



*Most professional education programs now are focusing on critical thinking.  
Here are independent research reports for  
**Program Completion and Professional Licensure***

The Assessment	The Citation	The Findings
<a href="#"><u>HSRT</u></a>	<i>Exploration of Relationships Among the Health Sciences Reasoning Test, the National Physical Therapy Licensing Examination, and Cognitive Admission Variables.</i> Huhn K & Parrott JS. J. Phys. Ther. 2016, 31(1). <i>USA</i>	<i>Physical Therapy:</i> This study explored predictors of successful licensure of Doctor of Physical Therapy students. In a multivariate model including undergraduate GPA, GPA at the end of the first DPT program year, GRE and HSRT scores, HSRT improved prediction of NPTE scores over that of a similar model without the HSRT. The HSRT may prove to be a valuable tool for predicting success in Doctor of Physical Therapy programs, especially for applicants whose GRE and undergraduate GPA scores are marginal.
<a href="#"><u>HSRT</u></a>	<i>Assessment of Critical Thinking as a Predictor of Success in Completion of an Associate Degree Respiratory Care Program.</i> Campbell FP. (2017) Dissertation <i>USA</i>	<i>Respiratory Care:</i> Regression models examined critical thinking assessment at admission, along with student background information for their ability to predict program completion. Student background information (age, gender, and ethnicity) were not significant predictors of program completion. HSRT scores and admission GPA (strong academic standing) were predictors of success successful completion of the AD program in Respiratory Care.
<a href="#"><u>HSRT and CCTDI</u></a>	<i>Impact of Students' Strengths, Critical Thinking Skills and Disposition on Academic Success in the First Year of a PharmD Program.</i> Comer RD, Schweiger TA, & Shektib P. 2019. Am J Pharm Educ 83(1) 6499. <i>USA</i>	<i>Pharmacy:</i> Student pharmacists from three cohorts completed the HSRT (critical thinking skills), CCTDI (critical thinking mindset), and the StrengthsFinder 2.0 assessment (to determine their top five Signature Themes). In a multiple logistic regression model, HSRT OVERALL score and the absence of Signature Themes Command and Woo predicted success in the program. HSRT OVERALL predicted a rating of excellence. HSRT and the Signature Theme of Consistency were independently associated with both success and excellence. In addition to critical thinking skills, the disposition to use these skills may also be associated with performance in pharmacy school. A CCTDI overall mean score was used to evaluate performance in pharmacy school and was predictive of GPA in the first three professional years of pharmacy school. CCTDI Open-mindedness and the Signature Themes of Achiever and Learner were also independent predictors of excellence. Age and several Signature Themes were negative independent predictors of success.
<a href="#"><u>HSRT</u></a>	<i>The health sciences reasoning test in the pharmacy admissions process.</i> Kelsch MP, Friesner DL. College of Pharmacy, Nursing, and Allied Sciences, North Dakota State University. Am J Pharm Educ. 2014 Feb 12; 78(1): 9. <i>USA</i>	<i>Pharmacy:</i> HSRT was administered to all pre pharmacy students who were selected for an interview (n=122). Candidate rankings were not noticeably different when the HSRT scores were excluded from the admission process. The HSRT scores were significantly and highly correlated with applicants' Pharmacy College Admission Test (PCAT) cumulative percentile scores.
<a href="#"><u>CCTST and CCTDI</u></a>	<i>Critical Thinking Disposition and Skills in Dental Students: Development and Relationship to Academic Outcomes.</i> Whitney EM, Aleksejuniene J, Walton JN. J. Dent. Educ. 2016 Aug;80(8): 948-58. <i>Canada</i>	<i>Dentistry:</i> Volunteers from three student cohorts at the University of British Columbia were tested. CCTST predicted higher grades and higher thinking mindset scores in first year of Dental School and at end of program. High CCTST scores were associated with success in both didactic and clinical settings in dental school.



<p><u>CCTST</u></p>	<p><i>Predictive validity of critical thinking skills and disposition for the national board dental hygiene examination: a preliminary investigation.</i> Williams KB et al. (2006). Journal of Dental Educ. 70(5), 536-44. USA</p>	<p><i>Dental Hygiene:</i> Hierarchical multiple regression analyses demonstrated that CCTST scores explained a statistically significant (<math>p &lt; .05</math>) proportion of variance in students' multiple-choice and case-based NBDHE scores, above and beyond that explained by age, GPA, or college credit hours at program entry.</p>
<p><u>CCTST</u></p>	<p><i>Examining Critical Thinking Skills in Family Medicine Residents.</i> Ross D and colleagues. Fam. Med. 2016 Feb;48(2):121-6. Canada</p>	<p><i>Family Medicine:</i> Prospective cohort study examining the relationship between critical thinking skills and objective measures of academic success in a Canadian family medicine residency program. Significant positive correlations were found between CCTST scores and performance on MCAT (<math>r=0.57</math>); verbal reasoning section score (<math>r=0.59</math>); physical sciences (<math>r=0.64</math>); biological sciences (<math>r=0.54</math>). CCTST correlated reliably with both sections of the CCFP Exam (orals: <math>r=0.34</math>; short answer: <math>r=0.47</math>) and was a better predictor of performance on the CCFP exam than the interview score at selection into the residency program (Fisher's <math>r</math>-to-<math>z</math> test, <math>z=2.25</math>).</p>
<p><u>CCTST</u></p>	<p><i>The Association between Critical Thinking and Scholastic Aptitude on First-time Pass Rate of the National Physical Therapy Examination,</i> Suckow DW and colleagues. (2015). University of Dayton. eCommons USA</p>	<p><i>Physical Therapy:</i> First-time NPTE score correlated with the CCTST score (<math>r = 0.413</math>, <math>p &lt; 0.001</math>). Graduates who were classified as having low CT abilities had a 100% failure rate on the first attempt for the NPTE and scored significantly lower on the exam compared to graduates classified as having moderate or high CT abilities (615.33, 634.6, and 652.43, respectively <math>p = 0.0005</math>). Implementing pedagogical practices that foster CT abilities and/or using a CCTST score of 18 or greater as DPT program entry criterion may equate to greater first time NPTE pass rates for program graduates.</p>
<p><u>HSRT</u></p>	<p><i>The influence of critical thinking skills on performance and progression in a pre-registration nursing program.</i> Pitt V, et al, Schools of Nursing, Midwifery and Psychology, University of Newcastle, Australia. Nurse Educ Today. 2015 Jan;35(1):125-31. Australia</p>	<p><i>Nursing:</i> Longitudinal study of critical thinking skills at entry and exit (three years later). There was a significant relationship between critical thinking scores, academic performance, and students' risk of failing, especially in the first semester of study. Critical thinking scores were predictive of program completion within three years.</p>
<p><u>HSRT</u></p>	<p><i>Correlation of the Health Science Reasoning Test with student admission variables.</i> Cox WC, Persky A, &amp; Blaylock SJ. 2013. Amer J Pharm Education 77(6) 118. USA</p>	<p><i>Pharmacy:</i> Scores on the reading comprehension, verbal, and quantitative sections of the PCAT were significantly associated with HSRT scores. Some elements of critical thinking may be measured by these PCAT subsections. However, the HSRT offers information absent in standard cognitive admission criteria.</p>
<p><u>HSRT</u></p>	<p><i>Critical Thinking Skills and Medical Dosimetry Education.</i> Greener A. 2013 Dissertation. USA</p>	<p><i>Medical Dosimetry:</i> This small sample study explored the critical thinking skills of students and professionals in medical dosimetry, a profession evolving in its training and certification. HSRT scores were similar in both groups. Students' Inductive Reasoning scores were significantly higher. Medical dosimetrists with a minimum of a bachelor's degree had significantly stronger CT skills (<math>p = &lt; .001</math>) than those with less education.</p>