Corrections and Clarifications

Longitudinal Structural Equation Modeling: A Comprehensive Introduction by Jason T. Newsom

Updated: 10/27/21

p. xviii, line 2. The book title is incorrect. The real title is as the cover indicates instead*:* *Longitudinal Structural Equation Modeling: A Comprehensive Introduction*.

p. 41. Example 2.8. The sentence beginning "A model with equality constraints on the loadings and adding equality constraints on the intercepts had a fit that was marginally poorer than the baseline model, however, $\chi2(9) = 10.604$, $p = .357$, $\Delta\chi2\ (2) = 1.170$, ns, …" reports the incorrect degrees of freedom. The degrees of freedom for this model should be 10 rather than 9.

p. 73. Figure 3.3b. There is a value missing for the path from η_3 to η_2. The value for this path should be 1.

p. 82, Figure 3.4. In the current figure, y_1 is intended to refer to a variable serving as a different (between-subjects) variable, and it would have been clearer had I used x_1 instead. It is particularly problematic in Figure 3.4(a), where it could be construed as the variable used to calculate the difference score, $y_{2\text{-}1}$.

p. 94, line 15. In the sentence beginning "This pattern suggests a negative correlation….", $t-1$ should be $y_{t\text{-}1}$ and t should be $y_{2\text{-}1}$.

p.100. The first line of the equations in the middle of the page should be
$E\left(y_t - y_{t-1}\right) = E\left[\left(T_t + e_t\right) - \left(T_{t-1} + e_{t-1}\right)\right]$

p.101, 7 lines from the bottom. The sentence "The reliability of the difference score also increases with an increase of the autocorrelation" should be "The reliability of the difference score *decreases* with an increase of the autocorrelation"

p. 123, Figure 5.1. The choice of y_1, y_2, y_3, and y_4 was made to remain consistent with the "all-y" LISREL notation, but it may have been clearer use x_1 and x_2 for Time 1 and Time 2 of one variable and y_1 and y_2 for Time 1 and Time 2 of a second variable.

p. 124, line 23 beginning "for standardized coefficients". Part of the square root symbol is missing in the denominator. The equation should be $\beta^*_{2,3corrected} = \beta^*_{2,3} / \sqrt{\rho_2\rho_3}$.

p. 129, Figure 5.3. The subscripts for two of the structural paths are incorrect. β_{23} and β_{41} need to be switched.

p. 143, last sentence in first (partial) paragraph. The sentence "the indirect effect, so the path from η_2^x to η_6^y must be included." should read "the indirect effect, so the path from η_1^x to η_6^y must be included."

p. 157. Example 6.1. Results for the third model are incorrect because of a typo in the equality constraint for the second loading at the first time point, which led it to be inadvertently freed. The chi-square and degrees of freedom for the model should be $\chi^2(99) = 750.871$, $p < .001$, and the other fit indices are unchanged. Syntax files ex6-1c.inp and ex6-1c.R have been corrected on the website.

p. 172, Figure 7.1. Subscripts are incorrectly ordered and should be, y_{ti}, r_{ti}, and x_{ti} instead of y_{it}, r_{it} and x_{it} to be consistent with the rest of the book.

p. 173, Figure 7.2. Subscripts are incorrectly ordered and should be, y_{ti} and x_{ti}, instead of y_{it} and x_{it} to be consistent with the rest of the book.

p. 253, line 7. The statement "As a natural circumstance of contingency table analyses for binary and ordinal variables, the mean of each difference factor will not be precisely equal to the difference in proportions for binary and ordinal models (Agresti, 2013)" is potentially misleading. This statement is not intended to say that the usual computed difference between the proportions ($p_{.2} - p_{.1}$) and the average difference between the binary scores $\sum\left(y_{i2} - y_{i1}\right)/N$ will be unequal. The comment is intended to refer to estimates derived from the model and applies more generally to other categorical statistical models, where the model-based estimate for the difference in proportions and the average difference of two binary variables are computed differently and will give values that are not equal due to the associated nonlinear transformation. For example, the logit function of the average is not the same as the average of a logit function. The discrepancy parallels the discrepancy between population average and subject-specific effects (Agresti, 2013; Hu, Goldberg, Hedeker, Flay, & Pentz, 1998).

p. 257, Figure 9. Disturbance arrows associated with $\Delta\eta_2$ through $\Delta\eta_6$ were omitted. Additionally, double headed curved arrows should be included among all these disturbances.

p. 259, Figure 9.6. Disturbance arrows associated with $\Delta\eta_2$ through $\Delta\eta_6$ were omitted. Additionally, double headed curved arrows should be included among all these disturbances.

p. 325, 15th line from the bottom, line beginning "size from the version" should read "because those <u>who did r</u>eport diabetes at the first wave were eliminated".