No error term when describing proportions (different conventions for different disciplines I think..)

Not going to worry about how we derived the far-right expression (just a long sequence of steps..)

Let X = d, d = some number

B1: a 1-unit change in X related to some change in Y (which here is transformed to log-odds)

Let’s make this slightly more intuitive: let’s add 1 to X (i.e., give X a 1-unit change)

Subtract the two equations, when X =d+1 and when X=d

Odds will short fort odds that Y=1

It’s a little easier to see that B1 is reflecting the change in the log-odds

exponentiating both sides gives me the odds ratio

The odds ratio can be used to describe the percent change in odds at a given X for a 1-unit change in X

In summary,

* logit is transforming the Y.
* 1 unit changed in X is now related to this transformed Y (which is log-odds that Y = 1).
* When you use logit, a 1-unit change in X is related to “B1” change in the log-odds.
* You can exponentiate the B1 to get the odds-ratio, and you can use the odds ratio to describe a percent change in the odds.
* You can also get the predicted probability at given X, allowing you to get the marginal change in predicted probability at the given X.