

Washington State University College of Education

Cihan Demir

will defend the thesis on

Date: November 21, 2019

Time: 9:00 A.M.

Location: Pullman - Cleveland Hall 353

Faculty, students and the general public are encouraged to attend

APPLICATION OF COMPUTERIZED ADAPTIVE TESTING TO WASHINGTON ASSESSMENT OF THE RISKS AND NEEDS OF STUDENTS (WARNS)

Chair: Brian French

The Washington Assessment of the Risks and Needs of Students (WARNS) is a computer-based assessment created to help courts, schools, and youth service providers determine an adolescent's risk and needs that may lead to truancy, drop out, or delinquency from school. This assessment measures a single domain and six subdomains represented by a bi-factor model. For each subscale, risk and need scores are calculated. Nevertheless, users are advised to consider the total score to make a decision about youth. A total score estimate with fewer items may result in reducing respondent burden and administration time, while not hindering accurate decisions. Computerized adaptive testing (CAT) can be an efficient way of administering an assessment with a smaller number of items. In CAT, items for each examinee are selected from an item pool based on the examinee's responses to the previously administered items. Item administration ceases when an examinee's ability estimate reaches a predetermined precision level. Thus, each examinee, in theory, is offered the fewest possible items, that are most appropriate for that individual. CAT use in personality assessments is limited compared to achievement assessments but can reduce the number of items required without sacrificing score accuracy. The purpose of this study is to examine applicability and efficiency of CAT for the WARNS through a simulation study. The results demonstrate that the CAT provides an accurate estimate of students' risk and need total scores on the WARNS, yields accurate trait estimates, and reduces the number of items administered for each examinee compared to the existing computer-based version. Nevertheless, future research is recommended before a live WARNS CAT is developed for use in practice.