

A local-influence-based diagnostic approach to a speeded item response theory model

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Abstract

An item response theory model for dealing with omitted responses in a test is proposed. In this model formulation, non-response does not only depend on an examinee's ability and on item difficulty, but additionally also on 'test speededness'. Using a local-influence-based diagnostic approach, the sensitivity of the model regarding assumptions concerning the drop-out mechanism is explored. The methodology proposed is applied to the Chilean Sistema de Medición de la Calidad de la Educación mathematics test case-study.

Keywords

Item response theory, Local influence, Missing data, 'Test speededness'.