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## STATISTICAL DEVELOPMENTS AND APPLICATIONS

### The Statistical Developments and Applications Section: An Update

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In 2003, Drs. David Streiner and Geoff Norman announced in this journal the Statistical Developments and Applications Section.<sup>1</sup> Over the past 15 years, there have been 36 articles in this section, and an additional six have recently been published in a special issue on mixture modeling (see Table 1). As can be seen from Table 1, articles have been written about diverse topics such as coefficient alpha, item response theory, latent growth modeling, structural equation modeling, construct validity, and many other topics. There were articles written by the statistical editors in addition to solicited and unsolicited papers.

Dr. Steven Reise recently stepped down as one of the statistical editors and was succeeded by Drs. Michael Furr and Rob Meijer; Dr. David Streiner will continue his work for this section, and Dr. Daniel Sass serves as the statistical consultant for the journal. The main aim of the section is still “to keep researchers and clinicians informed about new statistical procedures, provide new knowledge about old procedures, and illustrate ways in which statistical procedures have practical applications in personality assessment research and practice” (Streiner & Norman, 2003, p. 1). Indeed, as recently discussed at a Consulting Editors’ meeting at the annual conference of the Society for Personality Assessment (SPA), there is a growing need for explaining new and old psychometric and statistical techniques to users of these methods in the personality and clinical fields.

As editors, we see four main avenues for accomplishing this important goal. First, we will write articles and ask topical experts to make contributions. Second, we will gladly accept for review unsolicited articles about relevant topics. Third, we ask readers of the journal to tell us what types of topics they would like to see discussed in this section. (We list below our email addresses for your direct communications.) Fourth, we are currently preparing a reference list that will be posted on

TABLE 1.—An overview of the articles published in the Statistical Developments and Applications section.

1. Streiner, D. L. (2003). Starting at the beginning: An introduction to coefficient alpha and internal consistency. *80*(1), 99–103.
2. Streiner, D. L. (2003). Being inconsistent about consistency: When coefficient alpha does and doesn’t matter. *80*(3), 217–222.
3. Reise, S. P., & Henson, J. M. (2003). A discussion of modern versus traditional psychometrics as applied to personality assessment scales. *81*(2), 93–103.
4. Streiner, D. L. (2003). Diagnosing tests: Using and misusing diagnostic and screening tests. *81*(3), 209–219.
5. Wise, E. A. (2004). Methods for analyzing psychotherapy outcomes: A review of clinical significance, reliable change, and recommendations for future directions. *82*(1), 50–59.  
—Streiner, D. L. (2004). Editorial: Measuring individual level change. *82*(1), 48–49.
6. Hofstee, W. K. B., & Ten Berge, J. M. F. (2004). Personality in proportion: A bipolar proportional scale for personality assessments and its consequences for trait structure. *83*(2), 120–127.  
—McGrath, R. E. (2004). The making of meaning: Comments on Hofstee and Ten Berge. *83*(2), 128–130.  
—Ozer, D. J. (2004). Personality out of proportion? *83*(2), 131–135.  
—Hofstee, W. K. B., & Ten Berge, J. M. F. (2004). Representing assessments: Reply to McGrath and Ozer. *83*(2), 136–140.
7. Sherry, A., & Henson, R. K. (2005). Conducting and interpreting canonical correlation analysis in personality research: A user-friendly primer. *84*(1), 37–48.
8. Reise, S. P., Ventura, J., Nuechterlein, K. H., & Kim, K. H. (2005). An illustration of multilevel factor analysis. *84*(2), 126–136.
9. Reise, S. P., & Haviland, M. G. (2005). Item response theory and the measurement of clinical change. *84*(3), 228–238.
10. Byrne, B. M. (2005). Factor analytic models: Viewing the structure of an assessment instrument from three perspectives. *85*(1), 17–32.
11. McGrath, R. E. (2005). Conceptual complexity and construct validity. *85*(2), 112–124.
12. Maraun, M. D., Slaney, K., & Jalava, J. (2005). Dual scaling for the analysis of categorical data. *85*(2), 209–217.  
—Streiner, D. L. (2005). Editorial: Introduction to the article on “Dual Scaling.” *85*(2), 207–208.
13. Stansbury, J. P., Ried, L. D., & Velozo, C. A. (2006). Unidimensionality and bandwidth in the Center for Epidemiologic Studies Depression (CES–D) scale. *86*(1), 10–22.
14. Steger, M. F. (2006). An illustration of issues in factor extraction and identification of dimensionality in psychological assessment data. *86*(3), 263–272.

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<sup>1</sup>Dr. Steven Reise replaced Geoff Norman in 2004.

(Continued on next page)

TABLE 1.—An overview of the articles published in the Statistical Developments and Applications section. (*Continued*)

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15. Ullman, J. B. (2006). Structural equation modeling: Reviewing the basics and moving forward. *87*(1), 35–50.
  16. Stein, J. A., Lee, J. W., & Jones, P. S. (2006). Assessing cross-cultural differences through use of multiple-group invariance analyses. *87*(3), 249–258.
  17. Rouse, S. V. (2007). Using reliability generalization methods to explore measurement error: An illustration using the MMPI–2 PSY–5 scales. *88*(3), 264–275.
  18. McGrath, R. E. (2008). Inferential errors in taxometric analyses of ordered three-class constructs. *90*(1), 11–25.
  19. McCrae, R. R. (2008). A note on some measures of profile agreement. *90*(2), 105–109.
  20. Meijer, R. R., Egberink, I. J. L., Emons, W. H. M., & Sijtsma, K. (2008). Detection and validation of unscalable item score patterns using item response theory: An illustration with Harter's Self-Perception Profile for Children. *90*(3), 227–238.
  21. Wismeijer, A. A. J., Sijtsma, K., Van Assen, M. A. L. M., & Vingerhoets, A. J. J. M. (2008). A comparative study of the dimensionality of the Self-Concealment Scale using principal components analysis and Mokken scale analysis. *90*(4), 323–334.
  22. Byrne, B. M., Lam, W. W. T., & Fielding, R. (2008). Measuring patterns of change in personality assessments: An annotated application of latent growth curve modeling. *90*(6), 536–546.
  23. Gignac, G. E. (2009). Partial confirmatory factor analysis: Described and illustrated on the NEO–PI–R. *91*(1), 40–47.
  24. Cox, S., West, S. G., & Aiken, L. S. (2009). The analysis of count data: A gentle introduction to Poisson regression and its alternatives. *91*(2), 121–136.
  25. Wright, A. G. C., Pincus, A. L., Conroy, D. E., & Hilsenroth, M. J. (2009). Integrating methods to optimize circumplex description and comparison of groups. *91*(4), 311–322.
  26. Furr, R. M. (2010). The double-entry intraclass correlation as an index of profile similarity: Meaning, limitations, and alternatives. *92*(1), 1–15.
  27. Reise, S. P., Moore, T. M., & Haviland, M. G. (2010). Bifactor models and rotations: Exploring the extent to which multidimensional data yield univocal scale scores. *92*(6), 544–559.
  28. Falk, C. F., & Savalei, V. (2011). The relationship between unstandardized and standardized alpha, true reliability, and the underlying measurement model. *93*(5), 445–453.

TABLE 1.—An overview of the articles published in the Statistical Developments and Applications section. (*Continued*)

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29. Linting, M., & van der Kooij, A. (2012). Nonlinear principal components analysis with CATPCA: A tutorial. *94*(1), 12–25.
  30. Mosterman, R. M. (2013). Normal people in clinical practice: A general factor of personality in biproportional scaling and its practical relevance. *95*(1), 13–25.
  31. Reise, S. P., Bonifay, W. E., & Haviland, M. G. (2013). Scoring and modeling psychological measures in the presence of multidimensionality. *95*(2), 129–140.
  32. Wright, A. G. C., & Hallquist, M. N. (Eds.). (2014). Special Issue *96*(3) contains six articles and an introduction about mixture modeling.
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*Note.* The indented articles are comments on an earlier published article or editorials.

the SPA website that contains state-of-art discussions and guidelines to implement and apply techniques most often used in personality assessment. Any further recommendations and suggestions about techniques that should be in this list are welcome.

We look forward to providing a Statistical Developments and Applications section that will be timely and informative, and we again encourage you—the readers of *JPA*—to participate in this process. Please feel free to contact us at r.r.meijer@rug.nl (Rob R. Meijer), streiner@mcmaster.ca (David L. Streiner), furrm@wfu.edu (R. Michael Furr), and daniel.sass@utsa.edu (Daniel A. Sass).

#### REFERENCE

- Streiner, D. L. L., & Norman, G. R. (2003). An introduction to the statistical developments and applications section. *Journal of Personality Assessment*, *80*(3), 1.