



BOARD OF CERTIFICATION
FOR THE ATHLETIC TRAINER

Examination Report for 2016-2017 Testing Year
Board of Certification (BOC) Certification Examination for Athletic Trainers

April 2017



INTRODUCTION

The Board of Certification, Inc., (BOC) is a non-profit credentialing agency that provides certification for the athletic training profession. The BOC was incorporated in 1989 to govern the certification program, which had then existed for nearly 20 years, for entry-level athletic trainers and recertification standards for athletic trainers. The entry-level certification program is designed to establish a common benchmark for entry into the athletic training profession. The BOC serves the public interest by developing, administering, and continually reviewing a certification process that reflects current standards of practice in athletic training.

Standard Setting and Equating of Examination Forms

In February 2011, a panel of 10 currently certified athletic trainers convened to establish the performance standard to be implemented for the revised test blueprint (RD/PA6). The panel reviewed the scored items for forms 362(1) and 362(2) introduced in April 2011. The panel participated in three rounds of data collection and used a modified Angoff model, the Yes/No technique (Impara & Plake, 1997).

All later forms of the examination are equated using the common-item non-equivalent groups design (Kolen & Brennan, 2004). This design is frequently used in practice because, unlike with other equating designs, there is no requirement that the group of candidates who have taken the new form be equal in ability to the group of candidates who have taken a previous form. Instead, a subset of “common” items is included on both the new and old (i.e., reference) forms. This set of common items provides the link that is used to statistically determine (1) which group of candidates is of higher ability and (2) whether the new form is easier or harder than the reference form. If the new form is found to be easier or more difficult than the reference form, then the appropriate adjustment to the cut score is made to ensure that the same passing standard is applied to all forms.

The protocol for equating new BOC forms is to equate newly developed examination forms to a reference form that has been used within the last two years.

Score Reporting

Because examination forms are possibly of different difficulty, providing raw scores can be misleading. As a result, many programs, including the ACT® and SAT® examinations, use scaled scores. Scaled scores are particularly useful at providing the basis for meaningful long-term comparisons of results across different administrations of an examination.

Scaled scores are used because over the life of every testing program, situations arise in which changes in test length occur: a decision is made to assess more or fewer areas, the numbers of items that are scored versus unscored (experimental) changes, or different examination forms of different difficulty are being compared.

For scaled scores, the passing standard (number of items answered correctly) on any examination form is always reported as the same scaled score. The equated scores for the BOC certification examination are converted via linear transformation so that the passing standard for all test forms is reported to candidates as 500 on a scale of 200 to 800.

ANALYSIS OF THE CERTIFICATION EXAMINATION

Candidates Excluded From This Report

The report does not include, except where noted, candidates who were administered the BOC certification examination via paper and pencil (i.e., ADA candidates) or candidates with incomplete data. As a result, the number of candidates analyzed for this report might not match the number of candidates who sat for the BOC certification examination. During this testing year, four candidates who were classified as ADA candidates who were administered paper examinations were excluded from this report.

There are 5,323 administrations of the BOC certification examination included in this report, which represents a 0.8% decrease from the 2015-2016 testing year (5,367). The number of first-time examinations increased from 4,059 in 2015-2016 to 4,119 in 2016-2017, which represents a 1.5% increase. Retake examinations decreased from 1,308 to 1,204 in 2015-2016, an 8.0% decrease.

Pass Rates

Table 1. Historical BOC Examination Counts and Pass Rates ¹

| Year | First-time | Pass | % Pass | Retake | Pass | % Pass | All | Pass | % Pass |
|------------|------------|-------|--------|--------|------|--------|-------|-------|--------|
| RD6 | | | | | | | | | |
| 2011-2012 | 3,222 | 2,653 | 82.3% | 1,664 | 696 | 41.8% | 4,886 | 3,269 | 66.9% |
| 2012-2013 | 3,631 | 2,935 | 80.8% | 1,319 | 507 | 38.4% | 4,950 | 3,442 | 69.5% |
| 2013-2014 | 3,679 | 3,048 | 82.8% | 1,210 | 497 | 41.1% | 4,889 | 3,545 | 72.5% |
| 2014-2015 | 3,768 | 3,039 | 80.7% | 1,283 | 466 | 36.3% | 5,051 | 3,505 | 69.4% |
| 2015-2016 | 4,059 | 3,357 | 82.7% | 1,308 | 547 | 41.8% | 5,367 | 3,904 | 72.7% |
| 2016-2017 | 4,119 | 3,444 | 83.6% | 1,204 | 465 | 38.6% | 5,323 | 3,909 | 73.4% |

Table 2. Historical BOC Examination Scaled Score Summary Statistics

| Cohort | N | Mean | Median | Std Dev | Min | Max |
|-------------|-------|-------|--------|---------|-----|-----|
| All 2016-17 | 5,323 | 551.3 | 554 | 72.2 | 265 | 751 |
| First-time | 4,119 | 569.6 | 577 | 67.2 | 315 | 751 |
| Retake | 1,204 | 488.8 | 489 | 50.7 | 265 | 678 |
| All 2015-16 | 5,367 | 543.5 | 544 | 67.5 | 217 | 729 |
| First-time | 4,059 | 561.2 | 564 | 62.8 | 356 | 729 |
| Retake | 1,308 | 488.6 | 489 | 49.9 | 217 | 661 |
| All 2014-15 | 5,051 | 543.3 | 542 | 71.4 | 259 | 733 |
| First-time | 3,768 | 563.0 | 567 | 67.1 | 272 | 733 |
| Retake | 1,283 | 485.5 | 484 | 48.7 | 259 | 650 |
| All 2013-14 | 4,889 | 529.7 | 536 | 57.1 | 272 | 680 |
| First-time | 3,679 | 545.1 | 548 | 51.9 | 332 | 680 |
| Retake | 1,210 | 482.8 | 488 | 45.5 | 272 | 650 |
| All 2012-13 | 4,950 | 524.0 | 524 | 54.0 | 302 | 674 |
| First-time | 3,631 | 539.0 | 548 | 51.0 | 302 | 674 |
| Retake | 1,319 | 484.0 | 488 | 41.0 | 314 | 632 |
| All 2011-12 | 4,886 | 525.0 | 524 | 54.0 | 230 | 692 |
| First-time | 3,222 | 542.0 | 548 | 51.0 | 272 | 692 |
| Retake | 1,664 | 491.0 | 494 | 44.0 | 230 | 644 |
| All 2010-11 | 5,711 | 490.0 | 494 | 67.0 | 200 | 672 |
| First-time | 2,963 | 508.0 | 517 | 71.0 | 200 | 672 |
| Retake | 2,748 | 470.0 | 476 | 56.0 | 220 | 624 |
| All 2009-10 | 6,171 | 476.0 | 482 | 58.0 | 200 | 638 |

Examination Form Reliabilities and Other Summary Data

The performance of the test forms used for the BOC certification examination and are consistent with reporting requirements for NCCA accreditation. Reliability is assessed by using Cronbach's alpha (Cronbach, 1951), a measure typically used for estimating overall examination form reliability; Brennan-Kane (Brennan & Kane, 1977), a measure used for estimating the decision consistency (i.e., the reliability of pass/fail decisions based on the test); and the standard error of measurement (SEM) presented in raw score units, a measure of the precision of the examination form.

SUMMARY

Statistics concerning the quality of the BOC certification examination as a measurement instrument indicate that the examination complies with psychometric requirements that pertain to certification and licensure tests. Notably, estimates of reliability and equivalence across forms for the various parts of the examination are strong. Likewise, candidate performance on all parts of the examination is consistent with the public protection mission of the BOC.

REFERENCES

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