# Manova

```
Note: there are 2 levels for the BLOCK effect.  Average tests are identical
to the univariate tests of significance.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
The default error term in MANOVA has been changed from WITHIN CELLS to
WITHIN+RESIDUAL.  Note that these are the same for all full factorial
designs.

* * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * *

        21 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         2 non-empty cells.

         1 design will be processed.

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Cell Means and Standard Deviations
 Variable .. EWMT0
      FACTOR              CODE                   Mean   Std. Dev.         N

  GRUPPE                    0                  50,861    21,607           9     = KG!
  GRUPPE                    1                  52,708    15,756          12     = VG!
 For entire sample                            51,917    18,004          21

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. EWMT1
      FACTOR              CODE                   Mean   Std. Dev.         N

  GRUPPE                    0                  52,278    21,136           9
  GRUPPE                    1                  57,958    15,009          12
 For entire sample                            55,524    17,632          21

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* * * * * * A n a l y s i s   o f   V a r i a n c e — design  1 * * * * * *

Tests of Between-Subjects Effects.

 Tests of Significance for T1 using UNIQUE sums of squares
 Source of Variation           SS        DF        MS          F  Sig of F

 WITHIN CELLS              12448,28      19      655,17
 GRUPPE                      145,72       1      145,72        ,22     ,643  keine signifikanten
                                                                            Gruppenunterschiede!
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

* * * * * * A n a l y s i s   o f   V a r i a n c e — design  1 * * * * * *

Tests involving 'BLOCK' Within-Subject Effect.

 Tests of Significance for T2 using UNIQUE sums of squares
 Source of Variation           SS        DF        MS          F  Sig of F

 WITHIN CELLS                 68,87      19        3,62
 BLOCK                       114,29       1      114,29      31,53     ,000  Blockeffekt!
 GRUPPE BY BLOCK              37,79       1       37,79      10,42     ,004  Interaktion!

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```
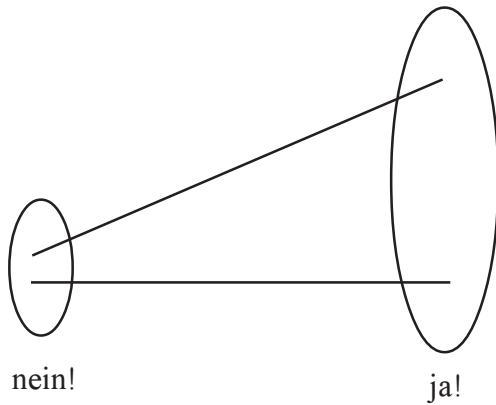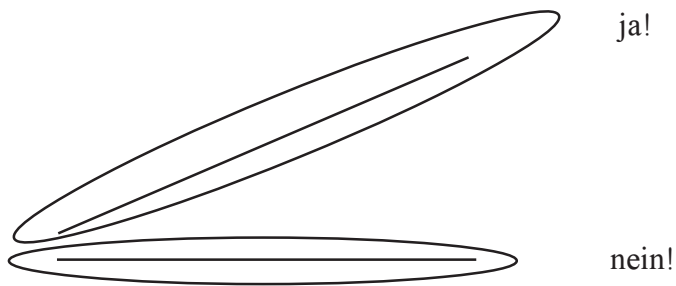
# Zweifaktorielle Varianzanalyse mit Meßwiederholung auf einem Faktor

Gruppenunterschiede?
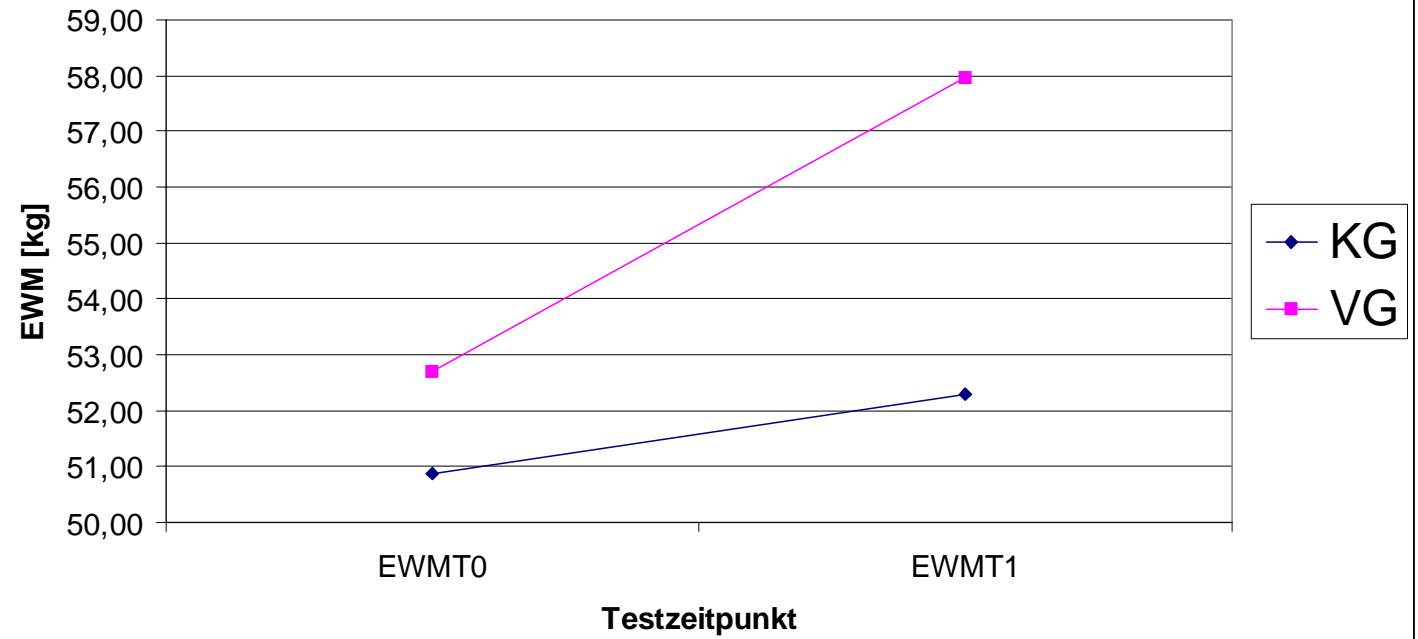
Erweiterung des T-Tests für unabhängige Gruppen!

nein!
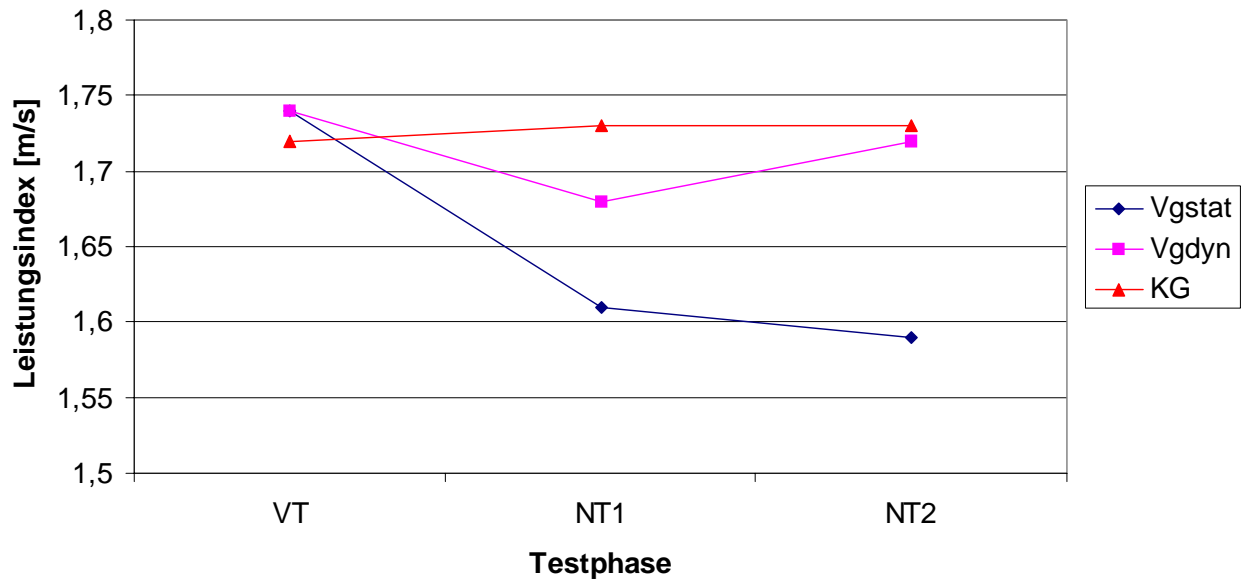
ja!

Blockeffekt?

ja!

Erweiterung des T-Tests für abhängige Gruppen!

nein!

Interaktion?

Unterschiedliche Verläufe?

ja!

**EWM Vortest-Nachtest 1**

EWM [kg]

59,00
58,00
57,00
56,00
55,00
54,00
53,00
52,00
51,00
50,00

EWMT0          EWMT1

**Testzeitpunkt**

KG
VG

**Reaktivkraftexperiment**

Leistungsindex [m/s] vs. Testphase (VT, NT1, NT2)

Legend: Vgstat, Vgdyn, KG



**Maximalkräfte**

F [N] vs. Messzeitpunkt (KMAXB1, KMAXB2, KMAXB3)

Legend: Vgstat, Vgdyn, KG