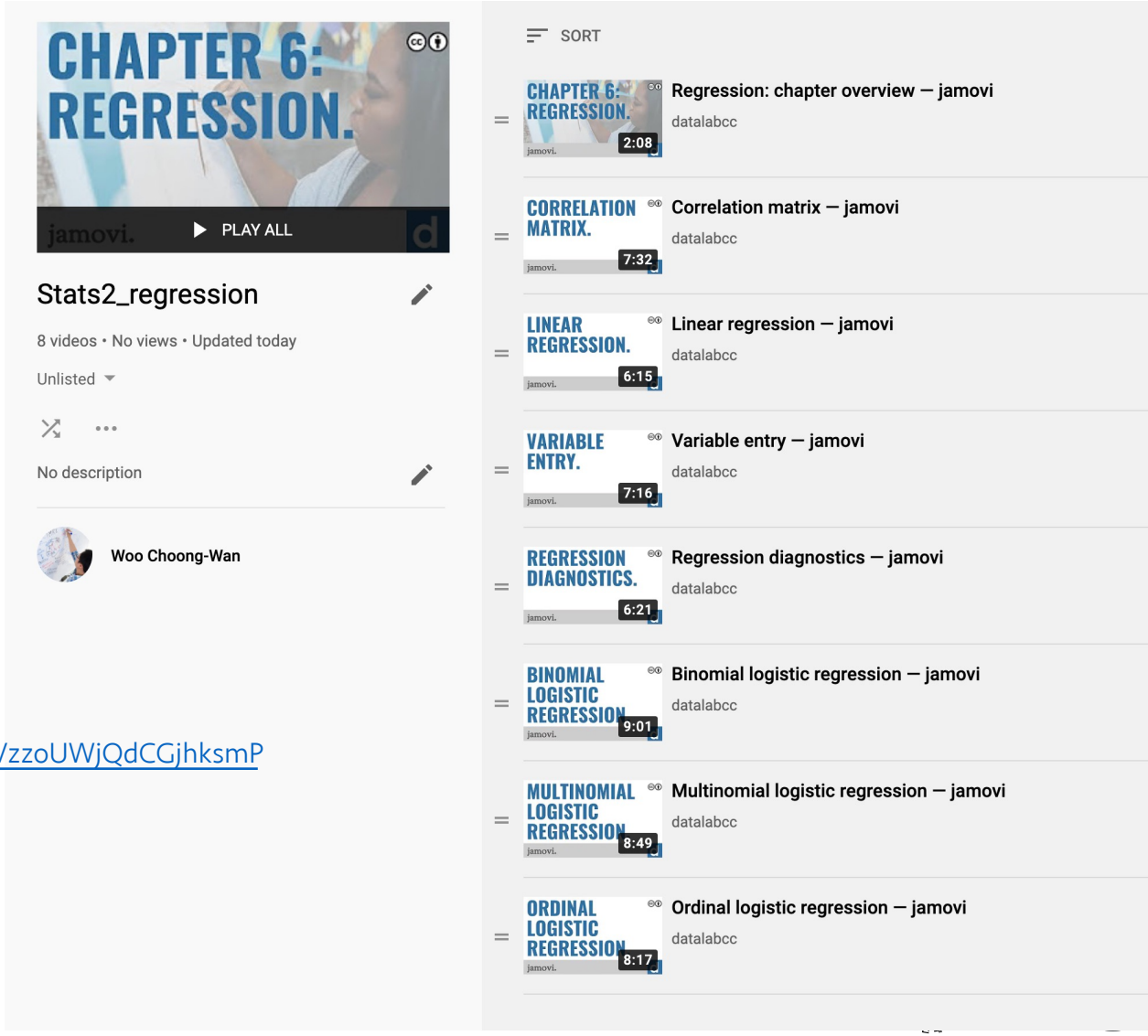
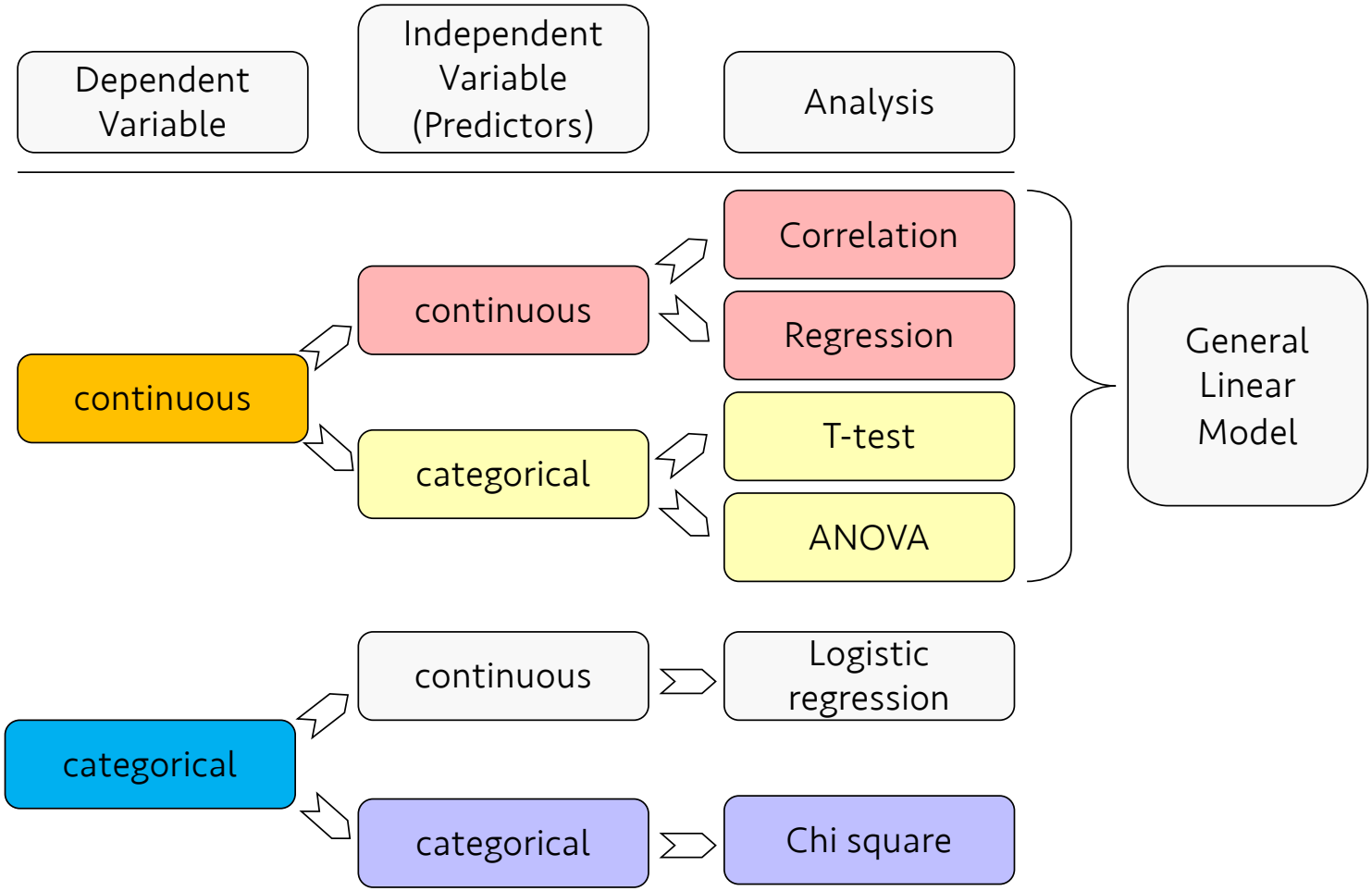
Lecture 20
Logistic regression

Regression with JAMOVI



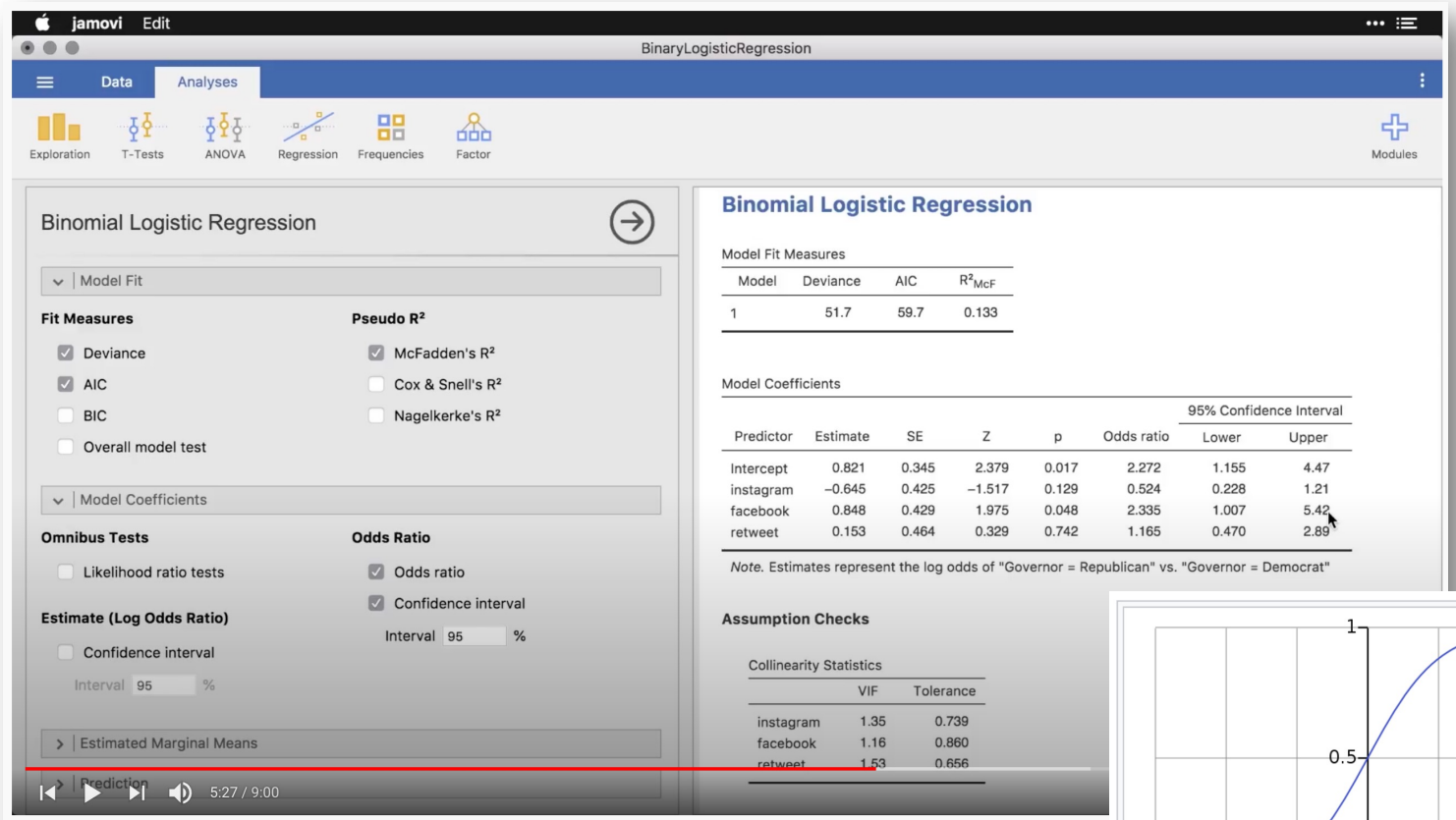
https://www.youtube.com/playlist?list=PLXCuLG6zw7mKEkaaVzzoUWjQdCGjhksmP

Analysis methods for modeling relationships



Slide from Tor Wager

Odds ratio in the logistic regression context



Binomial logistic regression – jamovi

Odds of A = $\frac{P(A)}{P(\neg A)}$

Odds of Republican = $\frac{P(\text{Republican})}{P(\neg \text{Republican})}$

Estimate = log (odds)

$$\sigma(t) = \frac{e^t}{e^t + 1} = \frac{1}{1 + e^{-t}}$$

$$t = \beta_0 + \beta_1 x$$

$$p(x) = \sigma(t) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x)}}$$

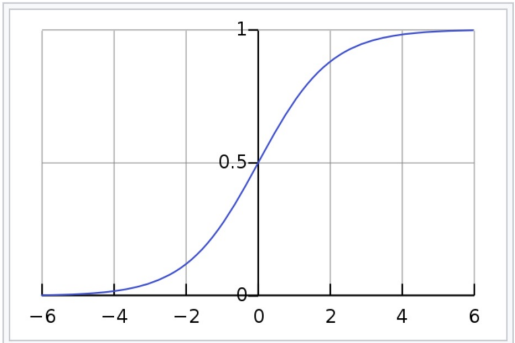


Figure 1. The standard logistic function $\sigma(t)$; note that $\sigma(t) \in (0, 1)$ for all t.