Administrator's Guide to the PI Cognitive Assessment™

Contents

Disclaimer: This document is informational only and not intended to be legal advice. Every organization is different, and the circumstances they face are as unique as the organizations themselves, so we recommend that you use this document only as an informational tool and consult with legal professionals for guidance specific to your organization. Predictive Index, LLC does not guarantee the accuracy or make any representations with respect to any of the third-party research cited or relied upon herein.

1. Introduction

Welcome

Congratulations on your choice to use the PI Cognitive Assessment™! You are about to use a powerful, modern, and extremely predictive tool.

The purpose of this guide is to provide you, a PI Cognitive Assessment administrator, with an overview of how to implement the PI Cognitive Assessment 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.

Thank you for choosing the PI Cognitive Assessment. We wish you the best on your talent management journey!

Quick-start guide

This document explores each of the steps listed below in more detail. While each of the following steps provides many options to you and your organization, these general steps should be taken by *all* users of the PI Cognitive Assessment:

1. Protect your company: Check all applicable laws regarding your company's use of pre-employment assessments. *See page 23.*

2. Set company policies: Cognitive scores should be confidential. Set company policies for how they will be used and who will have access to them. *See page 4.*

3. Set a Target Score: Set a Target Score for a job using the PI Job Assessment™ or other method. *See page 10.*

4. Administer Assessments: Stick to your company policies for each candidate. *See page 14.*

5. Compare job match: Consider how closely candidates' scores match Target Scores to inform your company's selection decisions. *See page 19.*

2. PI Cognitive Assessment basics

The PI Cognitive Assessment™ is a 12-minute timed assessment that consists of 50 questions, of which there are three categories: verbal, numeric, and abstract. Respondents are instructed to answer as many questions as possible in the allotted 12 minutes. The score of the PI Cognitive Assessment 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 researchers, general cognitive ability is a strong predictor of workplace performance (Schmidt, 2002), so the PI Cognitive Assessment is intended to be used as a data point when making talent management decisions such as hiring, promotion, and succession planning.

General cognitive ability

General cognitive ability, which is also called "g," indicates an individual's ability to learn, adapt, problem-solve, and process complex information. According to researchers, cognitive ability has been found to be among the best predictors of general job performance when compared against 30 other common selection procedures, including but not limited to job experience, interests, peer rating and employee interviews (Schmidt & Hunter, 1988).

Research suggests that employees who have higher general cognitive ability are likely to be able to quickly get up to speed in a new role and acquire more job knowledge over time than employees how have lower cognitive ability (Schmidt, 2002). As a result, by using the PI Cognitive Assessment to measure the general cognitive ability of your candidates, you will be able to gain an understanding of the relative levels of performance potential that you can expect in each of these areas.

Development of the assessment

All development work on the PI Cognitive Assessment 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 PI Cognitive Assessment uses multiple choice items that reflect a variety of domains that are influenced directly by a respondent's cognitive ability. The items are selected to cover a range of relevant content 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 PI Cognitive Assessment™ will help you, the administrator, ensure that the assessment is used exactly as intended for each of your respondents. 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?

- Under what conditions will the assessment be administered (e.g., proctored)?

- Who determines the Target Score for a role?

- Who will have access to the scores?

- Will the respondent get to see his or her score?

- Will the respondent be allowed to retake the assessment, if desired?

- How will your company address requests for accommodations (e.g., on the basis of disability)?

- How will your company respond to allegations of cheating?

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

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 PI Cognitive Assessment. There are several different processes that can be followed for administering the PI Cognitive Assessment, which we will review in the sections below. No matter what policies you decide on for administering the PI Cognitive Assessment, it is of upmost importance that you use the same assessment administration process for everyone. Doing so will help keep your implementation of the PI Cognitive Assessment fair and objective.

Questions to address when setting organization policies

What are your applications of the PI Cognitive Assessment?

The PI Cognitive Assessment is designed to provide a standardized measure of cognitive ability that is expected to correlate with performance in the workplace. It should be used for talent

decisions, such as hiring candidates, assigning employees to new roles, and succession planning. The PI Cognitive Assessment 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 will take the assessment?

The PI Cognitive Assessment is designed to be used in the global adult workforce only, and all Target Score recommendations from the PI Job Assessment™ (as well as the validity research behind the assessment) are based on samples of working adults. The PI Cognitive Assessment should not be used with minors or with adults outside of a workforce selection decision-making situation (e.g., in a psychological study). Additionally, use of the PI Cognitive Assessment may not be appropriate for low-level positions that do not have the potential for advancement, for positions that have negligible cognitive demand, and with disabled populations where the respondents' disability would impede their ability to access the content or provide a response. Finally, the PI Cognitive Assessment 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 18). 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 23.

At your company, the respondents will likely be either job candidates or existing employees being considered for a new role or assignment. When using the PI Cognitive Assessment for a position, unless exempted 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 PI Cognitive Assessment. 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 PI Cognitive Assessment, unless exempted under another policy.

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

When should the assessment be administered?

Some companies choose to use the PI Cognitive Assessment to screen respondents 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 can administer the assessment?*

Your company should have a clear policy about who can administer the assessment. Administrators should be familiar with your company's policies and be able to use the PI Cognitive Assessment software and answer questions from the respondents. Your company should decide if the administrator can be someone who is also 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 respondent who asks for different administration dates in order to accommodate a religious holiday.

What are the administration conditions?

The PI Cognitive Assessment can be administered on the respondent's personal device (the assessment can be taken on computers, laptops, and larger tablets), and the respondent 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 only wish to administer the PI Cognitive Assessment onsite, using company-provided devices, or with a proctor present. If assessing onsite, you may wish to specify whether respondents will be taking the assessment in a group, or whether they will be assessed individually, in private.

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

Who determines the Target Score?

The PI Cognitive Assessment is designed to be used as a criterion-referenced assessment, meaning respondents are evaluated based on how their scores compare to a Target Score for a given job role. Target Scores are intended to eliminate arbitrary election of the highest score when two or more applicants meet the minimum score required to be successful in the position. Different jobs often have different Target Scores, depending on the jobs' cognitive demands. Section 4 (below, page 10) discusses methods for setting Target Scores, but your company should have a policy for who gets to set the Target Score. It is common for multiple people to work together to set a Target Score for a job role before administering the PI Cognitive Assessment. 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 PI Cognitive Assessment are measures of a respondent'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 at work without that person's permission. Knowledge of a respondent's scores may create perception biases amongst peers if shared. Recall also that the PI Cognitive Assessment score is only one data point in a selection decision, so a person may still be hired for a role despite having a lower score on the assessment. In such a scenario, 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 respondent will be allowed to see his or her scores, and if not, that should be communicated to respondents prior to administering the assessment.

Will you retest respondents?

It is up to your company whether to allow respondents to retake the PI Cognitive Assessment. Permitting only a single assessment is more efficient in terms of both time and managing results, whereas allowing respondents to take the assessment multiple times provides respondents with an extra opportunity to do their best but increases time and administrative burdens. Allowing respondents to retest may also help to more accurately assess respondents who perhaps are less familiar with timed, computerized assessments.

Whichever you choose, clearly communicate the policy to respondents 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 respondents to retest, all respondents should be given this opportunity, though it should not be mandated. You may need to communicate the results to the respondent to help them decide whether they would like to retest. Respondents will see a different configuration of items at each administration; however, respondents should not be allowed to take the PI Cognitive Assessment more than three times. If a respondent takes the PI Cognitive Assessment multiple times, the selection decision should be based on his or her highest score, regardless of which attempt is associated with that score.

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

- A respondent reports technical problems, like internet disconnection.

- A respondent 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 PI Cognitive Assessment 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 respondents.

How will you address requests for reasonable accommodation?

Companies who use the PI Cognitive Assessment should be familiar with country-specific laws relating to employment and accommodations in assessment. Accommodations may be a consideration on the basis of protected class status, such as disability or religious belief. Typically, requests for accommodations pertain to a respondent's disability and the potential impact it may have on their ability to access the content or provide responses.

In countries like the United States, where it is inappropriate to ask about disabilities prior to employment, it is primarily the responsibility of the respondent to inform you (the administrator) if they believe they need a reasonable accommodation to complete the PI Cognitive Assessment. Because respondents do not always know of their right to ask for a reasonable accommodation, administrators should proactively inform candidates of their right to reasonable accommodation. For example, when explaining the assessment, you might say "One of the assessments you will be completing is a 12-minute cognitive assessment where you will be asked to answer multiple choice questions on a computer. If you need a reasonable accommodation, please inform me before taking the assessment."

In countries where it is acceptable to discuss disabilities prior to hiring a person, administrators or other authorized staff should discuss the severity of the disability with the respondent to learn how it is anticipated to affect the assessment. This will help guide your decisions on whether your company is able to provide the accommodation. Note also that some countries may allow the employer to ask for proof of disability. For example, the Americans with Disability Act (ADA) states that if a respondent needs a reasonable accommodation, then an employer may ask the respondent to provide documentation (e.g., a signed letter from a medical professional) proving that they cannot complete the assessment in its current form. Ultimately, a medical professional should make a recommendation for the type of accommodation that is needed; however, the test user should let the respondents know in advance of what accommodations can be provided.

If you are proctoring the PI Cognitive Assessment, some accommodations may be simple to provide. For example, a respondent with a disability may request a private room in which to take the assessment, free from distractions. A respondent with certain religious beliefs may request to take the assessment on a different day or have a proctor of the same sex.

The Predictive Index offers two extended time formats of the PI Cognitive Assessment: 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 PI Cognitive Assessment are intended to support reasonable accommodations for people with disabilities who require more time to access the content of the assessment or who need extra time to implement other accommodations, such as a scribe. In the United States, the time limit should be specified by a medical professional for a respondent who requires accommodations. Outside of the United States, a medical professional or respondent may specify the time needed, depending on the country's laws.

Your company should have a policy in place for when an accommodation cannot be provided on the PI Cognitive Assessment. This may include using an alternative cognitive assessment, or it may include exempting that respondent from the assessment requirement. It is important to remember that the PI Cognitive Assessment should only be considered one data point in a decision-making process. The results of the PI Cognitive Assessment can be valid input for many selection decisions; however, the results are not intended to be used in isolation, thus, a respondent exempted from the assessment requirement should still be considered for the position based on other sources of evidence, like his or her experience, education, behavioral measures, and your interview findings.

How will you address allegations of cheating?

The configuration of items changes between administrations of the PI Cognitive Assessment, so although each respondent receives an assessment with comparable difficulty, the items 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.

Although cheating may not be a helpful strategy, given the assessment's design, there is still the possibility that some dishonest behavior will occur. Unless your company imposes rigorous monitoring and proctoring around the PI Cognitive Assessment, it may be difficult to identify cheating behavior (remember that what you may consider to be an abnormally high score is not in itself evidence of cheating).

Nevertheless, your company should have a clear policy about consequences for cheating on the PI Cognitive Assessment, and respondents 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 respondents, even outside of the administration), the consequences of cheating, whether the respondent 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 PI Cognitive Assessment. A Target Score is meant to set a threshold or 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 PI Cognitive Assessment. The PI Cognitive Assessment is not recommended for positions that require only a modest level of cognitive ability. For assessments for which you do decide to use the PI Cognitive Assessment, a Target Score should be set for a position using the PI Job Assessment™ or other standard- setting methodology that you choose, as described in the following section.

4. Setting a Target Score for a job role

Why set a Target Score

The PI Cognitive Assessment™ is designed as a criterion-referenced assessment, meaning that respondents 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 of scores:

- Not all positions require the highest cognitive ability. Selecting only the respondents with the very highest scores may inadvertently remove candidates from the pool who are otherwise 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 respondents' scores in terms of whether they match the job requirements rather than in terms of "high" or "low" scores, ensuring that respondents' performance can remain confidential throughout the selection process.

- Setting a Target Score helps promote standardization in the selection process, ensuring that all respondents 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 PI Cognitive Assessment 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 PI Cognitive Assessment will be used, there are some positions where it may not be appropriate or advisable to use the PI Cognitive Assessment at all, such as where the role is highly standardized or does not require many cognitive tasks. While a Target Score is not needed for roles where the PI Cognitive Assessment will not be used to inform hiring decisions, creating a Target Score may help you determine if it is appropriate to use the PI Cognitive Assessment. For example, consider a job with low cognitive demands, 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 PI Cognitive Assessment, 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 PI Cognitive Assessment for informing hiring decisions. However, the decision to use, or not use a PI Cognitive Assessment for a given role is in 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. As stated above, the Target Score is meant to set a threshold or a minimum level of cognitive ability that would be necessary for adequate performance in a role. 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 law. 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[1].

The most common method for setting a Target Score is by completing, or asking others to complete, 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 threshold 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.

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[1] Clients who use the Predictive Index software in a language other than English do not currently have access to the Cognitive portion of the PI Job Assessment, and instead have the option to complete the Target Scoring Guide. Contact your PI Certified Partner or Consultant to learn more about the Target Scoring Guide.
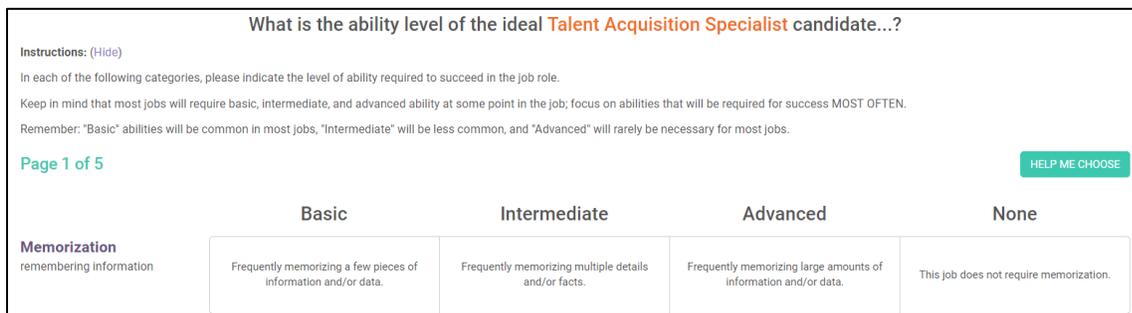
Using the PI Job Assessment to set a Target Score

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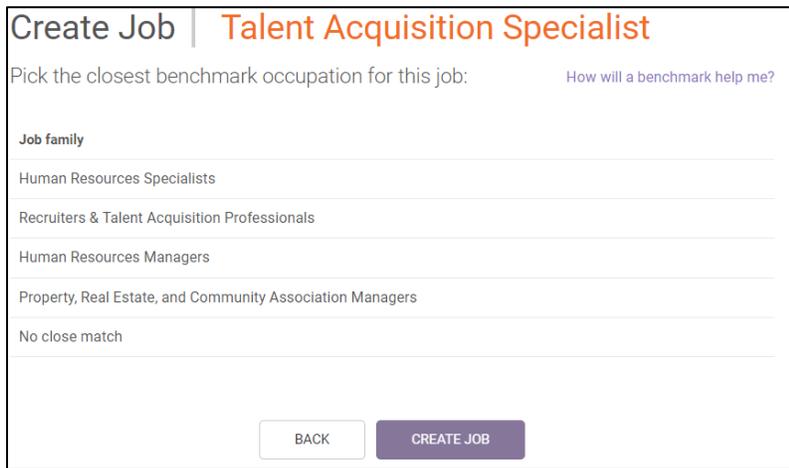
Example of the "Create Job" page in the Predictive Index Software, where a standardized job title may be selected for a job role.

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. 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.

Regardless of how your company sets its Target Score for a role, it is a good idea to collect input from multiple stakeholders, where possible. These may be managers, people who are already in the role, clients served by the role, experts who are knowledgeable about the role, or other stakeholders who may be able to offer informed insight on the requirements of the job role.

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.

Monitoring and adjusting the Target Score

Target Scores may need to be adjusted occasionally. Job demands, respondent 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 respondents. You may also wish to consider adjusting the Target Score based on too many or too few candidate matches.

5. Administering the assessment

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

For further information about administering assessments, visit the Administering Assessments Power-Up. For instructions on how to navigate the software to send an assessment, visit the Support page in the PI Software.

Introducing the assessment to respondents

When administering the PI Cognitive Assessment, be sure to let all respondents know the following information:

- What the PI Cognitive Assessment 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 (if applicable)

When you administer the PI Cognitive Assessment remotely, it is important to explain that respondents 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 the respondents 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 respondents.

When proctoring the assessment in person, 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 items. 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 respondents 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 they press "begin".

Sample of the invitation email sent to respondents.

The assessment experience

Respondents are provided with instructions in the email with the link to the assessment (see above), as well as when they open the PI Cognitive Assessment 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 respondents with instructions related to any of your company's own assessment policies, such as requesting reasonable accommodations, accessing results, or retaking the assessment.

The PI Cognitive Assessment is delivered online and is 12 minutes long. During this time, the respondent may answer as many as 50 multiple choice items; however, the timing is designed to introduce a speed factor in the assessment, and most respondents 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 respondent to work under a time constraint and move through the items as quickly as possible, thereby accounting for the respondent's information processing speed, which is a key component of general cognitive ability.

Each assessment administration delivers 50 multiple choice items to the respondent, and the PI Cognitive Assessment shows five items onscreen at one time. Respondents 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 PI Cognitive Assessment, with page navigation buttons and timer.

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

Extended time options

Extended time options are available in 18-minute and 24-minute formats for respondents who require such accommodations. Respondents who require assessment accommodations on the basis of a disability 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 PI Cognitive Assessment. Different countries or regions have different laws about when to provide accommodations, how to ask respondents if they need accommodations, and what proof (if any) needs to be provided by the respondent. It is your company's responsibility to adhere to your region's applicable laws. 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 8.

Although scores on the extended time formats of the PI Cognitive Assessment are designed to be comparable to scores on the standard format of the assessment, extended time should never be provided to respondents 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 respondents 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 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, and only use such formats when you are required to do so.

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 PI Cognitive Assessment 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 PI Cognitive Assessment. In some regions, local laws may also limit which employees are allowed to know that a candidate received accommodations. For example, local laws may stipulate that only the human resource managers are allowed to know that a candidate received an accommodation for an assessment. Furthermore, remember that extended time is not the only accommodation a respondent might request. For example, a respondent might request a scribe to help enter responses, or in a proctored environment, a respondent might request a private room in which to take the assessment or a proctor of the same sex. Even with accommodations, the PI Cognitive Assessment will not be appropriate for some populations, such as respondents 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 PI Cognitive Assessment is available in 80 languages. It is recommended that respondents complete the assessment in their preferred or native language. Respondents who are not fluent in any of these languages should not take the PI Cognitive Assessment.

Available Languages for the PI Cognitive Assessment

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

When sending a PI Cognitive Assessment in the Predictive Index software, you will be asked to select a language for the email invitation that contains the link to the PI Cognitive Assessment. Regardless of the language in which the invitation is sent, the respondents 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 PI Cognitive Assessment.

6. Interpreting and reporting results

The PI Cognitive Assessment™ 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 respondent's score; nor is there any other penalty, weighting, or modification of the scores; the more questions answered correctly, the higher the respondent's score. The figure below shows an example of a respondent's score.
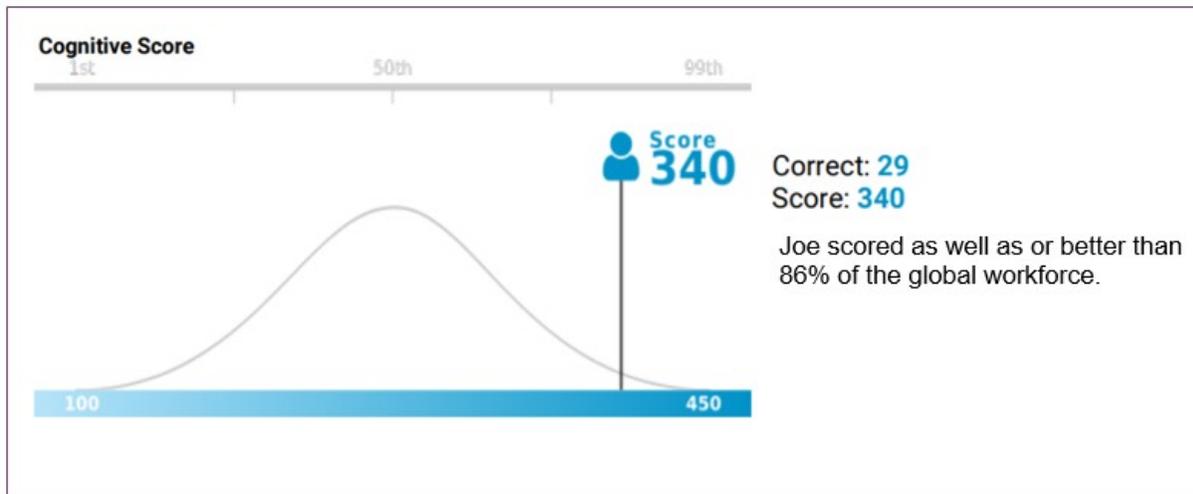
Example of a respondent's score in the PI software.

As demonstrated by the image above, respondents' 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 (340 points) falls into the 86th percentile, meaning that this respondent scored as well as or higher than 86% of the global workforce.

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

Using Match Scores

When evaluating respondents' scores on the PI Cognitive Assessment, one should compare the respondents' scores to the Target Score for the relevant job role. One should think of this comparison as a question of whether the respondent'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.

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

Match Scores are shown for each candidate that is associated with a job and has completed the PI assessments.

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 his or her 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[2]. 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 PI Cognitive Assessment Match Score should be used as a single data point in the selection decision, and respondents 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.

Discussing candidate scores with other decision-makers

Company policies regarding the confidentially of PI Cognitive Assessment scores may vary, however it is usually a good idea to treat PI Cognitive Assessment Scores as confidential data and be careful with the terminology that you use to describe respondents' 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 his or her PI Cognitive Assessment 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.

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[2] There is a common misconception that hiring respondents with PI Cognitive Assessment scores that are higher than the Job Target will result in those employees being bored or disengaged. There is no research to support this misconception, and discounting candidates with scores well above the Target Score is not recommended.

Score Interpretation Guidance

Score	Suggested Interpretive Language	Cognitive Tasks
Very far below Target	"Will likely have difficulties…"	Learning quickly and getting up to speed
Far below Target	"May have challenges…"	Making decisions
Slightly below Target	"Should succeed at…"	Solving problems
		Creating plans and evaluating alternative actions
At or exceeds Target	"Is expected to excel at…"	Adapting to change

Evaluating respondents 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, respondents 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 respondents

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

You may also wish to inform the respondent of how his or her 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 respondent asks if his or her score is "good," simply indicate whether it is considered to be a match for the role. Remind the respondent that the results will only be used as a single data point in the decision, and the score does not necessarily qualify or disqualify him or her as a candidate. Never discuss the scores of other respondents. If a respondent asks how his or her score compared 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 respondents, then respondents should know this before taking the assessment. You can also reassure respondents 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 PI Cognitive Assessment™, 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 respondents' scores and proper overall use of the assessment 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, racioethnic, or age groups (Pyburn, Ployhart, & Kravitz, 2008). Although some research has shown that cognitive assessments may yield average score differences between gender and racioethnic 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 EEOC (Equal Employment Opportunity Commission) lawsuits are related to assessments; the number is quite low in comparison to disparate treatment (e.g., discrimination) 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 the use of the PI Cognitive Assessment™.

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 respondent matches the demands of the job role. This way, the appropriate use of the PI Cognitive Assessment as a gradient data point and not a pass/fail qualification means that it will not be solely responsible for disqualifying a respondent from a job role.

2. *Be a good steward of your selection process*. The extent to which the PI Cognitive Assessment 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 PI Cognitive Assessment 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 to 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.

4. *Look for adverse impact.* Identify an internal or external resource to calculate, on at least an annual basis,[3] 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

- Sex

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 sex of the candidate

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[3] 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).

- 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 item 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.

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 respondent'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 respondent'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 done 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 PI Cognitive Assessment 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

FAQs
Target Scoring Guide
Validity for Job Performance
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.