



Tell me more about...

The latest test delivery trends

psiexams.com



PSI is an ETS Company

Contents



Introduction

Page 3



Improvements and enhancements in test delivery

Page 30



Test delivery trends in PSI testing data

Page 6



Conclusion

Page 44



PSI market research

Page 16

Introduction

In the past, the assessment industry has often been seen as slow moving and averse to rapid change. This view is shifting. Our industry has been fast and effective in its response to the significant events of recent years:

We have seen that while the changing environment around us might pose threats, it can also present opportunities. And when we work together to adapt and innovate, it's possible to get in front of expected change – while putting ourselves in the best possible position to respond to unexpected events.

So what are the trends we see coming forward in the future of testing? What are the expected events we need to be ready for? And how can we be better prepared for the unexpected?



Generative Artificial Intelligence (AI) tools such as ChatGPT.



Rapidly advancing technologies.



COVID-19 pandemic.



Increased awareness of inclusive testing practices.

Of course, we
don't have a
crystal ball...

But what we do have is almost as good
– data, insights, and a team of experts to
take you through:

- 1 What PSI testing data shows us
about test delivery trends
- 2 Test delivery insights from our
own market research
- 3 Advances in test delivery to
get in front of trends and meet
changing needs



"There's a lot of discussion in the testing industry around trending topics such as AI and new technology – quite rightly. But we do need to look at the data and the processes we have in place before instigating massive change. We must leverage technology and embrace the opportunities, while maintaining human oversight at every stage of the process."

Isabelle Gonthier, PhD, ICE-CCP

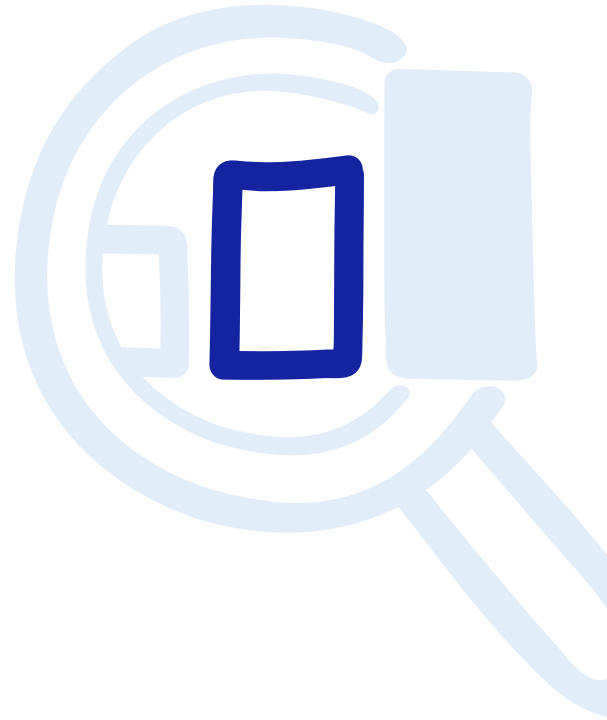
Chief Assessment Officer, PSI



Test delivery trends in



Testing data





The move to secure remote testing





Before 2021, our testing data shows a slow but steady move from in-person testing to secure remote testing (with either Record & Review or Live Online Proctoring). It comes as no surprise that this move to online proctoring accelerated dramatically during the COVID-19 pandemic.

However, what we have seen since test centers reopened later in 2021 and into 2022 is revealing. While there was a move back to in-person testing, this falls considerably short of pre-pandemic levels.

It seems that while many organizations were forced to switch to remote testing in 2020, they have reconsidered their pre-pandemic test delivery strategies and are choosing not to go back.

PSI tests in a test center



	Test Centers	Remote Testing
2019	98.5%	1.5%
2020	53%	47%
2021	33%	67%
2022	65%	35%
2023	69.2%	30.8%

The power of choice with multi-modal



Our test center and secure remote testing data only tells part of the story. Testing organizations aren't just switching from in-person testing to online proctoring, they are moving towards multi-modal testing options that give test takers more choice.

Do test takers want to use the facilities of a test center? Or do they want the flexibility and convenience of testing at home or in the office? Testing organizations are leaving the decision to their test takers, giving them the option of both.

In 2020, just **16%** of PSI certification clients had adopted multi-modal testing. In 2023 this increased to **33%**.



Multi-modal adoption by PSI certification clients

2020
16%

2023
33%

It is significant that 55% of PSI certification test takers choose to test in person when given the choice. This shows the importance of providing remote and physical testing options. Many test takers still prefer in-person testing, unless their access to a test center is limited, particularly for high stakes testing.



To OP or not to OP?

The move to online proctoring (OP) or multi-modal testing is an individualized and important decision for any testing program. And the PSI team has supported multiple clients through this process. There's no one size fits all answer, and that's why we continue to offer testing both in-person across our test center network and remotely with online proctoring.

Here are some of the reasons testing programs choose to remain with in-person testing.

Online proctoring...

- is **still seen as less secure** than in-person testing.
- **excludes segments of the population** that do not have a computer, good internet connection, or a quiet place to take a test.
- **can be an issue for tests that require supplementary materials**, such as a support book, plan set, or other resources.

However, there are **many reasons** why testing programs choose to switch to remote testing, or offer test takers a choice with multi-modal:

- **Online proctoring provides access in isolated locations** where a permanent test center is not economically viable.
- **Multi-modal increases accessibility** to testing for increased numbers and more diverse groups of test takers.
- **Both online proctoring and multi-modal offer more flexibility**, for your test takers and your testing programs – scale-up or scale-down as needed.



Growing acceptance of online proctoring


As online proctoring technology has improved, it has gained wider acceptance among testing organizations and test takers alike.

As test takers become more familiar with online proctoring, comfort levels are increasing and **many are coming to expect remote testing as an option from their test sponsor**. So much so that when given the choice, nearly half of PSI certification test takers opt to take a test remotely with online proctoring rather than travel to a test center. Equally, over half of PSI certification test takers still choose to test in person when given the option. This highlights the need for testing organizations to have both an online and physical presence, to meet the evolving needs of their test takers.

For multi-modal certification programs, the split between remote and in-person testing volumes seems to have stabilized. For licensure, remote testing volumes are steadily increasing.



Differences in data



There are differences in our testing data between industries and sectors.

For example, the move to remote testing was less striking and has been slower for our licensure clients. In 2019, **99.97%** of licensure testing was in a test center. This dropped to **84%** in 2021, with further decreases to **82%** in 2022 and **80%** in 2023.

However, we are also seeing more licensure clients exploring the potential that lies in multi-modal testing. Between 2020 and 2023 the percentage of PSI licensure clients adopting multi-modal testing increased from **7%** to **22%**.

The picture in certification is slightly different. In 2019, **95%** of testing was in a test center. This dropped to **59%** in 2021, with further decreases to **56%** in 2022 and **53%** in 2023. In both certification and licensure testing the percentage of tests taken in a test center is still dropping, as even more organizations move to secure remote testing.

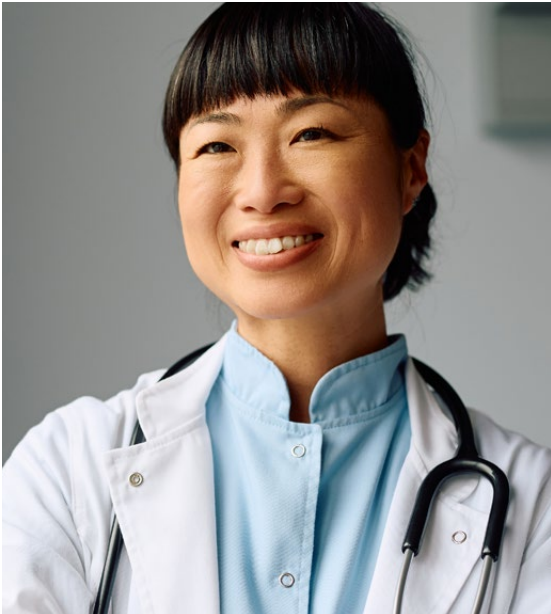
Testing in test centers



	2019	2020	2021	2022	2023
Licensure testing	99.97%	92%	84%	82%	80%
Certification testing	95%	66%	59%	56%	53%

The data also tells a different story in high-stakes testing, for example in healthcare certification. Some flexibility was needed in the pandemic, to allow test takers to gain qualifications. But the **data shows there is still a requirement for test centers in some industries**, where in-person testing rates remain high.

Healthcare testing in test centers



	2021	2022	2023
Healthcare testing	82%	72%	73%



Market research

We conducted a survey of over **350** individuals within the assessment industry. Respondents represent:

- Professional organizations, government agencies, awarding bodies and beyond.
- Multiple industries including construction, cosmetology, insurance, IT, adult education and more.
- Organizations with testing volumes ranging from under 100 to over 50,000.



The results of our survey provide **invaluable** insights into the state of testing, now and into the future.



Test delivery services and technologies



While testing in test centers remains the most popular option, the survey reflects our own testing data showing that multi-modal is increasingly popular.

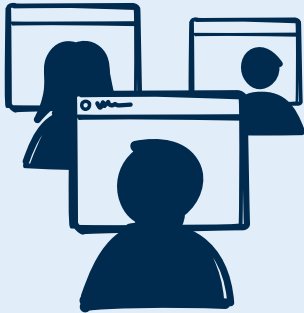
When it comes to online proctoring, audio and video monitoring is the most popular technology currently used. With real-time client monitoring, biometric authentication, and video analytics the most sought-after technologies for the future.

The interest in other technologies such as AI-based marking, wearable technology, and virtual augmented reality was low across all sectors and sizes of organization.





What test delivery services and methods does your organization currently use?



Test center
34%

Multi-modal
32%

Online proctoring
18%

On-demand testing
16%



What **technologies** are you using for online proctoring?



Audio and video monitoring
49%

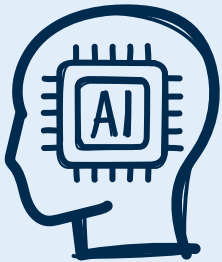
Browser lockdown software
43%

Screen sharing
23%

Second camera
8%



Which of the following technologies will help advance online proctoring?



Real time client monitoring

(Ability to join active sessions)

46%

Video analytics

39%

Biometric authentication

36%

Real time data forensics

32%

Chatbots and
virtual assistant

31%

Artificial Intelligence

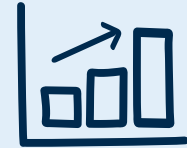
30%

Augmented reality for
online proctoring

13%



Test volume differences



There were some significant differences in responses related to test volumes. Very small organizations (1-10 employees) had the strongest interest in online proctoring. And low-testing volume organizations (under 1,000) are focused on audio-video monitoring in online proctoring. These findings perhaps show that smaller testing organizations with lower volumes have taken longer to make the move to online proctoring, but they are now ready to switch.

High-volume testing organizations, who are likely to have been using online proctoring for longer, are more focused on the use of secure browser lockdown software as part as their online proctoring offer. This may reflect current concerns about the potential use of generative AI tools, such as ChatGPT, to cheat on tests and exams – which is prevented with the use of a secure browser.



While all organizations recognize biometric authentication as a technology that will enhance online proctoring capabilities, **high-volume testing organizations express a greater interest in video analytics and real-time data forensics.** In contrast, low-volume testing organizations find real-time client monitoring (ability to join active sessions) and video analytics more appealing as technologies for advancing their online proctoring capabilities.



Impact on authenticity, reliability, validity and experience

Despite interest in AI and a belief in its positive impact on test authenticity, validity and reliability, respondents don't believe these technologies will alleviate test anxiety. A belief in the positive impact of these technologies is particularly prevalent in respondents from high-testing volume organizations.

For example, **62%** of respondents from organizations with a testing volume over 50,000, either **agreed or strongly agreed** that the use of virtual reality and AI will positively affect the validity and reliability of test assessments. This compares to **38%** of respondents from organizations with a testing volume under 1,000.



Human oversight remains
a crucial concern among
most respondents...

to ensure fairness and
reliability in testing, given
the security and ethical
considerations tied to the
use of AI in testing.





Diversity and inclusion in testing

Most testing organizations are taking multiple steps to ensure equal access to testing.

Accessibility technology and **physical accessibility** measures both top the list of steps currently taken to ensure equal access.



The top way testing organizations are using to ensure the testing environment is inclusive, is through working with a vendor. There seems to be an awareness that testing organizations don't have all the answers when it comes to inclusive testing and are looking to their testing partner for support in this important area. What's more, ongoing monitoring and review of processes is also high on the agenda, recognizing that there is still work to be done and this is an ongoing process.



What steps do you take to ensure test takers from diverse backgrounds have equal access to testing services?



Accessibility technology

(e.g. screen readers)

40%

Physical accessibility

37%

Alternative formats

31%

Language translation services

21%



How do you ensure the testing environment is **inclusive and welcoming**?



Rely on or work with PSI or another vendor

Provide equal/standardized treatment or accommodations

Continue to monitor and review processes

Provide information to test takers to create user-friendly processes

Provide a warm greeting and/or a welcoming environment

Top 3 market research insights



1

There is **still a demand for in-person testing** in secure test centers, despite the increase in popularity of online proctoring.

2

Testing organizations are interested in new technologies, but still have concerns about the impact on test taker experience.

3

Despite interest in AI, a **human-first approach is still the gold standard**, where human intervention is involved in any decision making.



Improvements and enhancements in test delivery

So, what are the latest test delivery advances
that will help us respond to:

- Emerging trends in the testing data.
- Changing needs uncovered by our survey.





The evolution of online proctoring



1



Security and integrity

At the same time as wanting to explore new technologies, testing organizations are understandably wary of the potential impact on test security, reliability and validity.

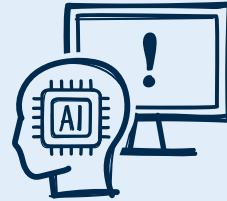
While it's not new, with the increased potential of generative AI to cheat on tests, a secure lockdown browser is more important than ever. A lockdown browser prevents test takers from accessing tools like ChatGPT while they are in the secure testing environment.

Equally, while video and audio monitoring has been used for many years, its importance is still recognized by testing organizations. For example, to check whether test takers are using additional devices or communicating with another person during their test.

2

New technologies

As well as being experts in tried and tested online proctoring technologies, the team at PSI continuously evaluate new and emerging security measures that may be beneficial to clients. Before implementing any new technologies, we conduct detailed reviews that assess increased test security against any negative impact on the test taker experience.



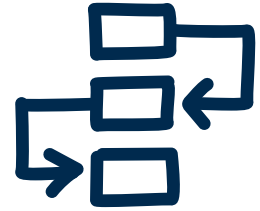
For example, **we only use AI to alert proctors to potential malpractice**, such as noise in the testing environment or when the test taker looks away. The proctor then uses those alerts to inform which violations they flag – human oversight is always involved.

More rigorous and accurate identity authentication is another tool in our test security kit, to ensure the person taking the test is who they say they are. We are improving the tools we use for this all the time and many PSI clients have adopted fingerprint biometrics as a method of accurate and reliable identification.

3

Efficiencies and streamlined processes

Developing the right test delivery strategy for your organization can be a **balancing act between cost, security and test taker experience**. When it comes to the test taker experience, we are facilitating a smoother check-in and testing experience with specialist roles in the process. For example check-in specialist, proctor, customer support, and technical support specialists.



Additional ways we are streamlining test delivery include integrations with HR systems and Learning Management Systems (LMS) such as Single Sign On (SSO) and Application Programming Interfaces (APIs) to share the latest data directly with client systems.

Test taker communications is also taking a front seat, with a review of the language we use and the creation of short tutorial videos and animations to clarify processes and reduce test taker anxiety.

To make sure you are adopting all available improvements and enhancements, it's helpful to fully examine the test taker journey at every stage, from registering and scheduling to launching a test and receiving results.



Read our guide

**How to make the test taker
experience exceptional**

Download



**"Fundamentals are still
important when it comes to
secure remote testing."**





"We have a responsibility to adopt new technologies that will benefit our clients. At the same time, we know from conversations with clients and our own market research that the fundamentals are still important when it comes to secure remote testing. A lockdown browser, for example, and human proctors enabled by technology."

Erin Badder

Senior Director,
Global Online Assessments, PSI

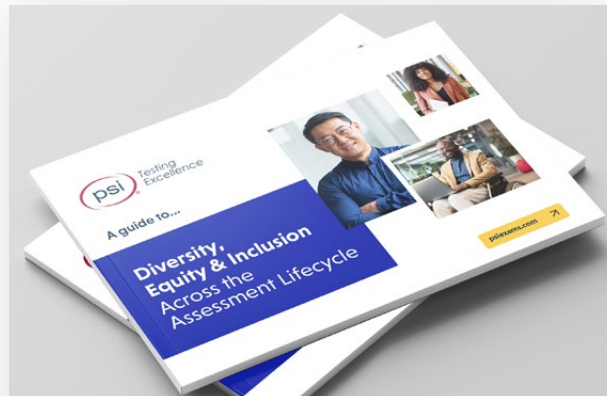
Accessibility and inclusivity

in test delivery



Our survey showed that inclusive testing is an area where testing organizations are looking to their provider for guidance and advice. This might include managing a rigorous process to develop tests in different formats, such as Braille, to ensure they are accurate.

For accessibility, test delivery platforms should be compatible with a wide range of assistive technologies such as screen readers and voice recognition software. And important accommodations to offer include extended test times or rest breaks, which should be quick and easy to request while scheduling a test.



Read our guide

Diversity, Equity & Inclusion Across the Assessment Lifecycle

Download





It's also important to have **empathetic online proctors** who understand the importance of inclusive test delivery and are well-trained in the options for different test accommodations. All supported by continuous improvement, where processes are reviewed and updated based on new technology and evolving best practices.



The continuing role of in-person testing



Improvements to in-person testing include a **growing** list of available accommodations that make testing accessible to more diverse groups:

- Extended time
- Oral tests and exams
- Dedicated proctor
- Separate room
- Specialized monitors
- Screen magnifier or magnifying software
- Braille tests and exams
- Sign language interpreter
- Word-to-word translation dictionary
- A reader
- Someone to write from dictation or copy what has been written
- Paper and pencil tests and exams

Specialized physical equipment in test centers includes:

- Adjustable height tables
- Anti-glare screens
- Keyboard elevation device
- Alternative keyboard types
- Alternative mouse types
- Noise cancelling headsets
- Tabletop risers
- Seating such as stools or oversized chairs





"Our clients want test centers with a full range of available accommodations and specialized equipment. And they want these to be easy to request or book when a test is scheduled. This reflects the growing demand for individualized testing that suits the needs of the test taker, ensuring everyone has a fair and equal chance of success."

Neal Baer

Senior Director of Operations, PSI



Multi-modal test delivery

Our testing data and research show clearly that multi-modal testing is becoming more popular.

The good news is that test modality does not affect test outcomes or test taker experience.

A growing body of research supports a well-developed multi-modal program involving test centers and online proctoring to address different needs:

- 1 Candidates rate both test center and remote proctored delivery as **highly favorable**.
- 2 Candidate experience ratings are not correlated with test performance.
- 3 **Pass rates are comparable** for online proctored and onsite proctored administration of the same assessments.ⁱ



"While testing programs might be nervous about the complexities of transitioning to multi-modal, PSI has supported multiple clients to make the move. We work flexibly and have the processes in place to minimize the impact on your program and your test takers."

Caitlin Wall

Solutions & Implementation Director, PSI



Data analytics

and the future of
test delivery

Data analytics has an important role to play in analyzing test results and improving test delivery processes.

Testing organizations can gather more data than ever before on test taker behavior, performance, and preferences, which will inform future test delivery strategies. Near real-time data forensics makes data-driven decision making even more powerful, with the ability to quickly spot and respond to trends.



Conclusion

The testing industry is changing. And we have more data and insights to inform our response than ever before.

At PSI, our approach is to adapt and change while still recognizing the continued importance of tried and tested tools and processes:



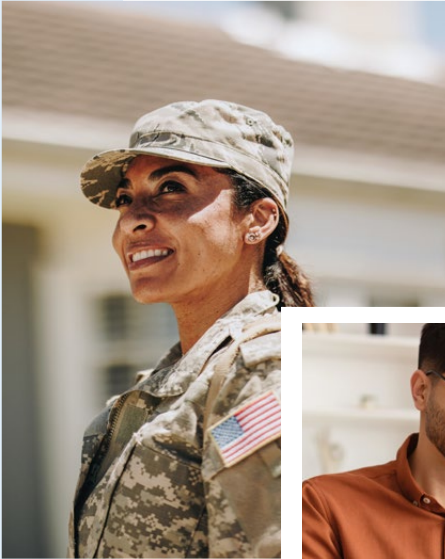
Support the move to online proctoring and multi-modal, while continuing to offer in-person testing in secure test centers for organizations that still require it.



Adopt new technologies that improve test security, without losing our focus on the fundamentals like a lockdown browser and audio and video monitoring.



Explore the benefits of Artificial Intelligence, while continuing to ensure any use of AI is always backed by human oversight.



PSI has the experience you need in a **trusted** testing partner, while keeping up with the very latest test delivery trends and developments to keep you fully informed.



Your trusted testing partner

Every day our clients support millions of people to realize their dreams, reach their potential, and improve their life chances. They care about their test takers – and we share that responsibility.

Our unwavering focus is on delivering frictionless and fair test taker experiences, without compromising test integrity, through...

Secure test delivery

- Authorised global **test center** network.
- Secure and scalable **remote testing** and live and Record & Review **online proctoring**.
- Flexible **multi-modal** test delivery.
- Testing **windows or continuous testing** on-demand.

Rigorous test development

- Legally defensible and **valid test content**.
- **Job analysis** and test content specifications.
- **Subject Matter Expert** (SME) recruitment, training and management
- Secure **item authoring, banking and test generation** software.

Expertise in testing science

- Experienced **psychometricians**.
- Specialist **test developers**.
- **Data forensics** and web crawling.

Our willingness to listen and adapt means clients either benefit from a full testing service, or access solutions at any stage of their testing journey.

We understand every test is about more than the result. It's about a dream. A dream the test taker believes is worth striving for. And we believe that too. Their dreams deserve trusted science, technology and operational expertise. They deserve PSI.

Dreams... Deserve PSI





Connect with an expert today.

psiexams.com



PSI Services LLC

i Weiner, J., & Hurtz, G. (2017). A comparative study of online remote proctored versus onsite proctored high-stakes exams. *Journal of Applied Testing Technology*.