Title

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Journal

Applied Psychological Measurement, 38(7)

ISSN

0146-6216 1552-3497

Authors

Blozis, Shelley A

Villarreal, Ricardo

Publication Date

2014-06-02

DOI

10.1177/0146621614536769

Peer reviewed

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Applied Psychological Measurement
2014, Vol. 38(7) 577–580

DOI: 10.1177/0146621614536769
apm.sagepub.com
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Shelley A. Blozis[1] and Ricardo Villarreal[2]

Abstract

This brief research report shows how different applications of the Multigroup Ethnic Identity Measure (MEIM) can have implications for the interpretation of the role of ethnic identity in research. Throughout the MEIM's widespread use, notable inconsistencies lie in how the measure has been applied. This report uses empirical data to demonstrate differences in statistical inference due to these differences in usage.

Keywords

ethnic identity, MEIM, latent variable model, measurement

The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) was designed to measure an individual's underlying sense of ethnic identity. Based on identity theory, the MEIM is a multidimensional survey that aims to measure two dimensions: exploration (expressed by behaviors) and commitment (expressed by attitudes). The 12 scale items are reported in Roberts et al. (1999). This brief research report shows how different applications of the MEIM, from using item responses to form a single score to applying a latent variable model, can have important implications for statistical inference.

Throughout the MEIM's widespread use, notable inconsistencies lie in the measure's applications. This may have important implications across the many research areas that rely on the instrument. Many studies treat responses to the MEIM as one dimension by using item responses to create a single score (e.g., Wei, Alvarez, Ku, Russell, & Bonett, 2010). This is inconsistent with the conjecture that ethnic identity is comprised of two dimensions. Other studies use only a subset of seven items that relate specifically to attitudes about ethnic identity (e.g., Sierra, Hyman, & Torres, 2009). If behaviors are also important, ignoring this aspect could produce biased results and lead to misguided conclusions if considering attitudes alone.

Using a random sample of 762 U.S. Hispanic adults, the MEIM was used in a study of ethnic identity as a predictor of consumer behavior. First, responses to all 12 items were

[1]University of California, Davis, USA
[2]University of San Francisco, CA, USA

Corresponding Author:
Shelley A. Blozis, Psychology Department, University of California, Davis, One Shields Avenue, Davis, CA 95616, USA.
Email: sablozis@ucdavis.edu

Table 1. Estimated Regressions of Consumer Behaviors on MEIM-Total, AEI alone, and AEI and BEI Together (N = 762).

	MEIM-Total		AEI alone		Two-factor model		
					AEI	BEI	
Consumer behavior	MLE (*SE*)	Adjusted R^2	MLE (*SE*)	Adjusted R^2	MLE (*SE*)	MLE (*SE*)	Adjusted R^2
Buy familiar products	0.44 (0.07)	.045	0.24 (0.04)	.047	0.02 (0.06)	0.27 (0.08)	.062
Buy same childhood brands	0.27 (0.07)	.016	0.13 (0.05)	.014	−0.09 (0.06)	0.26 (0.09)	.038
Unfamiliar brands are risky	0.30 (0.07)	.021	0.17 (0.04)	.023	0.04 (0.06)	0.16 (0.09)	.027
Favor few brands	0.30 (0.07)	.026	0.18 (0.04)	.033	0.16 (0.06)	0.04 (0.10)	.035
Buy prestigious brands	0.17 (0.07)	.007	0.08 (0.04)	.005	−0.10 (0.06)	0.20 (0.08)	.025
Brands speak my language	0.64 (0.07)	.093	0.34 (0.04)	.091	−0.08 (0.08)	0.49 (0.09)	.158
Use despite new inventions	0.36 (0.07)	.037	0.21 (0.04)	.042	0.08 (0.06)	0.16 (0.10)	.043
Buy brands on sale	0.41 (0.07)	.048	0.24 (0.04)	.057	0.15 (0.05)	0.13 (0.09)	.057
Pay more for higher quality	0.25 (0.07)	.016	0.16 (0.04)	.023	0.17 (0.06)	0.01 (0.12)	.026
English ad preference	0.15 (0.07)	.006	0.20 (0.10)	.006	0.24 (0.28)	−0.02 (0.28)	.007
Spanish ad preference	−0.52 (0.08)	.062	−0.53 (0.12)	.037	0.45 (0.36)	−0.90 (0.29)	.107

Note. Robust standard errors are in parentheses. MLE = maximum likelihood estimates; MEIM = Multigroup Ethnic Identity Measure; AEI = attitudinal ethnic identity; BEI = behavioral ethnic identity.

averaged to create a single score (MEIM-Total). Next, the seven items that reflect attitudes were assumed to be due to a single latent variable, henceforth called attitudinal ethnic identity (AEI). Last, the seven attitude items along with the remaining five behavior items were specified in a two-factor model, with the behavior items assumed to be due to a latent variable, henceforth called behavioral ethnic identity (BEI). Unlike the first approach, measurement error in the item responses was addressed by the second and third approaches that relied on latent variable models. Nine consumer behavior measures served as outcomes and included behaviors such as tending to favor a few brands. Two additional questions assessed preferences for advertisements in English and Spanish. All items were measured using a five-point ordinal scale.

Structural equation models were used to fit the separate regressions for each of the consumer behaviors using as a predictor (a) MEIM-Total, (b) AEI alone, and (c) AEI and BEI together. Maximum likelihood (ML) estimation was carried out using Mplus version 6.1 (Muthén & Muthén, 1998-2010). Each application of the MEIM was evaluated as a predictor of the consumer behaviors, with effect size measured by adjusted R^2, the proportion of variance accounted for in the outcome: Adjusted R^2 = (1 − residual variance)/sample variance of Y. Two-tailed tests with Bonferroni adjustments were applied to the nine consumer behavior items (each test evaluated at $\alpha = .05/9 = .0056$) and the two language preference items (each test evaluated at $.05/2 = .025$). ML estimates, robust standard errors, and adjusted R^2 values are given in Table 1.

The analysis shows differences across the different uses of the MEIM with regard to statistical inference and effect size. Use of MEIM-Total and AEI as predictors yielded identical patterns of statistically significant tests. This may be due in part to the fact that 7 of the 12 MEIM items reflect attitudes. Effect size tended to be larger for AEI, however, suggesting that a latent measure of AEI is a better predictor than the total score that contains measurement error. After adding BEI as a predictor in the third model, all but one of the effects of AEI was no longer significant, suggesting that after controlling for behaviors, attitudes were not predictive of consumer behavior. Controlling for AEI, the effect of BEI was significant in 4 of the 11 regressions. Thus, after controlling for attitudes, behaviors were important in relation to only some consumer behaviors. AEI and BEI as a predictor set, however, yielded the greatest effect sizes across all regressions, suggesting that this application of the MEIM produced the best predictions. As a note, AEI and BEI had an estimated correlation of $r = .60$ in the third model which corresponds to 36% shared variation between the constructs. Indeed, model fit was worse for a one-factor model that was fit with all 12 items loading on one factor (Akaike Information Criterion [AIC] = 18,136) relative to the two-factor model with AEI and BEI as predictors (AIC = 18,084). These results are consistent with past studies that do not support combining MEIM items into a single dimension. These findings suggest care in how the MEIM is applied in research and that a latent variable model for ethnic identity may help to improve prediction of some outcome measures.

Acknowledgments

The authors wish to extend their appreciation to Bromley Communications and Encuesta, Inc. for their support of this research in collaboration with the ViBE I study.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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