One word before you start: The reference to Field is only made to maybe get a better / deeper understanding of the following tasks. Given that the example datasets are taken from the book the are explained more detailed than here. VARIABLES are written with capitals. However, ANOVA is not a variable name… ;-)

One-factorial ANOVA
Use *Teach.sav* (see Field 2018, Chapter 12.14, Task 1 for more detailed explanations) to carry out an univariate ANOVA. The file contains two variables, exploring how different teaching methods GROUP affect the results at the EXAM.
- *What is the dependent variable and what are the predictor variables?*
- *Set up an appropriate model using → Analyze → General Linear Model → Univariate…*
- *Define plots and contrasts to help you to interpret the effects.*
- *Determine which main effects and which interactions are significant.*

Two-factorial ANOVA
Use *Wii.sav* (see Field 2018, Chapter 14.14, Task 9 for more detailed explanations) to carry out an univariate ANOVA. The file contains four variables that explore whether the pain inflicted by injuries INJURY is affected by (a) whether the person is a athlete or not ATHLETE, (b) whether the person did stretching before playing / watching Wii STRETCH, and (c) whether the person watched somebody else playing or actually played on WII.
- *What is the dependent variable and what are the predictor variables?*
- *Set up an appropriate model using → Analyze → General Linear Model → Univariate…*
- *Define plots and contrasts to help you to interpret the effects.*
- *Determine which main effects and which interactions are significant.*
- *Try to interpret the results based upon the significant effects and the plots.*
- *Is it true that athletes are less prone to injury / pain and that the intervention (stretching) has an effect? Which of the effects in the statistics can be taken as evidence for that?*
- *Try out different arrangements for the plots: Which one makes it most easy for you to interpret the data?*

ANOVA with repeated measurements
Use *MixedAttitude.sav* (see Field, 2018; Chapter 15.13 for more detailed explanations) to carry out an ANOVA with repeated measurements. It explores whether the dislike-/like-ratings (-100 to +100) to different drinks shown in a video are modulated by the context the drink is presented with.
For example could a beer be accompanied by IMAGERY that was either positive (...POS; a crowd of happy people drinking it and a positive slogan), neutral (...NEU; people in normal mood and a neutral slogan) or negative (...NEG; a bunch of inanimate dead bodies with a negative slogan). There were three different kinds of DRINKs (BEER…, WINE…, WATER…). SEX is a between-subjects factor.
- *Determine whether all requirements for the ANOVA are fulfilled.*
- *Which main effects and which interactions are significant?*
- *Try to write down an interpretation of the results based upon the result statistics and the plots.*

ANOVA with repeated measurements (extra)
Use *LooksOrPersonality.sav* to carry out an ANOVA with repeated measurements (see Field, 2018, Chapter 16.4 for more detailed explanations). It collects attractiveness ratings after participants were shown short videos depicting strangers that varied in ATTRACTIVENESS (att_… [attractive], av_… [average], ug_… [ugly]) and in CHARISMA (…_high, …_some, …_low). STRATEGY is a between-subjects variable that informs participants before seeing the video about the strategy of the persons shown in the video: It could either be that they behave normally or using a hard to get strategy.

- *Create a repeated-measurements GLM using ATTRACTIVENESS (3 steps) and CHARISMA (3 steps) as within subject factors and STRATEGY as between-subject factor. Remember to use plots that show all three factors. Keep the output.*
- *Take this model, but remove the factor STRATEGY. Also create plots. Keep the output.*
- *Try to interpret (based upon the plots) what has changed between using STRATEGY as a factor and not using it. Explain to which of the two stages of STRATEGY the result is closer when the factor is removed.*

Two-factorial ANOVA (extra)
When reproducing and modifying the analyses using the file Wii.sav, one variable might be dropped in order to get a more clear picture.
- *Which variable should / could be dropped and why?*
- *Try to achieve this exclusion using either → Data → Split File… or → Data → Select Cases…*
- *How has the model to be changed after that and how change the results?*