# Notes on Latent Variable Modeling

compiled by D.Gueorguiev 3/31/2024

## Introductory Notes

### Path Models in Factor, Path, and Structural Equation Analysis

The Ideal experiment: a single independent variable is manipulated, and the consequences are observed in a single dependent variable.

Experiments in reality : the variables which are observed are typically not the one of real theoretical interest but are merely some convenient variables acting as proxies. A full analysis will turn out to be multivariate, with a number of alternative experimental manipulators on the one side, and a number of alternative response measures on the other.

There is a variety of statistical techniques for dealing with situations in which multiple variables, some of which unobserved, are involved. In [1] are discussed a variety of methods with the following common features:

( a ) multiple variables – three or more - are involved

( b ) one or more of these variables are unobserved i.e. *latent*

## References

[1] [Latent Variable Models: Introduction to Factor Analysis and Structural Equation Analysis, John C. Loehlin, 2004](https://github.com/dimitarpg13/information_theory_and_statistical_mechanics/blob/main/literature/books/Latent_Variable_Models_Loehlin_2004.pdf)