

The Optometry Admission Test: Summary of Validity Evidence

For the Optometry Admission Test (OAT) Program, the primary indicator of test quality is validity. Validity involves the degree to which theory and evidence support the interpretation and use of test scores, with respect to the intended purpose of the test (i.e., informing optometry school admission decisions). There are several aspects of validity. The OAT Program is primarily concerned with content relevance, content representativeness, and relationships between OAT scores and important outcomes. The OAT program is also concerned with reliability, due to the fact that reliability is a prerequisite of validity (i.e., scores must be reliable in order to provide valid measurement).

Reliability refers to the extent to which test scores are free from random sources of measurement error, providing consistent, stable, and precise measurement (e.g., yielding the same results from one test administration to another). Reliability can be assessed using a variety of methods, each of which addresses different sources of error. For purposes of the OAT Program, a measure of internal consistency reliability, KR-20, is calculated for each scale (with the exception of the Academic Average for which a composite reliability estimate is determined). Reliability coefficients between 0.70 and 0.89 often considered to be acceptable, and reliability coefficients of 0.90 and higher are typically considered to be excellent. Reliability coefficient estimates for OAT scores are provided in Table 1.

Table 1
How reliable are OAT scores?
 Reliability estimates for OAT scores: 2025

Score	Reliability ^a
Academic Average	.94 - .96
Total Science	.93 - .95
Biology	.79 - .88
General Chemistry	.77 - .83
Organic Chemistry	.77 - .86
Physics	.74 - .89
Quantitative Reasoning	.79 - .86
Reading Comprehension	.73 - .81

^a The table provides the range of reliability estimates, calculated across examination forms. Estimates are based on data from examinees attempting the OAT for the first time.

Content relevance refers to the extent to which test content reasonably reflects the content domains that support the successful acquisition of the knowledge and problem-solving skills taught in optometry school curriculum. Typically, subject matter experts who construct tests based on approved content specifications maintain this aspect of validity. These subject matter experts monitor the reasonableness of test specifications, so that the OAT continues to assess important information. Content relevance and representativeness are also supported through content validity surveys periodically administered to pre-optometry faculty, optometry faculty, and optometry students. The content validity surveys provide test constructors and OAT

Subcommittee members with information they can use to gauge the relevance and representativeness of OAT content, and recommend adjustments as needed.

With respect to relationships between OAT scores and important outcomes, evidence is acquired through validity studies examining the relationship between OAT scores and academic performance in optometry school. The most recent OAT validity study, involving meta-analytic data from 2022 through 2024, demonstrates that OAT scores are highly predictive of student GPA in the first and second years of optometry school (see Table 2). These results are consistent with earlier studies conducted for the OAT Program. Details concerning the most recent validity study are provided in a 2026 report entitled *OAT Validity Study: 2022-2024 Data*.

Table 2
How well do OAT scores predict performance in optometry school?
Relationship between OAT scores and first- and second-year optometry school GPA
(Meta-analysis results involving corrected correlations)

Score	First-year GPA	Second-year GPA
Academic Average	.74	.73
Total Science	.73	.71
Biology	.53	.55
General Chemistry	.49	.55
Organic Chemistry	.55	.53
Physics	.54	.54
Quantitative Reasoning	.41	.27
Reading Comprehension	.30	.26

Source: *OAT Validity Study: 2022-2024 Data*

Note. Correlations were corrected for range restriction, and for unreliability in optometry school GPAs.

The information presented in Tables 1 and 2 indicates that the OAT demonstrates excellent psychometric properties. OAT results continue to provide optometry admissions officers with reliable, valid information they can use to evaluate applicants' potential for success in optometry school.