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The proper sequence for correcting correlation coefficients for range restriction and unreliability — [Source link](#)

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ERRATA FOR “THE PROPER SEQUENCE FOR CORRECTING CORRELATION
 COEFFICIENTS FOR RANGE RESTRICTION AND UNRELIABILITY”

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Corrections of correlations for range restriction (i.e., selection) and unreliability are common in psychometric work. The current rule of thumb for determining the order in which to apply these corrections looks to the nature of the reliability estimate (i.e., restricted or unrestricted). While intuitive, this rule of thumb is untenable when the correction includes the variable upon which selection is made, as is generally the case. Using classical test theory, we show that it is the nature of the range restriction, not the nature of the available reliability coefficient, that determines the sequence for applying corrections for range restriction and unreliability.

Key words: correlation, range restriction, reliability, selection.

Two errors have been brought to our attention. Both involve missing exponents (squares) for terms inside radicals.

1. The first error occurs in the first equation on page 67 (the unnumbered equation right before Equation (11)). It appears as follows:

$$P_{ty} = \frac{\rho_{ty} \frac{\Sigma_t}{\sigma_t}}{\left(1 - \rho_{ty} + \rho_{ty} \frac{\Sigma_t}{\sigma_t}\right)^{1/2}}.$$

The Greek rho's and sigma's in the denominator should be squared (as shown below):

$$P_{ty} = \frac{\rho_{ty} \frac{\Sigma_t}{\sigma_t}}{\left(1 - \rho_{ty}^2 + \rho_{ty}^2 \frac{\Sigma_t^2}{\sigma_t^2}\right)^{1/2}}$$

2. The second occurrence is found on page 68. It is the last of two equations on that page and is also unnumbered. It appears as follows:

$$P_{yz} = \frac{\rho_{yz} + \rho_{xy}\rho_{xz} \left(\frac{\Sigma_x^2}{\sigma_x^2} - 1\right)}{\left(\left[1 + \rho_{xy} \left(\frac{\Sigma_x^2}{\sigma_x^2} - 1\right)\right] \left[1 + \rho_{xz} \left(\frac{\Sigma_x^2}{\sigma_x^2} - 1\right)\right]\right)^{1/2}}.$$

The lowercase Greek rho's in its denominator should also be squared (as shown below):

$$P_{yz} = \frac{\rho_{yz} + \rho_{xy}\rho_{xz} \left(\frac{\Sigma_x^2}{\sigma_x^2} - 1\right)}{\left(\left[1 + \rho_{xy}^2 \left(\frac{\Sigma_x^2}{\sigma_x^2} - 1\right)\right] \left[1 + \rho_{xz}^2 \left(\frac{\Sigma_x^2}{\sigma_x^2} - 1\right)\right]\right)^{1/2}}.$$

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References

- Stauffer, Joseph M., & Mendoza, Jorge L. (2001). The proper sequence for correcting correlation coefficients for range restriction and unreliability. *Psychometrika*, *66*, 63–68.