

# Ergebnisse

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## Analyse der Diskrepanzerkennung

### Deskriptive Statistik

```
## [1] "daten$i1_dd_w_MW"

##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## 0.0000000 0.1400000 0.3150000 0.4563636 0.5600000 1.5000000

## [1] "daten$i1_dd_f_MW"

##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## 0.1700000 1.1775000 1.3700000 1.232273 1.4000000 1.5000000
```

### t-Test

```
##
## Paired t-test
##
## data: daten$i1_dd_f_MW and daten$i1_dd_w_MW
## t = 13.112, df = 65, p-value < 2.2e-16
## alternative hypothesis: true mean difference is not equal to 0
## 95 percent confidence interval:
##  0.6577277 0.8940905
## sample estimates:
## mean difference
##      0.7759091
```

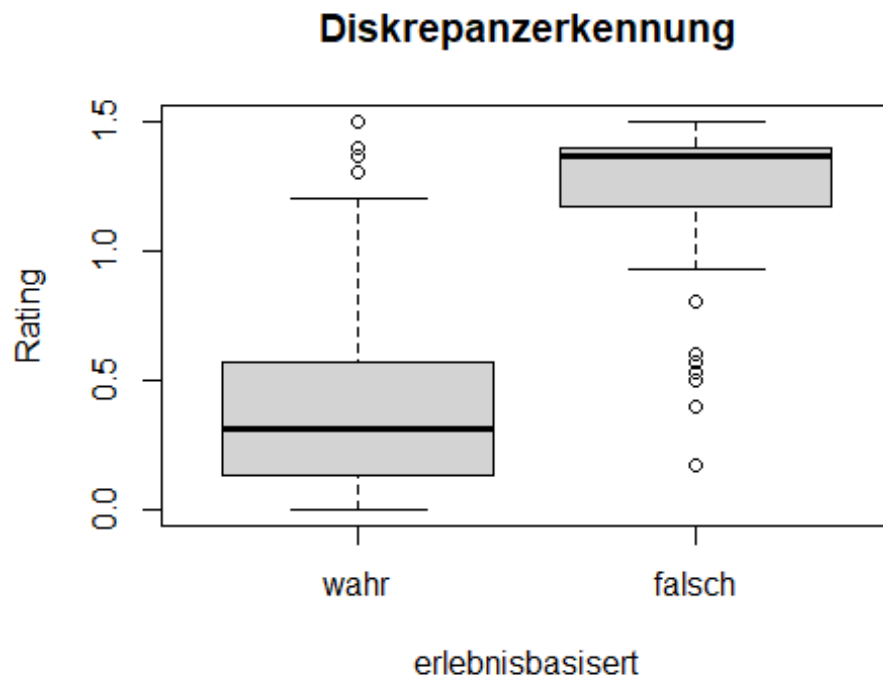
### Effektstärke mittels Cohens d berechnen

```
##
## Cohen's d
##
## d estimate: 2.178303 (large)
## 95 percent confidence interval:
##      lower      upper
## 1.743615 2.612992
```

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

```
##
## Wilcoxon signed rank test with continuity correction
##
## data: daten$i1_dd_f_MW and daten$i1_dd_w_MW
## V = 2159, p-value = 1.729e-11
## alternative hypothesis: true location shift is not equal to 0
```

## Grafische Analyse



## Analyse der initialen Überraschung

### Deskriptive Statistik

```
## [1] "daten$i1_ue_w_MW"
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      1.500   1.500   1.530   1.592   1.630   2.670
```

```
## [1] "daten$i1_ue_f_MW"
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      1.500   1.600   1.830   1.949   2.070   3.530
```

### t-Test

```
##
## Paired t-test
##
## data: daten$i1_ue_f_MW and daten$i1_ue_w_MW
## t = 6.2563, df = 65, p-value = 3.491e-08
## alternative hypothesis: true mean difference is not equal to 0
## 95 percent confidence interval:
##  0.2429151 0.4707213
## sample estimates:
## mean difference
##      0.3568182
```

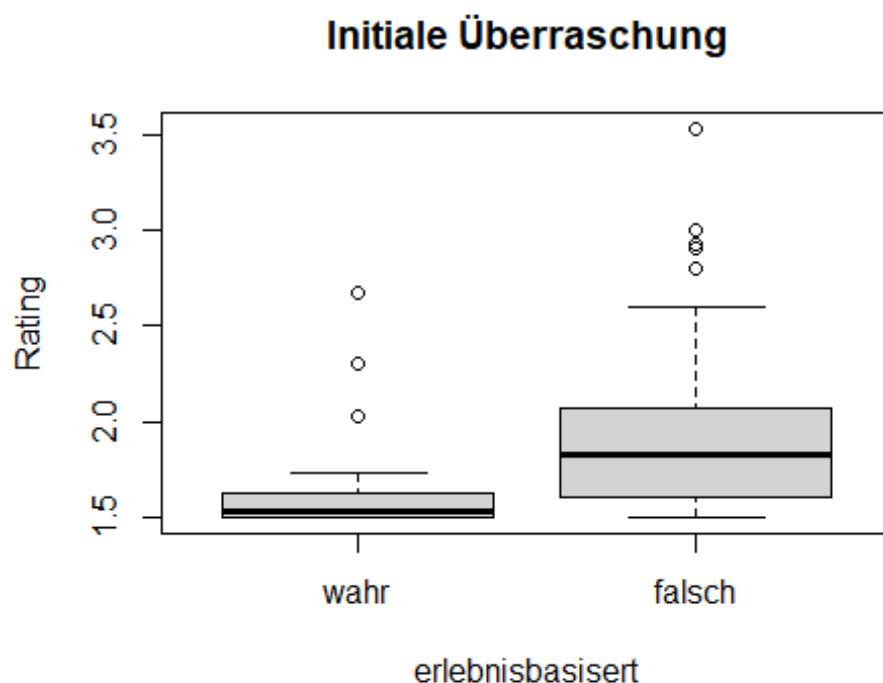
### Effektstärke mittels Cohen's d berechnen

```
##  
## Cohen's d  
##  
## d estimate: 1.063693 (large)  
## 95 percent confidence interval:  
##      lower      upper  
## 0.6957522 1.4316331
```

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

```
##  
## Wilcoxon signed rank test with continuity correction  
##  
## data: daten$i1_ue_f_MW and daten$i1_ue_w_MW  
## V = 1840.5, p-value = 1.215e-08  
## alternative hypothesis: true location shift is not equal to 0
```

### Grafische Analyse



### Manova der kombinierten Daten

```
## Call:  
##      manova(cbind(dd, ue) ~ Truth, data = manova_data)  
##  
## Terms:  
##              Truth Residuals  
## dd          19.86715  16.49409  
## ue           4.201534 14.628674  
## Deg. of Freedom      1      130
```

```
##
## Residual standard errors: 0.3561988 0.3354523
## Estimated effects may be unbalanced

##           Df   Wilks approx F num Df den Df   Pr(>F)
## Truth      1 0.44032   81.984      2    129 < 2.2e-16 ***
## Residuals 130
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

## [1] "summary.aov(manova_results)"

## Response dd :
##           Df Sum Sq Mean Sq F value    Pr(>F)
## Truth      1 19.867 19.8672 156.59 < 2.2e-16 ***
## Residuals 130 16.494  0.1269
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Response ue :
##           Df Sum Sq Mean Sq F value    Pr(>F)
## Truth      1  4.2015  4.2015  37.338 1.076e-08 ***
## Residuals 130 14.6287  0.1125
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

## Anhang

### Daten

VPN	i1_dd_w_MW	i1_dd_f_MW	i1_ue_w_MW	i1_ue_f_MW
3	0.07	0.50	1.57	1.53
4	0.50	1.43	1.60	1.83
6	0.37	1.40	1.50	2.80
9	0.10	1.40	1.70	1.67
14	0.93	1.43	1.70	1.57
15	0.50	1.03	1.63	1.70
20	0.43	1.47	1.50	2.23
24	0.50	1.33	1.70	1.63
27	0.17	1.00	1.53	2.10
29	0.23	1.33	1.53	1.90
32	0.30	1.33	1.53	1.57
37	1.30	1.40	1.67	1.77
38	0.80	1.40	1.57	2.03
44	0.93	1.17	1.70	1.57
57	0.07	1.03	1.50	2.17

VPN	i1_dd_w_MW	i1_dd_f_MW	i1_ue_w_MW	i1_ue_f_MW
63	0.27	1.37	1.50	1.50
67	0.53	1.47	1.50	2.23
74	0.87	1.37	1.53	1.97
78	0.07	1.47	1.50	3.53
80	1.07	0.53	1.53	1.70
92	0.10	1.33	1.50	1.60
93	0.10	0.57	1.53	1.53
99	0.90	0.97	1.73	1.60
104	0.03	1.33	1.50	1.83
113	0.10	1.37	1.57	2.03
122	0.57	1.40	1.50	1.77
125	0.17	1.43	1.50	1.70
133	0.10	1.37	1.63	3.00
136	0.00	0.93	1.50	2.30
140	1.50	1.13	2.67	1.83
151	0.27	1.37	1.50	2.30
155	0.37	1.10	1.50	1.77
160	0.23	1.50	1.50	1.60
169	0.13	1.43	1.63	2.07
170	0.13	1.37	1.63	1.67
171	0.07	0.60	1.57	1.60
175	0.13	1.47	1.63	2.50
178	0.30	1.43	1.53	1.50
179	0.50	1.40	1.53	1.60
199	1.20	1.47	1.63	1.90
205	0.27	0.80	1.50	2.03
214	0.43	1.50	1.63	2.00
221	1.07	1.40	1.57	1.60
223	1.40	1.27	1.67	1.90
233	0.53	0.40	1.63	1.90
237	0.47	1.37	1.50	2.60
241	1.03	1.50	1.50	1.77
248	0.33	1.40	1.50	1.83
275	0.17	1.20	1.63	1.50
277	0.17	1.00	1.50	1.83
279	0.47	0.57	1.57	2.20

VPN	i1_dd_w_MW	i1_dd_f_MW	i1_ue_w_MW	i1_ue_f_MW
286	0.00	1.50	1.50	2.93
295	0.27	1.43	1.50	2.90
296	1.00	1.33	1.50	1.60
300	0.37	1.40	1.50	1.90
302	0.17	1.23	1.50	1.63
307	0.03	1.40	1.50	1.50
315	0.40	1.23	1.57	1.50
342	1.37	1.30	1.60	1.93
350	0.27	1.37	2.03	2.07
353	0.33	1.23	1.53	2.03
365	0.90	1.30	2.30	3.00
369	0.13	0.17	1.53	1.50
421	0.23	1.37	1.57	2.37
427	0.27	1.50	1.50	1.90
483	1.13	1.33	1.50	2.03