

ERRATUM TO: LINKING ITEM RESPONSE MODEL PARAMETERS

WIM J. VAN DER LINDEN AND MICHELLE D. BARRETT

PACIFIC METRICS CORPORATION

Erratum to: Psychometrika (2016) 81(3):650–673
DOI 10.1007/s11336-015-9469-6

The following argument should have been added to the proof of Theorem 3 to show that the linking function $\xi^* = \varphi(\xi)$ has to be separable in the components of ξ : as the linking problem is symmetric in ξ^* and ξ , φ has to be bijective (i.e., has an inverse that returns the same unique ξ from which the linking departs). In addition, to allow for the fact that the two calibrations may yield the same value for some of the parameters, φ should always be able to return $\xi_j^* = \xi_j$, $j = 1, \dots, d$, for all values of ξ . The separable form of $\varphi(\xi)$ in (31) does have both properties: each of its component functions is monotone and thus has an inverse, while the identity function is a special case of a monotone function. Now, if $\varphi(\xi)$ would not be separable in its components, it would hold that $\xi_j^* = \varphi_j(\xi_1, \dots, \xi_d)$ for some $j = 1, \dots, d$. However, $\xi_j^* = \varphi_j(\xi_1, \dots, \xi_d)$ is only able to always return $\varphi_j(\xi_1, \dots, \xi_j, \dots, \xi_d) = \xi_j$ when it is independent of $(\xi_1, \dots, \xi_{j-1}, \xi_{j+1}, \dots, \xi_d)$, that is, does not vary as a function of any of the other parameters. It follows that $\xi^* = \varphi(\xi)$ has to be separable in its components.

Published Online Date: 23 JAN 2017

The online version of the original article can be found under doi:[10.1007/s11336-015-9469-6](https://doi.org/10.1007/s11336-015-9469-6)

Correspondence should be made to Wim J. van der Linden, Pacific Metrics Corporation, 1 Lower Ragsdale Bldg. 1 Ste 150, Monterey, CA 93940, USA. Email: wjvdlinden@outlook.com