

STA 2201s06 Assignment 4

Do this assignment in preparation for Quiz Four on Thursday Feb. 16th. The Questions are preparation for the quiz, and are not to be handed in. This quiz will be open book and open notes.

1. You have already read Pages 10-20 in Chapter Two. The next section, entitled “Covariance,” is written for social scientists, not for you. You can skip it, unless you are curious. Please read the last section, pages 32-39, entitled “Path Analysis.” See especially Table 2.6. The distinction between direct and indirect effects is reasonable. At the end, he tries to clear up some common misconceptions that you probably never had.
2. In Chapter One, there are three simple examples of structural equations. These examples lead to the covariance matrices (1.2), (1.3) and (1.4) respectively. For each of the three examples,
 - (a) Draw a path diagram using standard notation. Remember, latent variables are enclosed by ovals, observed variables are enclosed by rectangles, and error terms are not enclosed at all.
 - (b) Express the model in the notation of the general LISREL model. That is, state how the model has been specialized, and state what all the relevant matrices are. Some of these “matrices” are 1×1 , and some are not there at all. For example, in the example leading to (1.3), there is no \mathbf{Y} and no $\boldsymbol{\eta}$, among other things.