions on the screen. When they have read the instructions and completed the three sample questions, ask if they have any questions before instructing them to click "begin".

Sample of the invitation email sent to participants.

The PI Cognitive Assessment Sample Questions

Administrators of the CA have the option of providing participants with a direct link to the PI Cognitive Assessment sample questions. These questions are also available via an internet search. No personal information is requested or stored in association with the sample questions. The questions therefore should not and can not be used to make talent-related decisions. PI account owners can include the link in their default CA invitation by customizing the email message under their account settings. This can be done by using the "Invite by email" function of the PI Software. You can add the option to complete the CA sample questions by inserting the link into the custom text field of the email invitation.

There are 20 unique sample questions that cover the same content domains and style as the CA question pool. participants have 4 minutes and 48 seconds to complete the assessment. Only participants are able to see their results. participants will not be given a score and will therefore be unable to predict their official CA score. However, participants will be informed of which questions were correctly and incorrectly answered and are welcome to complete the questions as many times as they wish. The questions will be the same every time a participant completes them.

The primary purpose of the sample questions is to provide an idea of what the assessment experience is like. They give candidates the opportunity to get familiar with test content, structure, and format prior to taking the actual test. This gives all participants a comparable baseline level of familiarity with the test prior to its high-stakes administration. The sample questions should also help eliminate any sense of "surprise" that some test-takers may face with a cognitive ability assessment, which could reduce the effects associated with nerves or novelty. Overall, providing candidates with a sample test serves to increase fairness for all candidates by providing everyone with the same level of preparation prior to taking the CA. It is important to inform candidates that they will not receive a score at the end of the sample questions, but they will have a chance to review their answers and can complete the questions as many times as they wish.

For additional information regarding the sample questions please see our PI Cognitive Assessment sample questions POV.

The Assessment Experience

Participants are provided with instructions in the email with the link to the assessment (see above), as well as when they open the CA link in a browser. The instructions provide standard information about the timing, format, navigation, and browser requirements. The instructions also provide three sample questions. As the administrator, you should provide the participants with instructions related to any of your company's own assessment policies, such as requesting reasonable accommodations, accessing results, or retaking the assessment.

The CA is delivered online and is 12 minutes long. During this time, the participant may answer as many as 50 multiple choice questions; however, the timing is designed to introduce a speed factor in the assessment, and most participants will not be able to answer all 50 questions in 12 minutes—this is okay, and it is an intended facet of the design of the assessment. The 12-minute time limit is an important component of the assessment because it requires the participant to move through the questions as quickly as possible, thereby accounting for the participant's information processing speed, which is a key component of general cognitive ability.

Each assessment administration delivers 50 multiple choice questions to the participant, and the CA shows five questions onscreen at one time. participants can navigate between these pages of the assessment using the "Pages" buttons at the top of the screen or the "Previous" and "Next" buttons at the bottom of the screen. The time remaining is displayed in minutes at the top right-hand corner of the assessment screen. The figure below shows a page from the assessment, with callouts for the timer and page navigation buttons.
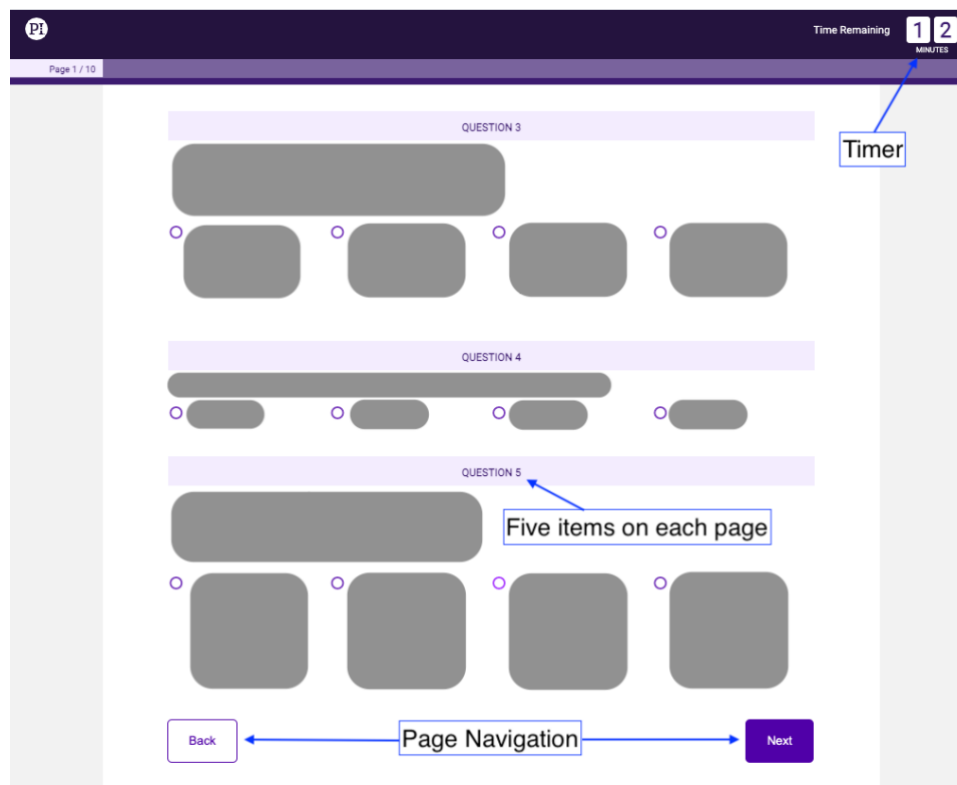
Sample page from the CA, with page navigation buttons and timer.

The assessment automatically ends after 12 minutes, regardless of how many questions the participant has attempted. When the time is up and the screen changes to the completion page, participants can no longer view or attempt to answer questions.

Extended Time Options

Extended time options are available in 18-minute and 24-minute formats for participants who require such accommodations. Participants who require assessment accommodations often specify either double time or time-and-a-half as one of the accommodations needed, which is why The Predictive Index® developed both 18-minute and 24-minute formats of the CA. For information about when it is appropriate to send an extended time format of the assessment, refer to "How will you address requests for reasonable accommodation?" on page 6.

Although scores on the extended time formats of the CA are designed to be comparable to scores on the standard format of the assessment, extended time should never be provided to participants who are not eligible for accommodations (as defined by your country's employment laws and your company's policies), nor should extended time be provided to participants who are eligible but who have not requested extended time. Speeded response is just one part of the domain that makes up general cognitive ability, but nevertheless, extending the time limit on the assessment slightly changes the way the instrument is measuring cognitive ability. Thus, this modification of the timing should only be used when an accommodation is requested and required. You should carefully follow your company's policies and any local laws regarding when it is appropriate to administer extended time formats of the assessment.

Scores from the extended time format should not be treated any differently from scores that were administered in the standard format; in fact, The Predictive Index has conducted careful linking analyses to make sure the scores are comparable across both the standard and extended time formats. These linking calculations ensure that scores from the extended time versions of the CA can be interpreted the same way as scores on the standard format. Scores from the extended time formats are reported on the same 100-450 point scale as the scaled scores on the standard format (although the underlying measurement model is different). This means that clients can interpret the scores from the extended time versions exactly as they would under standard time administrations; the scores are designed to be comparable.

Candidates should not be penalized, favored, or treated differently for having taken an extended-time version of the CA. In many regions, local laws limit which employees are allowed to know that a candidate received accommodations. Furthermore, remember that extended time is not the only accommodation a participant might request. For example, a participant might request a scribe to help enter responses, or in a proctored environment, a participant might request a private room in which to take the assessment or a proctor of the same gender. Even with accommodations, the CA will not be appropriate for some populations, such as participants who are visually impaired or cognitively impaired to a degree that would limit their ability to access or understand the content of the assessment. As always, it is your company's responsibility to adhere to any employment laws governing the use of accommodations in assessment and hiring.

Languages

The CA is available in 64 languages. It is recommended that participants complete the assessment in their preferred or native language. participants who are not fluent in any of these languages should not take the CA.

Available Languages for the PI Cognitive Assessment		
Afrikaans	Flemish	Polish
Albanian	French	Portuguese
Arabic (Gulf)	Georgian	Portuguese (Brazil)
Arabic (International)	German	Punjabi
Armenian	Greek	Romanian
Azerbaijani	Hebrew	Russian
Basque	Hindi	Serbian (Latin)
Bengali	Hungarian	Slovak
Bulgarian	Icelandic	Slovenian
Burmese	Indonesian	Spanish (Modern Sort)
Catalan	Italian	Swahili
Chinese (Simplified)	Japanese	Swedish
Chinese (Traditional)	Kazakh	Tamil
Croatian	Khmer	Thai
Czech	Korean	Turkish
Danish	Lao	Ukrainian
Dutch	Latvian	Urdu
English	Lithuanian	Vietnamese
Estonian	Macedonian	Xhosa
Farsi	Malay	Zulu
Filipino	Malayalam	
Finnish	Norwegian (Bokmål)	

When sending a CA in the Predictive Index software, you will be asked to select a language for the email invitation that contains the link to the CA. Regardless of the language in which the invitation is sent, the participants will have the option to select the language in which they wish to complete the assessment after they follow the link in the email to the CA. Should the participant change the language in which they complete the assessment, this information will not be available to test administrators for fairness purposes.

6. Interpreting and Reporting Results

The CA score is a scaled score that is calculated based on the number of correct answers on the assessment. Incorrect answers do *not* count against the participant's score; nor is there any other penalty, weighting, or modification of the scores; the more questions answered correctly, the higher the participant's score. The number of questions attempted *does not* influence a candidate's score—the score is solely based on the number of questions answered correctly. The figure below shows an example of a participant's score.
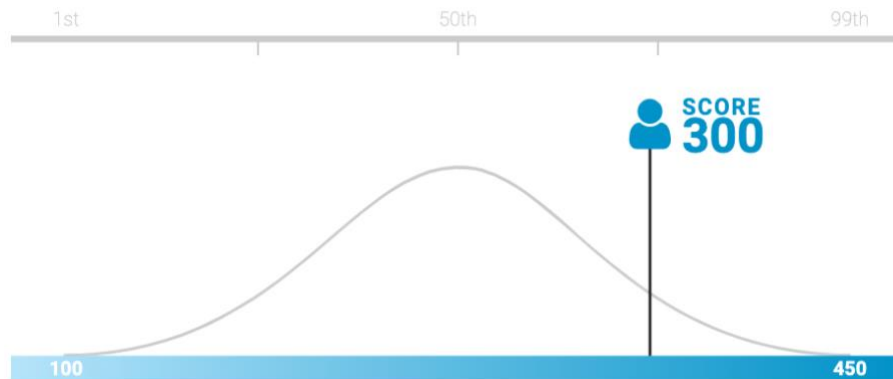
Example of a participant's score in the PI software.

As demonstrated by the image above, participants' scores are shown on a normal curve in comparison to the global adult working population (in a sample of over 900,000 working-age adults). Possible scores range from 100 to 450 points, with a global mean score of 250 points, and scores are reported in 10-point increments. Each score falls into a percentile which shows how that score compares to the scores of others in terms of percentages. For instance, the score in the example above (300 points) falls into the 74th percentile, meaning that this participant scored as well as or higher than 74% of the global workforce.

Even though the normal curve is shown and percentiles are given with the scores, participants' performance should be evaluated by comparing their CA score to a job Target Score. Using Match Scores in one way to easily make such comparisons.

Using Match Scores

When evaluating participants' scores on the CA, one should compare the participants' scores to the Target Score for the relevant job role. One should think of this comparison as a question of whether the participant's cognitive ability is a good match for the cognitive requirements of the job role, rather than a question of passing or failing. The Predictive Index® makes these comparisons easy by reporting Match Scores in the PI Software. Match Scores are shown for each candidate that is associated with a job and has completed the PI assessments.

Name ⇕	Email	Type ⇕	Favorite ⇕	Overall ▾	Behavioral	Behavioral Match ⇕	Ref Profile ⇕ ❶	Cognitive	Cognitive Match
Smith, Ben		Employee	♥ ⊘	9		10	Promoter		8
Meow, Megan		Candidate	♥ ⊘	9		8	Persuader		10
Hazel, Natasha		Employee	♥ ⊘	9		8	Promoter		10
Greene, Walter		Employee	♥ ⊘	7		5	Strategist		9
Smith, John		Candidate	♥ ⊘	7		9	Promoter		5

The Cognitive Match Score is a number on a scale of 0 to 10 that represents a candidate's expected cognitive fit for a job role, given their score and the Target Score of the job at hand. Match Scores are based on the difference between the candidate's score and the Job Target - in this case, the Cognitive Target. If a Cognitive Score is the same as or higher than the Target, then the match score is a ten. There is no penalty for being above the Job Target because being above the target has no negative impact on job performance. There is a common misconception that hiring participants with scores that are higher than the Job Target will result in employees being bored or disengaged; there is no research to support this notion, and discounting candidates with scores well above the Target Score is not recommended. If a Cognitive Score is below the Target, then the Cognitive Match Score decreases on a sliding scale. The Cognitive Match Score and the Behavioral Match Scores are also combined to create the Overall Match Score. By default, the Behavioral and Cognitive Match Scores are equally weighted in the Overall Match Score, but the weight can be adjusted in the PI Software.

Remember that the CA Match Score should be used as a single data point in the selection decision, and participants whose scores are not a match to the Target Scores should not be disqualified on the basis of their score alone, especially if they are a great fit in other areas, such as behavior, experience, or education. You may still wish to interview and inquire about how they overcome complex challenges.

Raw and Subscores

The only score on the CA report that is intended for use in talent decision-making is the scaled score that appears at the top of the report; however, users will notice that other scores are reported as well, such as percentile ranks, which are provided for context and informational purposes. A third category of scores are called "raw" and "subscores," and although they appear on the bottom left of the report, these data do not provide any meaningful information for the participant or the test users beyond the scaled score.

- Raw scores represent the number of questions that the participant answered correctly and the number of questions that they attempted.

- Subscores represent the number of questions that were answered correctly within each of the three content categories on the assessment: verbal, numeric, and abstract reasoning. participants can attempt a maximum of 14 Verbal questions, 18 Numerical questions, and 18 Abstract Reasoning questions (a maximum of 50 questions total).

Raw scores are only descriptive statistics about the administration—they do not provide any accurate reflection of a participant's abilities. Subscores, although they may provide additional information, do not have enough evidence of validity and reliability to support hiring decisions, nor is there any theoretical or empirical basis for using them to evaluate candidates for a job. Further, there is no way to know if a person is strong or weak in areas of verbal, numerical, or abstract reasoning from a 12-minute CA or if differences on these content categories are due to assessment-taker behavior (e.g., they skipped or guessed on

questions that appeared to take too much time). For instance, it would be a misuse of the assessment to assume that the numerical score is more important for an accounting job, or to use the numerical score to hire accountants.

Additionally, raw scores are not always comparable from person to person, depending on which revision of the assessment was taken or whether the participant received an extended time accommodation. Conversely, scaled scores are calculated to be comparable and standardized for everyone--a person who receives a scale score of 270 is always a good match for a job with a target of 270, regardless of what revision or form of the assessment was administered. Thus, we do not recommend using the raw, verbal, numerical, or abstract reasoning scores in any manner to make talent decisions.

Discussing Candidate Scores with Other Decision-Makers

Company policies regarding the confidentiality of CA scores may vary, however it is usually a good idea to treat CA Scores as confidential data and be careful with the terminology that you use to describe participants' scores and their fit for a role when referring to them internally. If a candidate were to be hired for a role, that new employee may not want others to know their CA score, regardless of whether it was a good fit for the role. The guide on the following page provides the suggested interpretive language for describing how candidates of each level fit will perform on a variety of tasks that involve cognition.

Score Interpretation Guidance

Score	Suggested Interpretive Language	Cognitive Tasks
Match Score < 2	"Will likely have some difficulties with…"	Learning quickly and getting up to speed
Match Score=2-5	"May have difficulties with…"	Making decisions
Match Score=6-9	"Should succeed at…"	Solving problems Creating plans and evaluating alternative actions
Match Score=10	"Is expected to excel at…"	Adapting to change

Evaluating participants who are a low match to the Target Score can be difficult, but there are ways to positively phrase these descriptions so that they are not offensive to others. For example, participants who are not a match to the score may:

- Learn at an even and consistent pace or rely on past experience and knowledge to succeed.

- Excel when making decisions collaboratively.

- Take a slower, more methodical approach to problem-solving.

- Be better suited for well-defined, short-term decisions and actions.

- Take time to thoughtfully incorporate change into their view of the world.

Sharing Assessment Scores or Feedback with Participants

Cognitive ability can be a sensitive topic, so approach discussions of scores with care and adhere to your company's applicable policies regarding participant access to assessment results. If discussing results with the participant is part of your organization's policy, ask about the candidate's assessment experience prior to sharing the scores. This gives you the opportunity to find out whether they had any difficulties taking the assessment and to explore how sensitive they may be towards receiving assessment feedback.

You may also wish to inform the participant of how their score will factor into the decision (e.g., the hiring decision for a given role). We do not recommend that you refer to scores as "good," "bad," low," or "high." Instead, we recommend that you refer to scores in terms of match for the job role at hand. If a participant asks if their score is "good," simply indicate whether it is considered to be a match for the role. Remind the participant that the results will only be used as a single data point in the decision, and the score does not necessarily qualify or disqualify them as a candidate. Never discuss the scores of other participants. If a participant asks how their score compares to the scores of others, simply state that such information is confidential.

Some companies may choose not to provide feedback on the assessment at all. If your company decides not to share the results with participants, then participants should know this before taking the assessment. You can also reassure participants that the results will only be used as a single data point in the decision process, so their scores do not necessarily qualify or disqualify them from a position

7. Establishing an Objective Talent Process

Responsibility of the Administrator

As an administrator of the CA, it is your responsibility to ensure that your candidates are properly informed about the assessment process, that the assessment is administered fairly and in compliance with your organization's standards as well as all applicable law, and the confidentiality of participants' scores and proper use of the CA across your organization.

The Diversity-Validity Dilemma

The diversity-validity dilemma occurs when companies seek to use an assessment that is highly predictive of job performance, but may impact selection rates for certain protected classes, such as gender, ethnic, or age groups (Pyburn, Ployhart, & Kravitz, 2008). Although some research has shown that cognitive assessments may yield average score differences between gender and ethnic groups, the use of such assessments may also demonstrate that the hiring process is objective, because standardized data are a component of the decision-making process, as opposed to purely subjective opinions. Cognitive assessments that are extremely predictive of job performance often produce lower average scores for some protected demographic groups, so companies are faced with the "diversity-validity dilemma" (Pyburn et al., 2008).

Cautionary Steps

Using a cognitive assessment where there are average score differences between demographic groups does not necessarily mean that your hiring process itself is unfair. In fact, in the U.S., very few Equal Employment Opportunity Commission (EEOC) lawsuits are related to assessments; the number is quite low in comparison to disparate treatment and other direct and indirect causes of adverse impact during the hiring process.

There are cautionary steps that can be taken to avoid potential risks related to use of the CA.

1. *Use the assessment as a single data point among others*. No assessment should be the sole determinant for a selection decision; assessment results should only be used in concert with other relevant indicators and evidence to inform the decision. For the same reason, The Predictive Index® does not report results in terms of pass or fail so that users will think about cognitive ability in terms of how well a participant matches the demands of the job role. This way, the appropriate use of the CA as a data point and not a pass/fail qualification means that it will not be solely responsible for disqualifying a participant from a job role.

2. *Be a good steward of your selection process*. The extent to which the CA influences hiring decisions (e.g., the subjective weight that is placed on it by a hiring manager) is dependent on your company and its policies. Your company is responsible for monitoring your selection system. If you find evidence of adverse impact within your hiring system, we recommend that you evaluate whether the CA is being used as intended: as a single data point being considered alongside many others, such as work experience, education, behavioral measures, and interview findings.

3. *Conduct a validity study*. Have a professional testing expert validate any employment assessment that will be used to make employment decisions and do so for each job or job family for which the assessment is used as a selection device. In addition to mitigating legal risk, there are business reasons to validate an assessment. A validated assessment means that the assessment is

scientifically shown to result in retaining or selecting people who are more likely to do well on the job. By contrast, an assessment that is not valid may be of little value to business leaders seeking to find the most qualified individuals. The Science team at The Predictive Index can conduct validity studies for a fee.

4. *Look for adverse impact.* Identify an internal or external resource to calculate, on at least an annual basis,[2] the adverse impact of the test(s) the employer uses, including any distinct components of those assessments (i.e., a testing battery with a written exam component and an oral exam component). In the U.S., adverse impact should be calculated under the 80% Rule and the standard deviation method. Retain not only the adverse impact ratios and standard deviation numbers, but also the underlying data so that the results of the calculations can be replicated in the future, if necessary. The analysis should typically be done for the following demographic categories:
   - Race/Ethnicity
   - Age
   - Gender

The Predictive Index Science team can conduct adverse impact analyses for a fee.

5. *Have a plan of action.* Develop a plan for reviewing any assessment that is found to have adverse impact on a protected group. This plan should include a process for reviewing the validation approach used prior to implementation of that assessment, as well as a process for searching for alternative selection methods that have less adverse impact. Practically speaking, this means that you will need to compile and maintain electronic data on at least the following:

   - The name of the candidate
   - The age, race, ethnicity and gender of the candidate
   - The date of the assessment
   - The assessment taken
   - The job or job family for which the candidate is applying
   - The business unit to which the candidate is applying
   - If scored, the score received on the assessment. If possible, data should be retained for assessment scores at the question level.
   - The result of the assessment (e.g., pass/fail)

In addition, any hard-copy documents reflecting the assessment taken and/or scoring of that assessment should be retained.

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[2] The Uniform Guidelines require that the "adverse impact determinations" be made *at least annually* for each protected group that constitutes at least 2% of the labor force in the relevant labor area or 2% of the applicable workforce. 29 C.F.R. § 1607.15(A)(2)(a).

8. Best Practices for Maximum Effectiveness

This guide has underscored the importance of combining someone's cognitive match to a job role with other relevant sources of evidence to help inform selection decisions. In addition to common inputs like work experience and interview findings, your company can consider behavioral measures, such as the factors measured by the PI Behavioral Assessment™.

Increased Predictability

While the PI Cognitive Assessment is a valuable tool on its own, the odds of identifying top- performers can be further increased by combining the PI Cognitive Assessment with the PI Behavioral Assessment in the selection process.

Job performance is important, but it may not be the only outcome of interest for your company. Behavioral measures like those in the PI Behavioral Assessment can provide insight into a participant's match to the behavioral demands of a job. This can include areas like communication style, interaction preferences, and tolerance for taking risks. These can be important aspects of a participant's match to a role, and behavioral measures can predict these behaviors and motivating needs better than a cognitive assessment.

Integrating Results

Using the PI Behavioral Assessment and the PI Cognitive Assessment together can be accomplished by using the Overall Match Score, which by default takes both Behavioral and Cognitive Matches into account, or by other methods of comparison that are deemed appropriate for your company and the job role at hand.

When using the results from the PI Cognitive Assessment and the PI Behavioral Assessment together, you may wonder how the two assessments should be weighted, or if the results from one are more important than the other. Although the CA may be a significant predictor of job performance, the PI Behavioral Assessment may also account for other aspects of the role, such as culture fit. For this reason, use your best judgement and follow your company policies when deciding how to weight the results from each assessment for a given position. While both assessments are equally weighted by default in the Overall Match Score, the weight can also be manually adjusted for a position.

Appendix A – References

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Appendix B – Further reading
The Science Behind the Cognitive Assessment
Predictive Power of the PI Cognitive Assessment POV
The Uniform Guidelines on Employee Selection Procedures

PI Cognitive Assessment Technical Manual – Available upon request; ask your PI Certified Partner or Consultant for more information.