

Lösungsnotizen Aufgabe 41

Odds Ratio für b_2

$$OR(b_2) = \frac{O(b_2 | a_1)}{O(b_2 | a_2)}$$

Defintion des Odds Ratio

$$= \frac{\frac{R(b_2 | a_1)}{1 - R(b_2 | a_1)}}{\frac{R(b_2 | a_2)}{1 - R(b_2 | a_2)}}$$

Defintion des Odds

$$= \frac{\frac{1 - R(b_1 | a_1)}{R(b_1 | a_1)}}{\frac{1 - R(b_1 | a_2)}{R(b_1 | a_2)}}$$

Verwende $R(b_2 | a_1) = 1 - R(b_1 | a_1)$

$$= \frac{\frac{1}{O(b_1 | a_1)}}{\frac{1}{O(b_1 | a_2)}}$$

Defintion des Odds 'rückwärts'

$$= \frac{O(b_1 | a_2)}{O(b_1 | a_1)}$$

Algebraische Umformung

$$= \frac{1}{OR(b_1)}$$

Defintion des Odds Ratio 'rückwärts'

$$\approx \frac{1}{7.96} \approx 0.13$$