



PROFESSIONAL BOARD FOR PSYCHOLOGY

POSITION STATEMENT

SOUTH AFRICAN GUIDELINES FOR SYSTEM-BASED TESTING

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1. EXECUTIVE SUMMARY

The mandate of the Health Professions Council of South Africa is to guide the professions and at the same time protect the public.

The use of psychometric assessment has been highly debated within the employment laws, particularly the Employment Equity Act. This controversy and the introduction of technical requirements for reliability, validity, fairness and lack of bias indicate that the vulnerability of candidates who apply for positions, particularly candidates who come from disadvantaged backgrounds, is recognised at legislative level. In protecting such persons, not only must the test meet the technical requirement, but the person administering all forms of assessment, must also conform to training and registration requirements.

The Health Professions Act clearly reserves the use of psychometric tests for the profession of psychology. The Professional Board for Psychology resolved that all tests must be administered, scored and report feedback be done by persons registered with the Board. This implies that persons administering psychometric tests are bound by an ethical code and professional regulations, in order to protect the public. This is more so because important life-changing decisions are made in test rooms, and the person in charge of the assessment room needs to be able to deal with many unforeseeable eventualities in a professional way.

The Ethical Code for Psychologists cautions against relying on a single measure for important decisions. As a result of this, batteries of tests are used rather than single instruments. The person administering the battery must be trained to use the highest-level test in the battery.

2. PREAMBLE

The Board sets out the following position statement regarding system-based assessments within the ambit of the HPCSA. This position paper is consistent with International Test Commission (ITC) as well as with the legislative requirement of the South African Government and related policies.

This position paper aims to:

- Provide minimum requirement for all psychological tests,
- Provide guidance on administration and supervision of all psychological test,
- Define acceptable reporting format,
- Provide guidance on testing people with disabilities,
- Provide guidance regarding test takers data protection and confidentiality of test results

3. MINIMUM REQUIREMENTS FOR ALL PSYCHOLOGICAL TESTS

- a) It must be scientifically developed or adapted for use in the intended population of the South African context;
- b) item content and stimulus material must be relevant to all intended populations;
- c) instructions and test materials must be in the language or languages suitable to all cultural and language groups for whom the psychological test is intended;
- d) Where different language versions of the psychological test are available for use in the Republic, the different versions must be equivalent;
- e) it must be valid and reliable for the intended population;
- f) it shall not be biased against South African groups or individuals to whom it can be administered;
- g) Where both a paper-based and a computer-based version of a psychological test are available, the scores obtained on each version must be equivalent to the other;
- h) it must be standardised, in terms of having a clearly defined administration and scoring procedure;
- i) scores must be interpreted by using South African norms if it is norm-referenced; and
- j) it must have a manual setting out its purpose, target population, theoretical rationale or underpinning psychometric properties, instructions for its use and interpretation, its limitations, the potential negative effects of using it, and who may use the test along with the training required to use it in the Republic.

4. ADMINISTRATION and SUPERVISION

Tests administration must be controlled by a registered psychology professional, as regulated in annexure 12 of the ethical rules of conduct.

- **Supervised (Proctored) mode.** In this mode, there is a level of direct human supervision over test-taking conditions. The test taker's identity can be authenticated. This would require an administrator to verify the test taker's identity in one way or another.
- **Managed mode.** In this mode there is a high level of human supervision and control over the test-taking environment. In system-based testing this is normally achieved by the use of dedicated testing centres, where there is a high level of control over access, security, the qualification of test administration staff and the quality and technical specifications of the test equipment.
- **Open mode.** When taking assessment in this mode, there is no direct human supervision of the assessment hence there is no means of authenticating the identity of the test taker.

5. INFORMED CONSENT

No system-based assessment may be rendered to clients under the age of 14 years without parental consent. The onus is on the test administrator to ensure that the requirements of annexure 12 for parental informed consent are adhered to.

TEST TAKER AUTHENTICITY AND CHEATING

Test Users

- a) Ensure test-takers provide the appropriate level of authentication before testing begins. Test-takers should be required to provide authentic, government approved picture identification.
- b) For moderate or high stakes testing confirm that procedures are in place to reduce the opportunity for cheating. Technological features may be used where appropriate and feasible (e.g. Skype, CCTV or similar platforms), a follow-up supervised assessment, or a face-to-face feedback session (e.g. for post-sift assessment in job selection situations).
- c) Provide test-takers with a list of expectations and consequences for fraudulent test taking practices and require test-takers to sign the agreement form indicating their commitment.

6. COMPUTER-GENERATED REPORTS

- a) Computer-generated reports should not be considered a substitute for professional judgment and responsibility. Where necessary, modifications must be made to the computer-generated text.
- b) Every report on a psychological test, whether computer-generated or not, must be signed by a professional who is qualified to report on the test. Signing such a report indicates that the person takes professional responsibility for the contents of the report as if he/she had written it.
- c) Unmodified and unsigned computer-generated reports should not be disseminated to unqualified persons such as test-takers, parents, teachers, line managers, etc.

7. SCORING AND ANALYSING TEST RESULTS

Test Users

- a) Review and understand the rules underlying the scoring of the system-based assessment.
- b) Inform test-takers, when appropriate, about how scores are generated.
- c) Know how the statements of the system-based instrument you intend using are derived from and be aware of the limitations such methods may have.
- d) Ensure the accuracy of test data that are hand-entered into the computer.

8. RESULTS INTERPRETATION AND GIVING FEEDBACK

Test Users

- a) When interpreting the system-based results, be aware of potential limitations, general and specific, to the reports being used. For example:
 - Tests completed in an administration mode that makes it impossible to guarantee the true identity of the test-taker.
 - Tests alone, however administered, may not provide a complete assessment of an individual, as other confirmatory or ancillary information is not considered.
- b) Select and use the most appropriate system which is compatible for the client or intended audience.
- c) Ensure that the language and information loaded in the system fit the needs of the intended stakeholder (e.g. test-taker, organisation, and client).
- d) Confirm that there is a sound basis for the CBT and that its rationale is well-documented.
- e) Where possible, edit system produced reports to include information obtained from other sources to ensure a comprehensive integration of the test-taker's background, behaviour, ability, aptitude, and personality.
- f) Ensure appropriate, relevant, and timely feedback is provided to the test-taker and other relevant stakeholders.
- g) Ensure that computerised testing presents test interpretations in a comprehensible and meaningful form.
- h) Provide client test interpretations that are appropriate for the context and intended use of the test (e.g. high or low stakes testing, corporate versus individual applications).
- i) Take account of ethical compliance surrounding the provision of feedback using computer-based test interpretation (e.g. the difficulty of knowing the effect of providing negative feedback to a test-taker, the lack of knowledge of the emotional state of the test-taker, or the difficulty of providing immediate support to a test-taker when feedback has a negative impact).
- j) Where appropriate, feedback should include directions on how to access support and other information.

9. ETHICAL CONSIDERATIONS

All system delivered psychological services must always conform to the Ethical Code for Psychologists.

10. TECHNOLOGICAL ISSUES IN COMPUTER-BASED (CBT) AND INTERNET TESTING

Test Users

- a) Ensure that the respondents have sufficient understanding of the technical and operational requirements of the test (i.e. hardware and software), as well as the necessary hardware, software and human resources to obtain, use, and maintain the system on an on-going basis.
- b) Confirm that the system the test-taker is using is documented as being suitable.
- c) Ensure there is a good justification for the use of complex software, graphics, and technical IT features in the system you intend using.
- d) Monitor the supplier for information on future changes to the hardware requirements, test system, or software.
- e) Ensure understanding of the implications of changes and their impact on the testing process.

11. HUMAN FACTOR ISSUES IN THE PRESENTATION OF MATERIAL

Test Users

- a) Be familiar with the screen design requirements of the test and ensure that such features are compatible with the systems being used.
- b) Ensure that test-takers are informed of screen design conventions, including where instructional text and prompts are placed, and how instructions can be accessed once testing begins.
- c) Be familiar with how items are presented and how the test-taker is required to respond.
- d) Verify that error messages are non-alarming and inform how to proceed.

12. TESTING CANDIDATES WITH DISABILITIES

Test Users

- a) Check that the hardware/software features facilitate the participation of test-takers with disabilities and those with special needs.
- b) Follow best practice as in other modes of testing. Ensure that any necessary test modifications specifically address the test-taker's special needs and are within acceptable limits so as to not adversely affect score validity.
- c) Be aware of the impact these modifications may have on the test-taker's score.
- d) Consider the use of alternative assessment procedures, rather than modifying system-based assessment, (e.g. paper and pencil test or alternative structured forms of assessment).

13. KNOWLEDGE COMPETENCE AND APPROPRIATE USE OF CBT/INTERNET TESTING

Test Users

- a) Assess the appropriateness of the content and technical adequacy of system-based testing relative to alternative testing methods for each client. Inform test-takers of the purpose of the testing and obtain informed consent.
- b) Have adequate knowledge of the system you intend using and its modes of operation. When required, attend appropriate training events and read and have knowledge of relevant training materials.
- c) Follow best practices in the use of system-based testing and, where appropriate, create 'best practice' testing policies. Ensure that these policies are not in conflict with legislation and professional regulations.
- d) Verify that test-takers know how to interact with an Internet testing system (e.g. basic browser operation).
- e) Maintain and regularly update your knowledge of the system requirements, including pertinent changes in legislation and policy.
- f) Adhere to legal, professional, and ethical mandates related to system testing.

14. PSYCHOMETRIC QUALITIES

Test Developers

- a) Document and disseminate information on the validity, reliability, and fairness of the CBT/Internet testing process.
- b) Ensure that current psychometric standards (test reliability, validity, etc) apply even though the way in which the tests are developed and delivered may differ.
- c) Take care that the CBT/Internet test does not require knowledge, skills, or abilities (e.g. computer skills) that are irrelevant to or might impede the test-taker's ability to perform the test.
- d) Describe the theoretical and practical applications of algorithms used in test-item selection and/or controlling item or test order (as in adaptive testing).
- e) Where test-item content changes, retest and evaluate the changes.

Test Publishers

- a) Provide appropriate documentation for the psychometric properties of the CBT/Internet test.
- b) Ensure that current psychometric standards (test reliability, validity etc.) have been met even though the way in which the tests are developed and delivered may differ.

- c) Publish and offer online only those tests that have appropriate psychometric evidence to support their use, and that have been evaluated and classified by the Professional Board for Psychology.
- d) When offering assessments online, give advice to test users as to what to look for in order to help them distinguish between tests with and without documented psychometric properties.
- e) Verify that the CBT/Internet test does not require knowledge, skills or abilities that are irrelevant to the construct being assessed.
- f) Provide documentation that describes the algorithms and measurement models used and present evidence showing that the test has been validated using these algorithms or models.
- g) For tests based on models that may be unfamiliar to test users, provide explanations of the relevant concepts for the user.
- h) Verify that psychometric model fit has been re-evaluated when changes are made to the test content.

Test Users

- a) Ensure that documentation of the appropriate psychometric evidence is supplied with the CBT/Internet test.
- b) Ensure that current psychometric standards (test reliability, validity etc.) have been met even though the way in which the tests are developed and delivered may differ.
- c) Be able to distinguish between tests with and without documented psychometric properties. Use only tests with documented properties, and ensure that the evidence is appropriate for the intended use of the test.
- d) For Internet testing, use only those websites supported by publishers who offer validated psychometric tests that have been evaluated and classified by the Professional Board for Psychology.
- e) Check that the CBT/Internet test does not require knowledge, skills or abilities that are irrelevant to the construct being assessed.
- f) Where appropriate, review and understand the documentation that describes how the CBT/Internet test uses algorithms for item generation, selection, or test construction, for controlling the order of testing, and the model underlying the development of the test.
- g) When necessary, access appropriate training to ensure continuing professional development.
- h) Document information provided about changes to test items or parameters and their impact on the test properties.

PEN AND PAPER VERSION – EVIDENCE OF EQUIVALENCE

Test Developers

- a) Provide clear documented evidence of the equivalence between the CBT/Internet test and non-computer versions (if the CBT/Internet version is a parallel form). Specifically, to show that the two versions:
 - i. have comparable reliabilities,
 - ii. correlate with each other at the expected level from the reliability estimates,
 - iii. correlate comparably with other tests and external criteria, and
 - iv. produce comparable means and standard deviations or have been appropriately calibrated to render comparable scores.
- b) When designing a CBT/Internet version of a non-computerised test, ensure that:
 - i. there is equivalent test-taker control (such as the ability to skip or review items) as on the manual version,
 - ii. the method of item presentation ensures that the results from the CBT/Internet test are equivalent to the manual version, and
 - iii. the format for responding is equivalent.
- c) For Internet-based tests, studies of test equivalence and norming should be conducted over the Internet with participants completing the test under conditions that represent those that the intended target population will experience.

Test Publishers

- a) Evaluate the documented evidence of the equivalence of the CBT/Internet test, especially if norms from manual versions are to be used by test users to interpret scores on a computerised version of the test.
- b) If the developer does not provide evidence of equivalence (e.g. comparable reliabilities, etc.), conduct appropriate equivalence studies.
- c) If the developer does not provide evidence relating to the use of the test under conditions that represent those that the intended target population will experience, additional studies of test equivalence and norming should be conducted.
- d) Verify that the technical features of the CBT/Internet test (e.g. test-taker control and item presentation) allow the results from the CBT/Internet test to be equivalent to the manual version.

Test Users

- a) Confirm that the evidence regarding the equivalence of the CBT/Internet test to the manual version is sufficient.
- b) If norms are based on manual versions of the test, confirm that evidence has been obtained to show equivalence of test means and SDs across versions and for appropriate subpopulations.

- c) Verify that the technical features of the CBT/Internet test (e.g. test-taker control and item presentation) allow the results from the CBT/Internet test to be equivalent to the manual version.
- d) Only use the test in those modes of administration for which it has been designed.

14. EQUALITY OF ACCESS FOR ALL GROUPS

Test Users

- a) To monitor for possible adverse impact, collect data on the number of individuals accessing the system-based test from diverse groups. Such information may include ethnicity, gender, age, disability, religion, and sexual orientation.
- b) Where there is evidence of possible inequality of access, offer the use of alternative methods of testing.
- c) Where possible, collect data to monitor group differences in test scores.
- d) Consider the appropriateness and feasibility of system-based assessment if testing in remote areas where access to computer technology or the Internet is limited.
- e) If testing internationally, use the country-specific adapted versions of the test, if available.

15. SECURITY OF TEST MATERIAL

Test Users

- a) Know the features that have been developed to ensure the security of test materials, and develop procedures that reduce unauthorised access to such materials.
- b) Respect the sensitive nature of test materials and intellectual property rights of test publishers/developers.
- c) Protect test materials from being copied, printed, or otherwise reproduced without the prior written permission of the holder of the copyright.
- d) Protect passwords and usernames from becoming known to others who are not authorised or qualified to have them.
- e) Inform the service provider/publisher of any breach in security.

16. TEST TAKER DATA PROTECTION

Test Users

- a) Prior to test administration, have knowledge of and inform test-takers of the security procedures used to safeguard data transmitted over the Internet.
- b) Confirm with the service provider that they frequently back up data.

- c) Verify that the service provider is able to allow test users and authorised others to discharge their responsibilities as data controllers under the Protection of Personal Information Act No.4 of 2013.

17. CONFIDENTIALITY OF TEST TAKER'S RESULTS

Test Users

- a) Know how confidentiality will be maintained when data are stored electronically.
- b) Adhere the section that deals with the collection, use, storage and security of personal data as stated in the Protection of Personal Information Act.
- c) Protect all material via the use of encryption or passwords when storing sensitive personal data electronically on test centre facilities.
- d) Apply the same levels of security and confidentiality to backup data as to the data on the live system when backups are used to store personal data.