CAMBRIDGE

Cambridge University Press & Assessment
978-1-009-35774-6 — Identifying and Minimizing Measurement Invariance among Intersectional Groups
Rachel A. Gordon, Tianxiu Wang, Hai Nguyen, Ariel M. Aloe
Frontmatter
More Information

Cambridge Elements

Elements in Research Methods for Developmental Science
edited by
Brett Laursen
Florida Atlantic University

IDENTIFYING AND MINIMIZING MEASUREMENT INVARIANCE AMONG INTERSECTIONAL GROUPS

The Alignment Method Applied to Multi-category Items

Rachel A. Gordon
Northern Illinois University
Tianxiu Wang
University of Pittsburgh
Hai Nguyen
University of Illinois at Chicago
Ariel M. Aloe
University of Iowa

CAMBRIDGE UNIVERSITY PRESS

© in this web service Cambridge University Press & Assessment www.cambridge.org

CAMBRIDGE

Cambridge University Press & Assessment
978-1-009-35774-6 — Identifying and Minimizing Measurement Invariance among Intersectional Groups
Rachel A. Gordon, Tianxiu Wang, Hai Nguyen, Ariel M. Aloe
Frontmatter
More Information

Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781009357746

DOI: 10.1017/9781009357784

© Rachel A. Gordon, Tianxiu Wang, Hai Nguyen, and Ariel M. Aloe 2023

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press & Assessment.

First published 2023

A catalogue record for this publication is available from the British Library.

ISBN 978-1-009-35774-6 Paperback
ISSN 2632-9964 (online)
ISSN 2632-9956 (print)

Additional resources for this publication at www.cambridge.org/gordon_resources

Cambridge University Press & Assessment has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

© in this web service Cambridge University Press & Assessment www.cambridge.org

CAMBRIDGE

Cambridge University Press & Assessment
978-1-009-35774-6 — Identifying and Minimizing Measurement Invariance among Intersectional Groups
Rachel A. Gordon, Tianxiu Wang, Hai Nguyen, Ariel M. Aloe
Frontmatter
More Information

Identifying and Minimizing Measurement Invariance among Intersectional Groups

The Alignment Method Applied to Multi-category Items

Elements in Research Methods for Developmental Science

DOI: 10.1017/9781009357784
First published online: June 2023

Rachel A. Gordon
Northern Illinois University

Tianxiu Wang
University of Pittsburgh

Hai Nguyen
University of Illinois at Chicago

Ariel M. Aloe
University of Iowa

Author for correspondence: Rachel A. Gordon, rgordon@niu.edu

Abstract: This Element demonstrates how and why the alignment method can advance measurement fairness in developmental science. It explains its application to multi-category items in an accessible way, offering sample code and demonstrating an R package that facilitates interpretation of such items' multiple thresholds. It features the implications for group mean differences when differences in the thresholds between categories are ignored because items are treated as continuous, using an example of intersectional groups defined by assigned sex and race/ethnicity. It demonstrates the interpretation of item-level partial non-invariance results and their implications for group-level differences and encourages substantive theorizing regarding measurement fairness.

Keywords: measurement fairness, measurement invariance, alignment method, intersectionality, children's behavior, socio-emotional development

© Rachel A. Gordon, Tianxiu Wang, Hai Nguyen, and Ariel M. Aloe 2023

ISBNs: 9781009357746 (PB), 9781009357784 (OC)
ISSNs: 2632-9964 (online), 2632-9956 (print)

© in this web service Cambridge University Press & Assessment www.cambridge.org

CAMBRIDGE
Cambridge University Press & Assessment
978-1-009-35774-6 — Identifying and Minimizing Measurement Invariance among Intersectional Groups
Rachel A. Gordon, Tianxiu Wang, Hai Nguyen, Ariel M. Aloe
Frontmatter
More Information

Contents

1 Introduction 1

2 Formal Presentation of Psychometric Models 20

3 Empirical Example 28

4 Discussion 50

References 57

Online appendices and additional resources for this publication at www.cambridge.org/gordon_resources

© in this web service Cambridge University Press & Assessment www.cambridge.org