

Randomized Comparison of Conventional, Computerized, and Computerized Adaptive Administration of Ordinal Polytomous Attitude Items

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Abstract

An experimental study was done in which the administration of a Paper and Pencil Test (PPT), a Computerized Test (CT), and a Computerized Adaptive Test (CAT) version of the Dutch School Attitude Questionnaire (SAQ) was compared (Vorst, 2000). 520 high school students were randomly assigned to the PPT, the CT, or the CAT. The CAT administered all items of SAQ subscales adaptively using Samejima's (1969) Graded Response Model, so that six different stopping rule settings could be applied afterwards (0.3, 0.4, 0.5, 0.6, 0.7, and 0.8). Results showed some significant, but usually small administration mode effects. Additionally, correlations of PPT, CT, and CAT subscale latent trait estimates with external criterion data were studied.

References

- Samejima, F. (1969). Estimation of latent trait ability using a response pattern of graded scores. *Psychometrika Monograph*, No. 17.
- Vorst, H. C. M. (2000). *Schoolvragenlijst* [School Attitude Questionnaire]. Lisse, The Netherlands: Swets & Zeitlinger.