# **Applications**

stats545.4 545.4 Multivariate confidence intervals

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## Background

This lecture is a placeholder for a collection of examples and applications of the theory

# One regression line or two?

are two regression lines really the same? two level factor...

the question generates 4 models what comparisons can be made?



## the lack of fit test

taken from Neter et al the approach reverses the usual logic (do I need a line) to "is a line enough"

### Smoothers

consider the cubic spline...
can be a linear model
can be used to test whether a line is appropriate
if the knots are chosen based on data then we have a GAM, not the usual
linear model
other splines are normally used, but this is a simple introduction

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