

Description of R output from the Mantel-Haneszel Method (Need to install **lawstat** and **DescTools** packages)

R Code for Mentel-Haneszel Method

```
> # Mantel-Haneszel Method with Odds Ratio Estimation

> library("lawstat") #load lawstat package for M-H Method

> boymatrix <- matrix(c(20,100,15,150),nrow=2,byrow=TRUE, #set table for boy
+   dimnames = list("Sleep" = c("Low","High"), # label column variable
+   "Result" = c("Fail","Pass"))) # label row variable
> print(boymatrix) # Print the table
      Result
Sleep Fail Pass
Low    20  100
High   15  150

> girlmatrix <- matrix(c(30,100,25,200),nrow=2,byrow=TRUE, #set table for girl
+   dimnames = list("Sleep" = c("Low","High"), # label column variable
+   "Result" = c("Fail","Pass"))) # label row variable
> print(girlmatrix) # Print the table
      Result
Sleep Fail Pass
Low    30  100
High   25  200

> myarray <- array(c(boymatrix,girlmatrix),dim=c(2,2,2)) # Set matrix for HM
> cmh.test(myarray) # Run the Mantel-Haneszel Method

Cochran-Mantel-Haenszel Chi-square Test

data: myarray
CMH statistic = 12.477, df = 1.000, p-value = 0.000, MH Estimate =
2.229, Pooled Odd Ratio = 2.188, Odd Ratio of level 1 = 2.000, Odd
Ratio of level 2 = 2.400

> library("DescTools") #load DescTools package for Breslow-Day Test
> BreslowDayTest(myarray, OR = NA, correct = FALSE)

Breslow-Day test on Homogeneity of Odds Ratios

data: myarray
X-squared = 0.15007, df = 1, p-value = 0.6985
```

