Using Reaction Time as Filters for Genuine Responses

Introduction

International large-scale assessments (ILSA) have been increasingly used by … and … for [this] and [that] purposes, imposing ever stringent demand on source data quality {cite OECD report}. Escalating evidence has risen the concern that student responses may appear \emph{*valid*} such that the numerical values fall within the possible band, but nevertheless hardly genuine as the candidate rushed ahead of their shadows to produce these results. Overly short reaction time undermines data users’ confidence that the corresponding responses were \emph{*genuine*} and fit for purpose for subsequent analyses and policy decisions.

Methods

This study sources process data from the \textit{*enjoyment of reading*} (six items, Panel A) and \textit{*competitiveness*} (three items, Panel B) indices from PISA 2018 database {citation}, and examines the distribution of students’ reaction time by sex. We followed converging expert opinions that respondents need at least two seconds per item to produce genuine responses, with the question stems counting as one additional item. This rule produces cutoffs of 14 and 8 seconds respectively for the two indices as shown in blue.

Results