UNMEASURED VARIABLES IN PATH ANALYSIS: ADDENDUM

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A minor error in Wolfle (1979) should be noted in order to correct a misunderstanding about the measurement reliabilities of educational attainment in the national longitudinal study (NLS) of the high school class of 1972 (Levinsohn, et al., 1978), and to prevent readers of the original paper from ill-advisedly replicating the error.

Tables 3, 4, and 5 in Wolfle (1979) indicate that reliability coefficients may be estimated by the equation:

$$\lambda_{ij} \left(\sigma^2_{\tau_j} / \sigma^2_i \right) ,$$

where λ_{ij} is a regression coefficient estimated by LISREL (Jöreskog and Sörbom, 1978) of the i-th manifest variable on the j-th latent factor, or true score. In fact, the reliability estimate of x_i is given by:

$$\lambda^2_{ij} \left(\sigma^2_{\tau_j} / \sigma^2_i \right) ;$$

that is, the square of the standardized coefficient, or correlation, between x_i and its true score. This is not a mere typographical error, because it led the author to incorrectly calculate the estimated reliability coefficients.

For example, Table 3 (Wolfle, 1979) indicates that the reliability of V1627, a composite variable of father's educational attainment, exceeds the reliability of a straightforward single question about father's

education. In fact, the reliability of the latter variable (.96) exceeds that of the composite (.88).

Among the manifest indices of educational attainment, Wolfle (1979, p. 40) was led to conclude that a composite variable of educational attainment constructed at the National Center for Education Statistics by Fran Melone did not measure the same latent dimension as measured by NLS variables V1854 (educational attainment as of 10/1/76) and V1855 (educational expectations as of 10/1/76). In fact, the reliability coefficients of these three variables are, respectively, .85, .83, and .73, indicating that the most reliable indicators of educational attainment among whites are the NCES composite and V1854.

Fortunately, these errors were restricted to the measurement portion of the model, and do not affect any of the coefficients or interpretations of the structural portion of the model.

REFERENCES

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