

Rejoinder

Comments on Barbuto, Story, and Gifford's "Response"

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We are thankful for the comments made and issues raised by our colleagues (Barbuto, Story, & Gifford, current issue) in their "Response" to our article, "Structural Equivalence of the Barbuto and Wheeler Servant Leadership Questionnaire on North American and South African Samples" (2007). The issues that were raised highlight some of the problems encountered when doing intercultural research. The comments made by our colleagues furthermore stimulated us to do some further data analysis. The results are briefly presented in this reaction to the comments that were made and in terms of some of the extensive literature on intercultural validity of measuring instruments.

Inter-cultural, and even inter-group, invariance of measuring instruments seems to be a problem in quantitative research in the organizational behavior field. Ways to test for invariance were discussed by, for instance, Vandenberg and Lane (2000). In light of this, several authors stated in South African journals that measuring instruments developed in countries outside South Africa should not be used without further validation on a South African sample (De Bruin & Nel, 1996; De Bruin & Bernard-Phera, 2002; Stead & Watson, 1998). A large number of studies of which the essence of the results was stated were done in terms of this directive. Examples of such studies are those done by De Villiers (1996); Hoole (1997); Van Wyk, Boshoff, and Owen (1999); De Klerk (2001); and Bosman (2003). In all these studies the measuring instruments were applied in their original form and in English. The findings of these studies seemed to provide overwhelming evidence that the portability of instruments, developed in the powerhouse (United States of America) of this kind of work or in some cases other parts of the world, is in many cases doubtful. The tendency is for items to be eliminated during exploratory factor analysis, and a poor fit between the original measurement models and the data to be obtained.

The number of factors that emerged when measurement models are derived from the South African samples' responses tended to be fewer than in the measurement models developed on the responses of standardization samples in the United States of America or other countries. For example, the study by De Villiers (1996) used an instrument designed by Pedler, Burgoyne,

and Boydell (1999) to measure the characteristics of the learning organization and was revalidated on a South African sample. The original measurement model consisted of 11 dimensions. The instrument was applied in its original form in English. The results of the analysis carried out by De Villiers indicated that all the items in the questionnaire should be retained but that only one dimension (factor) could be identified in the responses of the South African sample.

To explore the possibility that the translation of the Barbuto and Wheeler (2006) instrument could be an important reason for the findings on the structure of the measure, a little further exploratory factor analysis and confirmatory factor analysis were carried out on the responses of the individuals ($n = 250$) who preferred to respond to the English version of the Servant Leadership Questionnaire in the Dannhauser and Boshoff (2007) study. The inter-correlation matrix indicated that the items scores correlated highly with each other, within the range of .61 to .93.

In the exploratory factor analysis, only one eigenvalue (16.68) higher than one was obtained. A one-factor solution was therefore specified. In this solution, all the items loaded on the one factor which predicted 72.5% of the total variance. Confirmatory factor analyses (CFA) were then carried out on the five-factor structure as found by Barbuto and Wheeler (2006) and on the one-factor structure determined by means of exploratory factor analysis. The CFA on the original five-factor structure and on the one-factor structure yielded indices of fit that were almost identical (RMSEA = .14, GFI = 1.00 for the one-factor structure and RMSEA = .15, GFI = 1.00 for the five-factor structure). It therefore seems as if the scores on the items in the questionnaire were highly related to each other and formed one dimension or factor when the responses of the English-speaking participants are analyzed. In a recent study by Van Staden (2007), the SLQ was completed in its original form in English, and very similar results were obtained.

The jury about the measurement characteristics of the SLQ seems to have to deliberate still further. Based on the available evidence it does not seem as if translation of the instrument played a decisive role in the results obtained by Dannhauser and Boshoff (2007).

We would like to continue collaborating with the authors of the SLQ. It seems to a well-developed and very promising instrument for measuring the servant leadership construct. Further inter-cultural work will probably shed more light on the way individuals from different countries react to the items in the questionnaire and on the role of possible influences like central tendency, response set, and social desirability when the instrument is applied to diverse groups of respondents.

Finally, it is speculated that differences between the composition of the United States validation sample used by Barbuto and Wheeler (2006) and the samples in the Dannhauser and Boshoff (2007) and Van Staden (2007) studies as well as the settings in which the instrument was used could possibly have influenced the results that were obtained. This seems to be especially relevant as another measuring instrument, the Workplace Trust Survey (Ferres, 2001), yielded, when applied to the full Dannhauser and Boshoff sample, almost identical factor structures for the Australian standardization and the South African samples while the instrument had also been translated for the Afrikaans speaking group. The samples and settings, that is, respondents who worked in hierarchical organizations were very similar in the Ferres and the Dannhauser and Boshoff samples.

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