**rmANCOVA SPSS Analysen Anka Bernhard TSST paper FemNAT-CD**

UV:

* Gruppe („group”)
* sex („gender“)

AV:

* psychologischer Stress („stressed“)
* Cortisol („CORT“)
* Testosteron („TEST”)
* Oxytocin (OXT”)

Covariate:

* site (“centre”)
* Alter (“age\_meancentered”)
* Startzeitpunkt TSST (“explstart\_meancentered\_min”)
* BMI (“BMI\_imp\_meancentered”)
* Einnahme Medikation und/oder Contraceptiva (“any\_med\_ccept”)
* Rauchen (“smoking\_yes\_no”)

🡪 bei psychologischem Stress nur site und Alter als Covariate, da die neuroendokrinologisch relevant sind

🡪 Dimensional covariates (age, BMI, TSST start time) were mean-centered (Delaney HD, Maxwell SE. On using analysis of covariance in repeated measures designs. *Multivariate Behav Res*. 1981;16:105-123)

- Interaktionseffekte: group x time, group x sex, group x sex x time

- Faktor1 = Zeiteffekt

**SPSS Syntaxen (4 separate rmANCOVA’s)**

**1. rmANCOVA psychological stress (8 Messzeitpunkte)**

GLM stressed\_1 stressed\_2 stressed\_3 stressed\_4 stressed\_5 stressed\_6 stressed\_7 stressed\_8 BY

group gender WITH centre age\_meancentered

/WSFACTOR=Faktor1 8 Polynomial

/METHOD=SSTYPE(3)

/EMMEANS=TABLES(group) WITH(centre=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Faktor1) WITH(centre=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*Faktor1) WITH(centre=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(gender\*Faktor1)

/EMMEANS=TABLES(group\*gender)

/EMMEANS=TABLES(group\*gender) COMPARE (group) ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender) COMPARE (gender) ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*Faktor1)

/EMMEANS=TABLES(group\*Faktor1) COMPARE (group) ADJ(BONFERRONI)

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/EMMEANS=TABLES(gender\*Faktor1) COMPARE (gender) ADJ(BONFERRONI)

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/EMMEANS=TABLES(group\*gender\*Faktor1)

/EMMEANS=TABLES(group\*gender\*Faktor1) COMPARE (group) ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender\*Faktor1) COMPARE (gender) ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender\*Faktor1) COMPARE (Faktor1) ADJ(BONFERRONI)

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/CRITERIA=ALPHA(.05)

/WSDESIGN=Faktor1

/DESIGN=centre age\_meancentered group gender group\*gender.

**2. rmANCOVA CORT (5 Messzeitpunkte)**

GLM CORT\_BL\_log CORT\_10\_log CORT\_25\_log CORT\_40\_log CORT\_55\_log BY group gender WITH centre age\_meancentered

explstart\_meancentered\_min BMI\_imp\_meancentered any\_med\_ccept smoking\_yes\_no

/WSFACTOR=Faktor1 5 Polynomial

/METHOD=SSTYPE(3)

/EMMEANS=TABLES(group) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(gender) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(group\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(gender\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(group\*gender\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN

any\_med\_ccept=MEAN smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(Faktor1) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(gender) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender)

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/EMMEANS=TABLES(group\*gender\*Faktor1) COMPARE (Faktor1) ADJ(BONFERRONI)

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/CRITERIA=ALPHA(.05)

/WSDESIGN=Faktor1

/DESIGN=centre explstart\_meancentered\_min BMI\_imp\_meancentered any\_med\_ccept smoking\_yes\_no age\_meancentered group gender group\*gender.

**3. rmANCOVA TEST (3 Messzeitpunnkte)**

GLM TEST\_BL\_log TEST\_10\_log TEST\_55\_log BY group gender WITH centre age\_meancentered

explstart\_meancentered\_min BMI\_imp\_meancentered any\_med\_ccept smoking\_yes\_no

/WSFACTOR=Faktor1 3 Polynomial

/METHOD=SSTYPE(3)

/EMMEANS=TABLES(group) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(gender) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(group\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(gender\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(group\*gender\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN

any\_med\_ccept=MEAN smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(Faktor1) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(gender) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender)

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/EMMEANS=TABLES(gender\*Faktor1) COMPARE (gender) ADJ(BONFERRONI)

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/CRITERIA=ALPHA(.05)

/WSDESIGN=Faktor1

/DESIGN=centre explstart\_meancentered\_min BMI\_imp\_meancentered any\_med\_ccept smoking\_yes\_no age\_meancentered group gender group\*gender.

**4. rmANCOVA OXT (3 Messzeitpunnkte)**

GLM OXT\_BL\_log OXT\_1\_log OXT\_10\_log BY group gender WITH centre age\_meancentered

explstart\_meancentered\_min BMI\_imp\_meancentered any\_med\_ccept smoking\_yes\_no

/WSFACTOR=Faktor1 3 Polynomial

/METHOD=SSTYPE(3)

/EMMEANS=TABLES(group) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(gender) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group\*gender) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(group\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(gender\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN any\_med\_ccept=MEAN

smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(group\*gender\*Faktor1) WITH(centre=MEAN explstart\_meancentered\_min=MEAN BMI\_imp\_meancentered=MEAN

any\_med\_ccept=MEAN smoking\_yes\_no=MEAN age\_meancentered=MEAN)

/EMMEANS=TABLES(Faktor1) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(group) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(gender) COMPARE ADJ(BONFERRONI)

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