

Differential Speededness Assessed Under Controlled Conditions

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Abstract

Speededness has been previously identified as a potential cause of DIF on standardized tests. However, the degree of DIF attributable to speededness has only been studied at the item level (Schmitt & Bleistein, 1987; Dorans, Schmitt, & Bleistein, 1988; Dorans, Schmitt, & Curley, 1988; Schmitt, Dorans, Crone, & Maneckshana, 1991). Differential bundle functioning (DBF) has more power than item-level methods and offers an opportunity to assess the cumulative effect of DIF at the bundle level (Nandakumar, 1993; Douglas, Roussos, & Stout, 1996; Oshima, Raju, Flowers, & Slinde, 1998; Gierl, Bisanz, Bisanz, Boughton, & Khaliq, 2001). Moreover, speededness itself has seldom been directly manipulated to tease out its effect from other confounding factors. In this study, for the first time, we both experimentally manipulate the amount of speededness and take advantage of the power of DBF methodology.

In this study, we investigate speededness DBF for analytical reasoning (AR) and reading comprehension (RC) items between male and female as well as black and white test takers. An AR section and a RC section were given in the non-scored portion of a LSAT administration. Three item bundles will be formed based on the location of items in the section (beginning bundle, middle bundle and end bundle). Because each section was administered in three different orders, we will be able to examine directly how differential speededness affects the magnitude of DBF. Two matching criteria will be used for the DBF analyses: a total raw score based on all operational items and a modified total raw score based on dropping those operational items with a not-reached percentage greater than 5%. The first criterion will be referred to as the speeded matching criterion, and the second the unspeeded matching criterion. This matching design will afford an opportunity for us to examine whether using a non-speeded matching criterion affects DBF assessment for differential speededness.

This study will result in a more accurate estimation of the amount of DIF caused by speededness, so that test practitioners can more accurately judge the degree to which they should amend their tests to adjust for this problem.

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