Ergebnisse

Najat Brüne

2024-01-14

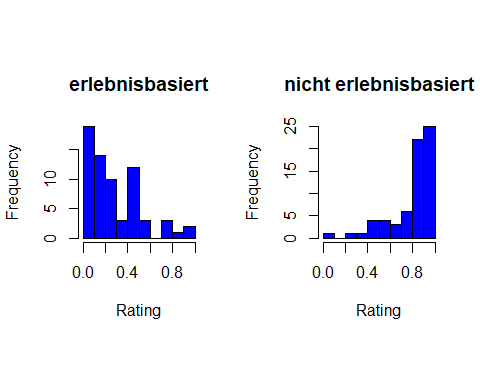
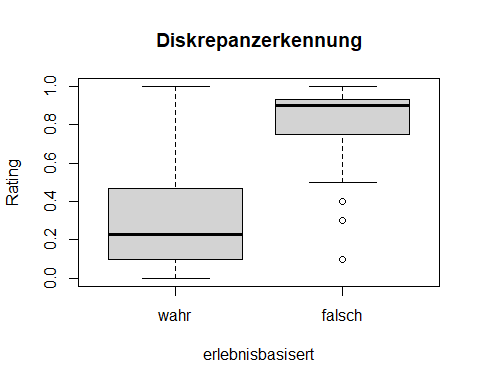
# Analyse der Diskrepanzerkennung

i1\_w\_MW <- daten$i1\_dd\_w\_MW   
i1\_f\_MW <- daten$i1\_dd\_f\_MW

## Deskriptive Statistik

## >>> i1\_w\_MW Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 0.000 0.100 0.230 0.294 0.470 1.000   
##   
## vars n mean sd median trimmed mad min max range skew kurtosis se  
## X1 1 67 0.29 0.25 0.23 0.26 0.24 0 1 1 1 0.31 0.03  
##   
##   
## >>> i1\_f\_MW Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 0.100 0.750 0.900 0.819 0.930 1.000   
##   
## vars n mean sd median trimmed mad min max range skew kurtosis se  
## X1 1 67 0.82 0.19 0.9 0.85 0.1 0.1 1 0.9 -1.6 2.17 0.02

## Grafische Analyse

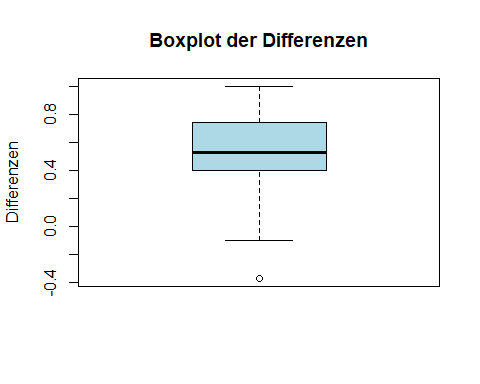
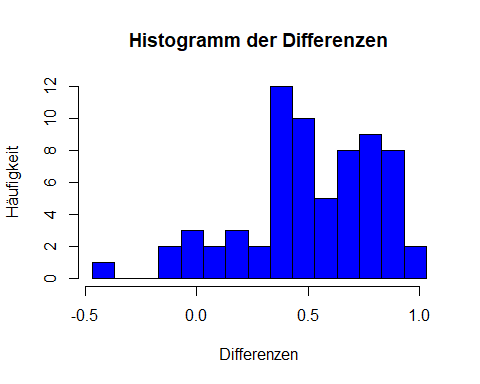


## t-Test

## >>> Vorbedingungen prüfen  
## Shapiro-Wilk normality test  
##   
## data: differences  
## W = 0.94741, p-value = 0.006737  
##   
## >>> t-Test  
## Paired t-test  
##   
## data: i1\_f\_MW and i1\_w\_MW  
## t = 14.656, df = 66, p-value < 2.2e-16  
## alternative hypothesis: true mean difference is not equal to 0  
## 95 percent confidence interval:  
## 0.4540042 0.5972079  
## sample estimates:  
## mean difference   
## 0.5256061   
##   
## >>> Effektstärke gemäß Cohen's d  
## Cohen's d  
##   
## d estimate: 2.392418 (large)  
## 95 percent confidence interval:  
## lower upper   
## 1.944792 2.840044

## Nicht parametrischer Test mittels Wilcoxon-Vorzeichen-Rang-Test

## >>> Vorbedingungen prüfen



## >>> Wilcoxon-Vorzeichen-Rang-Test  
## Asymptotic Wilcoxon signed rank test  
##   
## data: i1\_f\_MW and i1\_w\_MW  
## V = 2188, p-value = 4.634e-12  
## alternative hypothesis: true mu is not equal to 0  
##   
## >>> Effektstärke gemäß rangbasiertem EffektgrößenindexEffektstärke (r) für den Wilcoxon-Test: 0.8449691

## Nicht parametrischer Test mittels Vorzeichen-Test

## >>> Vorzeichen-Test  
## One-sample Sign-Test  
##   
## data: differences  
## s = 62, p-value = 2.109e-14  
## alternative hypothesis: true median is not equal to 0  
## 95 percent confidence interval:  
## 0.4600546 0.6699454  
## sample estimates:  
## median of x   
## 0.5256061   
##   
## Achieved and Interpolated Confidence Intervals:   
##   
## Conf.Level L.E.pt U.E.pt  
## Lower Achieved CI 0.9136 0.4700 0.6600  
## Interpolated CI 0.9500 0.4601 0.6699  
## Upper Achieved CI 0.9502 0.4600 0.6700  
##   
## >>> Effektstärke gemäß rangbasiertem EffektgrößenindexEffektstärke (r) für den Vorzeichen-Test: 0.9338359

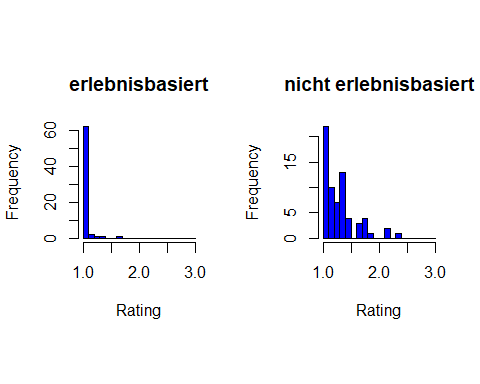
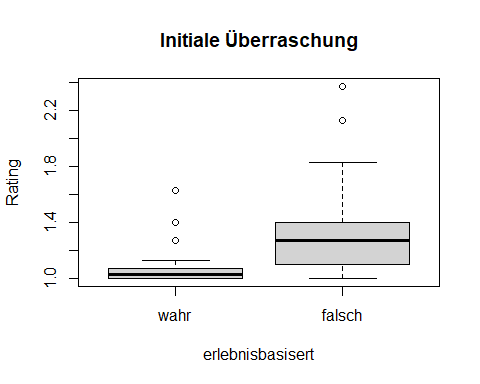
# Analyse der initialen Überraschung

i1\_w\_MW <- daten$i1\_ue\_w\_MW   
i1\_f\_MW <- daten$i1\_ue\_f\_MW

## Deskriptive Statistik

## >>> i1\_w\_MW Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 1.00 1.00 1.03 1.05 1.07 1.63   
##   
## vars n mean sd median trimmed mad min max range skew kurtosis se  
## X1 1 67 1.05 0.1 1.03 1.04 0.04 1 1.63 0.63 3.95 18.65 0.01  
##   
##   
## >>> i1\_f\_MW Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 1.00 1.10 1.27 1.31 1.40 2.37   
##   
## vars n mean sd median trimmed mad min max range skew kurtosis se  
## X1 1 67 1.31 0.3 1.27 1.27 0.25 1 2.37 1.37 1.44 1.95 0.04

## Grafische Analyse

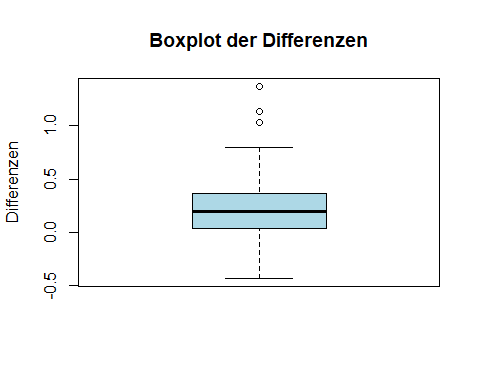
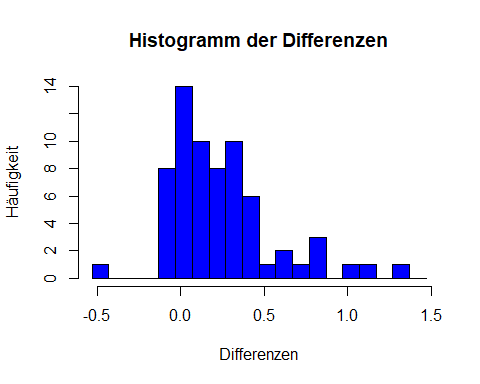


## t-Test

## >>> Vorbedingungen prüfen  
## Shapiro-Wilk normality test  
##   
## data: differences  
## W = 0.89583, p-value = 3.847e-05  
##   
## >>> t-Test  
## Paired t-test  
##   
## data: i1\_f\_MW and i1\_w\_MW  
## t = 6.7333, df = 66, p-value = 4.814e-09  
## alternative hypothesis: true mean difference is not equal to 0  
## 95 percent confidence interval:  
## 0.1808797 0.3333627  
## sample estimates:  
## mean difference   
## 0.2571212   
##   
## >>> Effektstärke gemäß Cohen's d  
## Cohen's d  
##   
## d estimate: 1.163248 (large)  
## 95 percent confidence interval:  
## lower upper   
## 0.7937097 1.5327863

## Nicht parametrischer Test mittels Wilcoxon-Vorzeichen-Rang-Test

## >>> Vorbedingungen prüfen



## >>> Wilcoxon-Vorzeichen-Rang-Test  
## Asymptotic Wilcoxon signed rank test  
##   
## data: i1\_f\_MW and i1\_w\_MW  
## V = 1830.5, p-value = 2.11e-09  
## alternative hypothesis: true mu is not equal to 0  
##   
## >>> Effektstärke gemäß rangbasiertem EffektgrößenindexEffektstärke (r) für den Wilcoxon-Test: 0.7316843

## Nicht parametrischer Test mittels Vorzeichen-Test

## >>> Vorzeichen-Test  
## One-sample Sign-Test  
##   
## data: differences  
## s = 53, p-value = 1.051e-08  
## alternative hypothesis: true median is not equal to 0  
## 95 percent confidence interval:  
## 0.1000000 0.2998363  
## sample estimates:  
## median of x   
## 0.2   
##   
## Achieved and Interpolated Confidence Intervals:   
##   
## Conf.Level L.E.pt U.E.pt  
## Lower Achieved CI 0.9136 0.1 0.2700  
## Interpolated CI 0.9500 0.1 0.2998  
## Upper Achieved CI 0.9502 0.1 0.3000  
##   
## >>> Effektstärke gemäß rangbasiertem EffektgrößenindexEffektstärke (r) für den Vorzeichen-Test: 0.699094

# Anhang

## Daten

| i1\_dd\_w\_MW | i1\_dd\_f\_MW | i1\_ue\_w\_MW | i1\_ue\_f\_MW |
| --- | --- | --- | --- |
| 0.0300000 | 0.3000000 | 1.030000 | 1.030000 |
| 0.4700000 | 0.9700000 | 1.100000 | 1.330000 |
| 0.3000000 | 0.9300000 | 1.000000 | 1.800000 |
| 0.0700000 | 0.9300000 | 1.100000 | 1.130000 |
| 0.4700000 | 0.9700000 | 1.100000 | 1.030000 |
| 0.2700000 | 0.7700000 | 1.070000 | 1.170000 |
| 0.2300000 | 0.9700000 | 1.000000 | 1.430000 |
| 0.4700000 | 0.9000000 | 1.130000 | 1.070000 |
| 0.1000000 | 0.5000000 | 1.030000 | 1.300000 |
| 0.1700000 | 0.9000000 | 1.030000 | 1.200000 |
| 0.2000000 | 0.9000000 | 1.030000 | 1.030000 |
| 0.8000000 | 0.9000000 | 1.100000 | 1.170000 |
| 0.5000000 | 0.9300000 | 1.030000 | 1.370000 |
| 0.4700000 | 0.6700000 | 1.100000 | 1.030000 |
| 0.0700000 | 0.5700000 | 1.000000 | 1.400000 |
| 0.1300000 | 0.9000000 | 1.000000 | 1.000000 |
| 0.3000000 | 0.9700000 | 1.000000 | 1.400000 |
| 0.4300000 | 0.9300000 | 1.030000 | 1.370000 |
| 0.0300000 | 0.9700000 | 1.000000 | 2.370000 |
| 0.5700000 | 0.5000000 | 1.030000 | 1.170000 |
| 0.0700000 | 0.8700000 | 1.000000 | 1.070000 |
| 0.0700000 | 0.5300000 | 1.030000 | 1.030000 |
| 0.4700000 | 0.7300000 | 1.130000 | 1.070000 |
| 0.0300000 | 0.9000000 | 1.000000 | 1.270000 |
| 0.0700000 | 0.9000000 | 1.070000 | 1.370000 |
| 0.4700000 | 0.9000000 | 1.000000 | 1.170000 |
| 0.1000000 | 0.9300000 | 1.000000 | 1.100000 |
| 0.0700000 | 0.9300000 | 1.100000 | 2.130000 |
| 0.0000000 | 0.7000000 | 1.000000 | 1.730000 |
| 1.0000000 | 0.6300000 | 1.630000 | 1.200000 |
| 0.1700000 | 0.8700000 | 1.000000 | 1.630000 |
| 0.3000000 | 0.7300000 | 1.000000 | 1.170000 |
| 0.1300000 | 1.0000000 | 1.000000 | 1.070000 |
| 0.0700000 | 0.9300000 | 1.070000 | 1.370000 |
| 0.1000000 | 0.8700000 | 1.070000 | 1.100000 |
| 0.0300000 | 0.5300000 | 1.030000 | 1.070000 |
| 0.0700000 | 0.9700000 | 1.070000 | 1.500000 |
| 0.3000000 | 0.9300000 | 1.030000 | 1.000000 |
| 0.2700000 | 0.9300000 | 1.030000 | 1.100000 |
| 0.8000000 | 0.9700000 | 1.100000 | 1.230000 |
| 0.1300000 | 0.5300000 | 1.000000 | 1.300000 |
| 0.3700000 | 1.0000000 | 1.070000 | 1.430000 |
| 0.5700000 | 0.9300000 | 1.070000 | 1.100000 |
| 0.9300000 | 0.8700000 | 1.100000 | 1.400000 |
| 0.5000000 | 0.4000000 | 1.070000 | 1.400000 |
| 0.4700000 | 0.8700000 | 1.000000 | 1.670000 |
| 0.5700000 | 1.0000000 | 1.000000 | 1.270000 |
| 0.1700000 | 0.9000000 | 1.000000 | 1.200000 |
| 0.1300000 | 0.7300000 | 1.070000 | 1.000000 |
| 0.1300000 | 0.5000000 | 1.000000 | 1.170000 |
| 0.3300000 | 0.5000000 | 1.070000 | 1.630000 |
| 0.0000000 | 1.0000000 | 1.000000 | 2.130000 |
| 0.1300000 | 0.9700000 | 1.000000 | 1.800000 |
| 0.5000000 | 0.9000000 | 1.000000 | 1.100000 |
| 0.3700000 | 0.9300000 | 1.000000 | 1.370000 |
| 0.1300000 | 0.8700000 | 1.000000 | 1.100000 |
| 0.0300000 | 0.9300000 | 1.000000 | 1.000000 |
| 0.3000000 | 0.7700000 | 1.030000 | 1.000000 |
| 0.8700000 | 0.9000000 | 1.070000 | 1.270000 |
| 0.1300000 | 0.8700000 | 1.270000 | 1.330000 |
| 0.2700000 | 0.8000000 | 1.030000 | 1.270000 |
| 0.4700000 | 0.8700000 | 1.400000 | 1.800000 |
| 0.1000000 | 0.1000000 | 1.030000 | 1.000000 |
| 0.1700000 | 0.9000000 | 1.030000 | 1.830000 |
| 0.1700000 | 1.0000000 | 1.000000 | 1.330000 |
| 0.7700000 | 0.9000000 | 1.000000 | 1.470000 |
| 0.2936364 | 0.8192424 | 1.054242 | 1.311364 |