Empirical Research Methods 1

SPSS introduction

Miguel Rejón,

Room 1.14

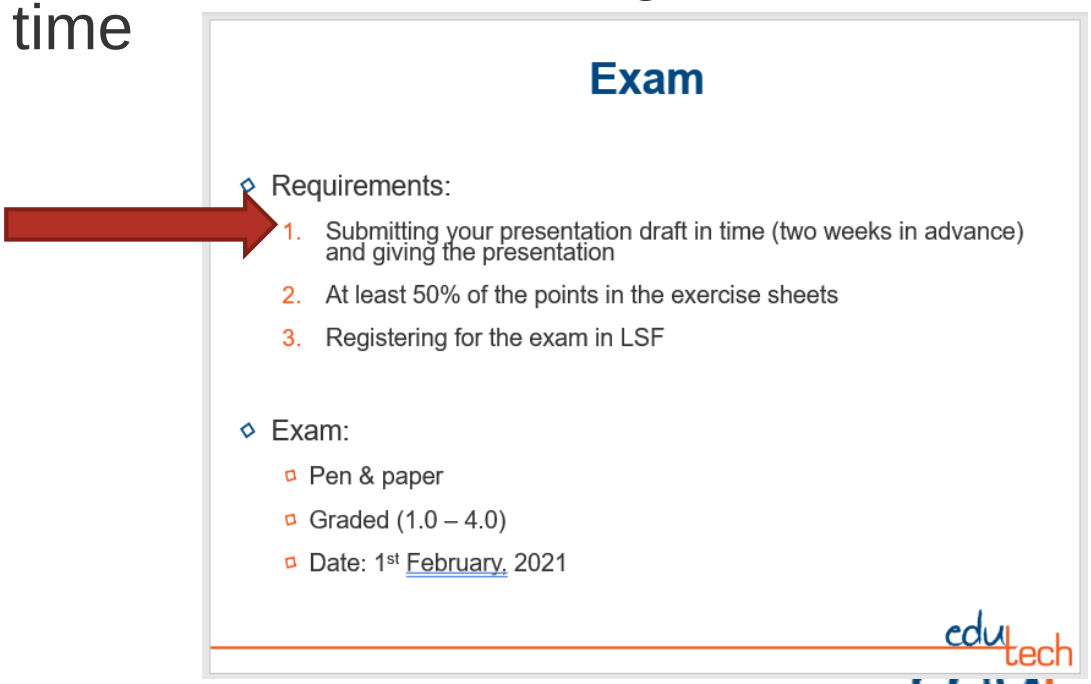
m.rejon@edutech.uni-saarland.de

Before we start 1/2: Today we will be using

- Exercises: Slides + screencast
- **SPSS ! (and by extension the VPN)**
- MS Teams for comments, questions, etc
- strawpoll.me/

Before we start 2/2: presentation drafts…

- From my first presentation:
  - Submit your drafts in time! This is an exam requirement. If you are too late, it will have consequences for the exam (point deduction)
  - If you have very justified reasons for being late, at least inform the tutors in time



Now let‘s start...

Agenda

- Using the VPN to connect to the university network
- SPSS
  a) Your knowledge about SPSS
  b) Recoding variables
  c) Assigning values to variables
  d) Sorting data
  e) Computing variables
- Q&A

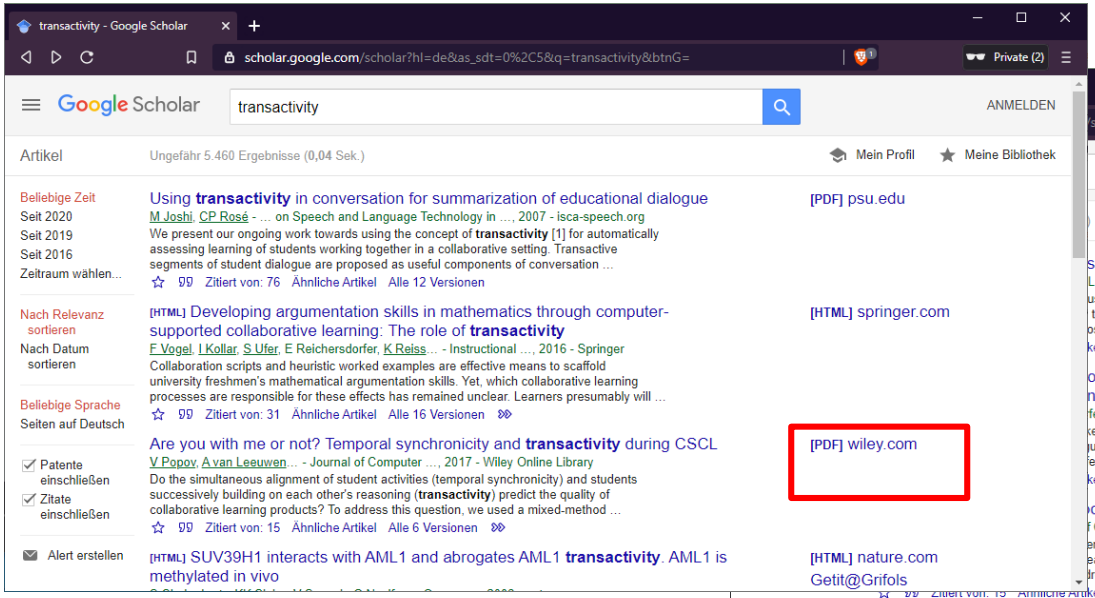
Connecting to the VPN

- https://www.hiz-saarland.de/dienste/vpn/
- https://www.hiz-saarland.de/dienste/vpn/anleitungen-uds/anyconnect/
- Connect to the VPN before opening SPSS. Otherwise, you may be unable to fully use SPSS. If so, close SPSS and start the VPN

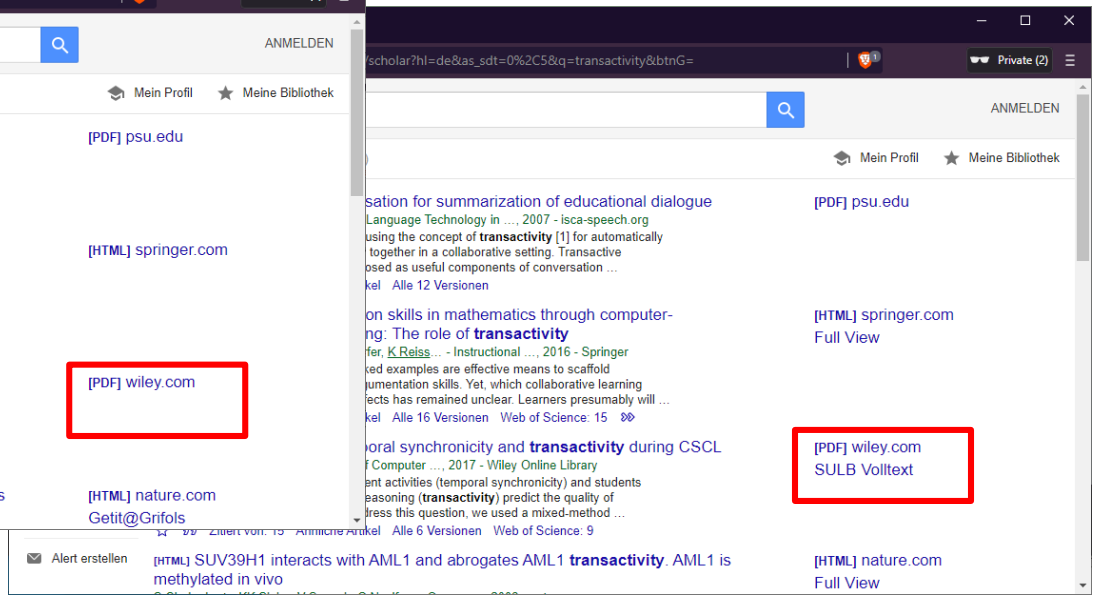
Connecting to the VPN

- Also useful when researching for articles at home/ outside of the uni

Without VPN



With VPN

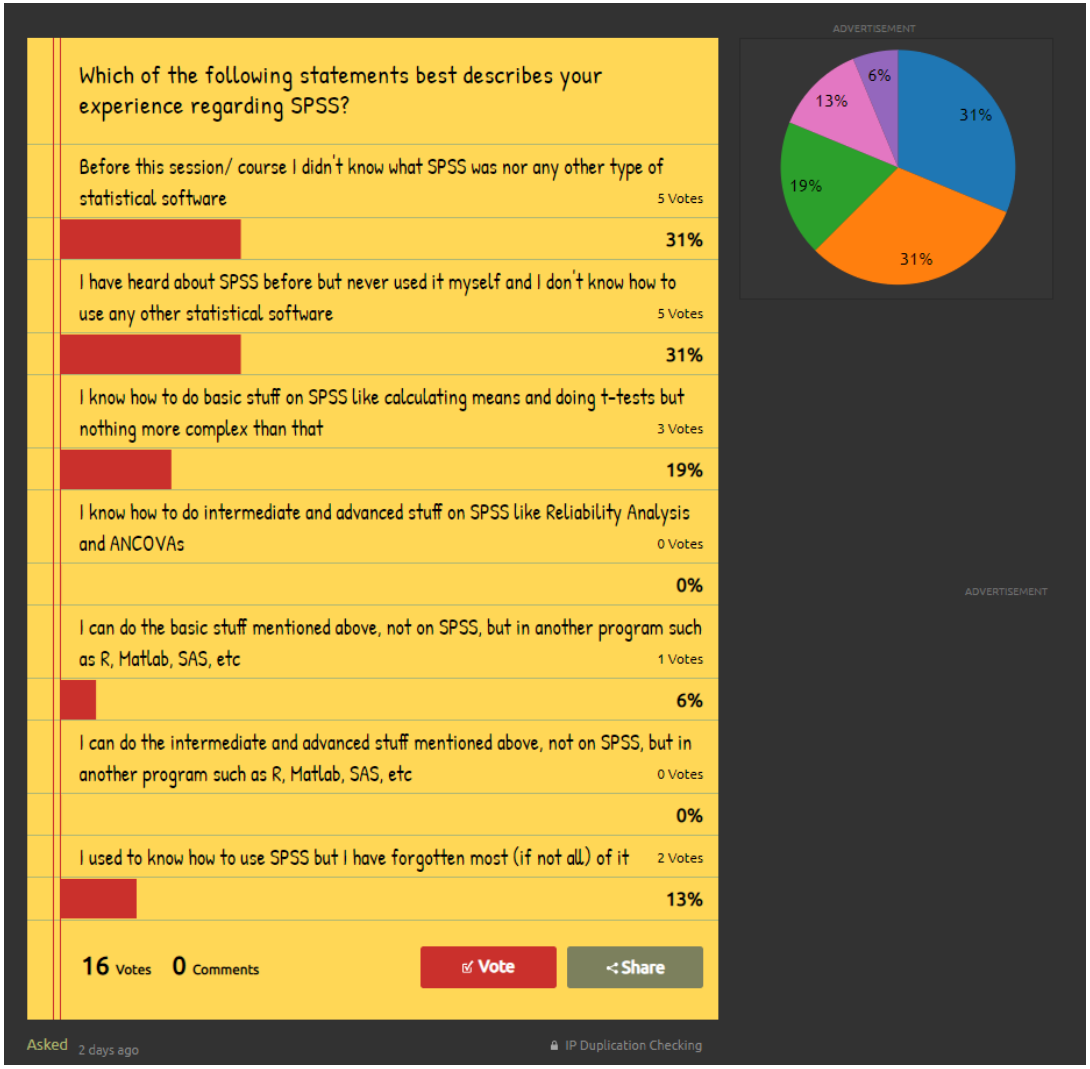


Your knowledge about SPSS

- I want to know if you have had any previous experience or knowledge about SPSS so I can adapt the pace and contents of this and future presentations
- Strawpoll, anonymous, consequence-free

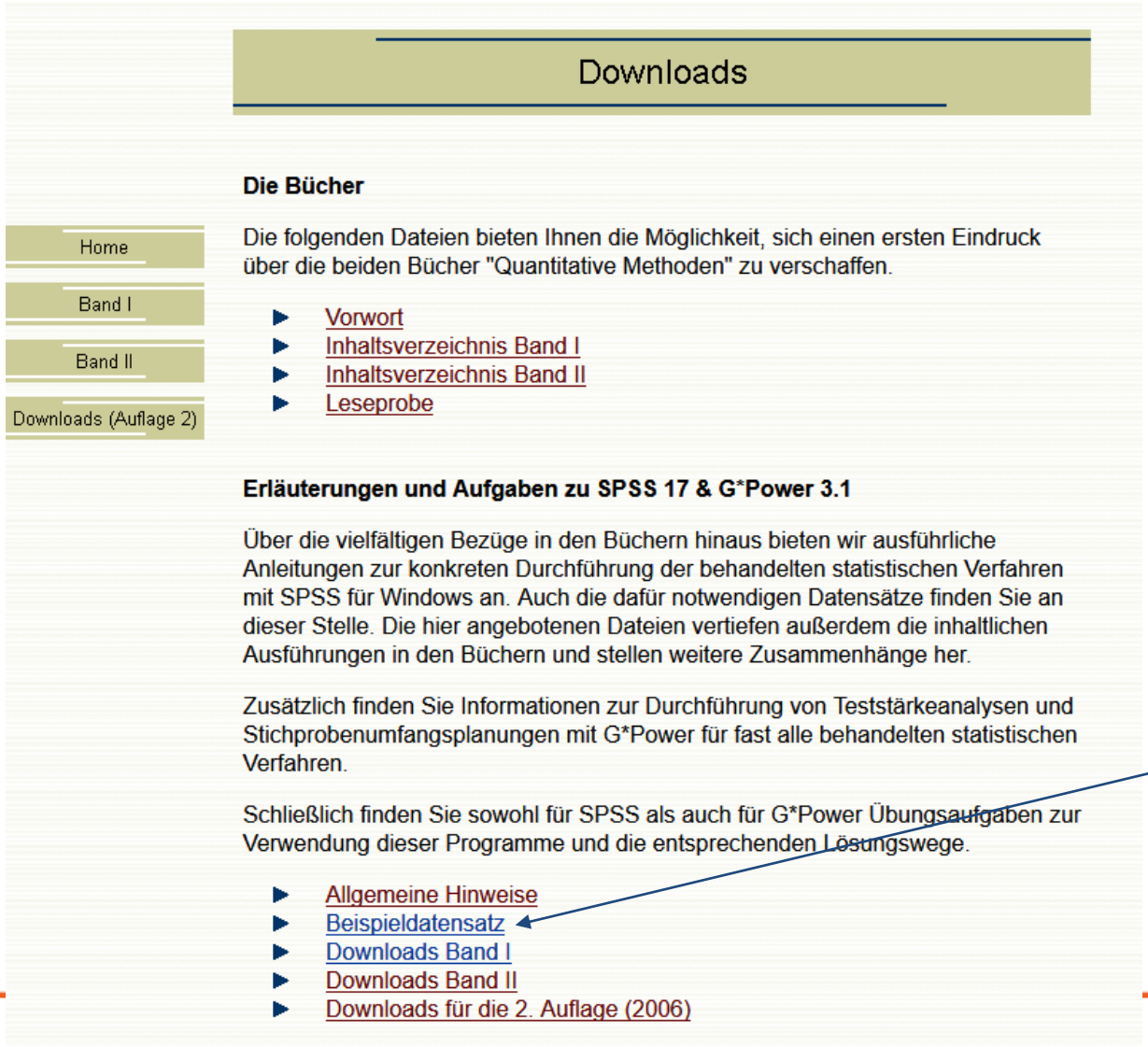
http://www.strawpoll.me/35161927

Your knowledge about SPSS



Example data set

http://quantitative-methoden.de/Downloads_A3.htm



Downloads

Home

Band I

Band II

Downloads (Auflage 2)

Die Bücher

Die folgenden Dateien bieten Ihnen die Möglichkeit, sich einen ersten Eindruck über die beiden Bücher "Quantitative Methoden" zu verschaffen.

- Vorwort
- Inhaltsverzeichnis Band I
- Inhaltsverzeichnis Band II
- Leseprobe

Erläuterungen und Aufgaben zu SPSS 17 & G*Power 3.1

Über die vielfältigen Bezüge in den Büchern hinaus bieten wir ausführliche Anleitungen zur konkreten Durchführung der behandelten statistischen Verfahren mit SPSS für Windows an. Auch die dafür notwendigen Datensätze finden Sie an dieser Stelle. Die hier angebotenen Dateien vertiefen außerdem die inhaltlichen Ausführungen in den Büchern und stellen weitere Zusammenhänge her.

Zusätzlich finden Sie Informationen zur Durchführung von Teststärkeanalysen und Stichprobenumfangsplanungen mit G*Power für fast alle behandelten statistischen Verfahren.

Schließlich finden Sie sowohl für SPSS als auch für G*Power Übungsaufgaben zur Verwendung dieser Programme und die entsprechenden Lösungswege.

- Allgemeine Hinweise
- Beispieldatensatz
- Downloads Band I
- Downloads Band II
- Downloads für die 2. Auflage (2006)

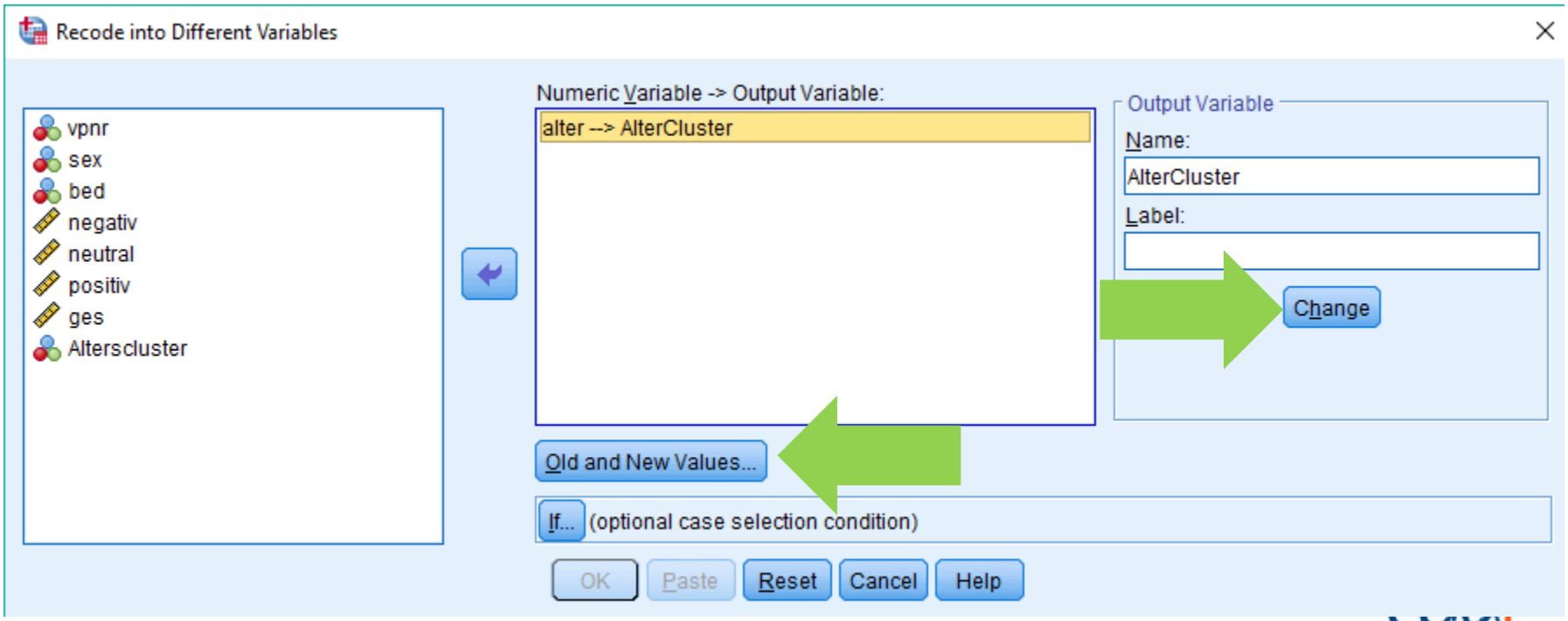
Please download

Exercise 1: Recoding

- Recode the variable “Alter“ to get a new variable “AlterCluster“ with these four groups:
  - 18 to 19 years old → (group) 1
  - 20 to 29 years old → (group) 2
  - 30 to 39 years old → (group) 3
  - 40 to 49 years old → (group) 4
- Keep also the original variable “Alter“

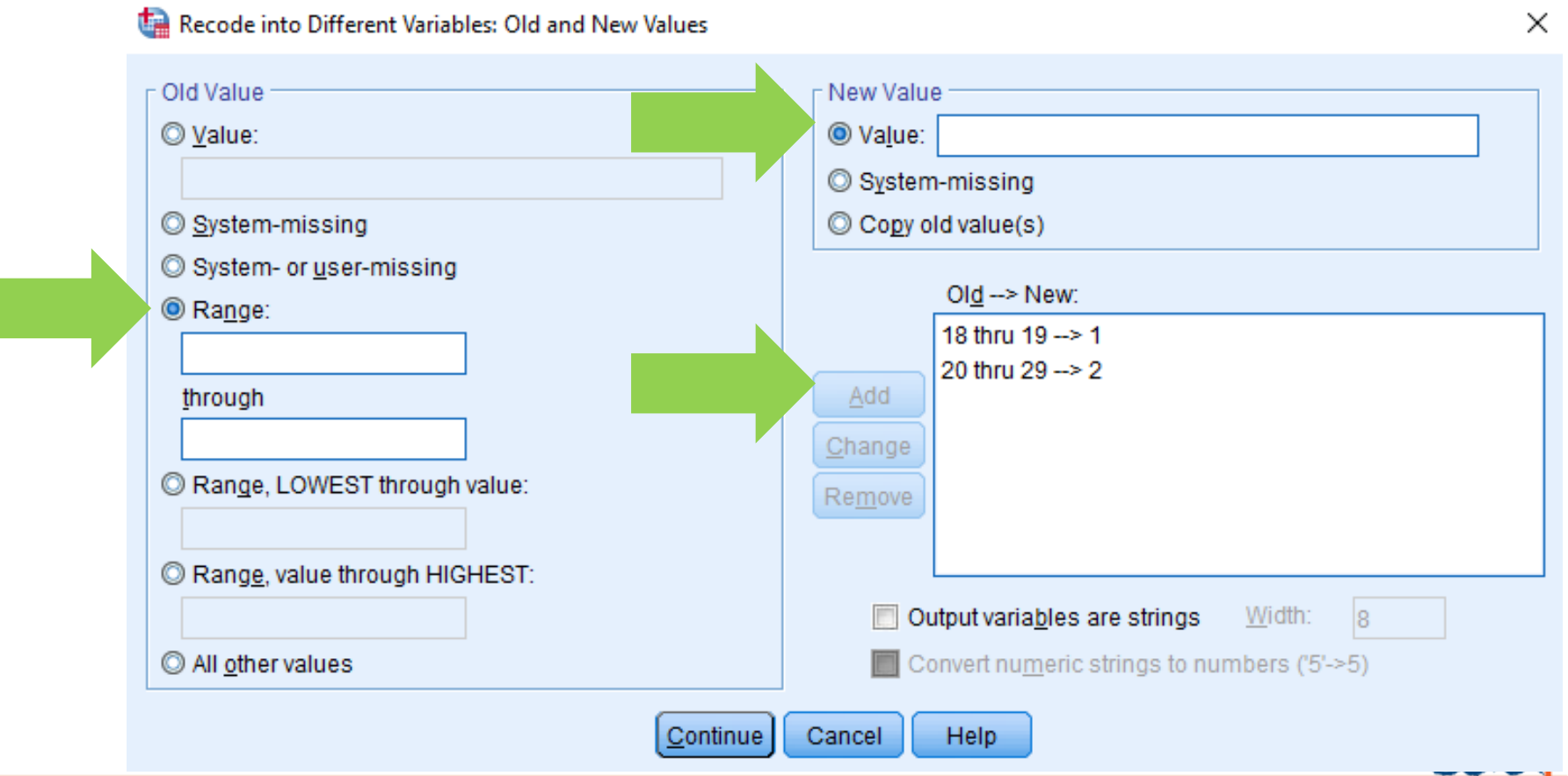
Exercise 1: Recoding

- Transform > Recode into different variables
- Input variable = old variable “Alter“
- Output variable = new variable “AlterCluster“



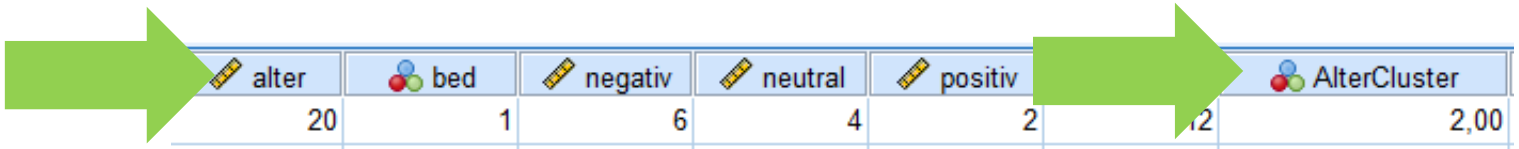
Exercise 1: Recoding

Input the range of the old variable and define its new value



Exercise 1: Recoding

Result: New variable with bigger clusters instead of individual values



alter	bed	negativ	neutral	positiv		AlterCluster
20	1	6	4	2	12	2,00
21	1	4	0	2	6	2,00
19	1	4	2	5	11	1,00
25	1	1	1	3	5	2,00
23	1	4	2	4	10	2,00
21	1	0	1	3	4	2,00
22	1	4	0	2	6	2,00
19	1	1	2	2	5	1,00
22	1	1	3	4	8	2,00
19	1	1	3	1	5	1,00
22	1	0	1	0	1	2,00
35	1	0	1	2	3	3,00
24	1	3	0	0	3	2,00
20	1	2	3	2	7	2,00
25	1	5	2	2	9	2,00
21	1	2	1	4	7	2,00
23	1	1	2	2	5	2,00
20	1	3	1	2	6	2,00
19	1	5	1	1	7	1,00
22	1	2	3	2	7	2,00

EXERCISE 1: NOW LET'S DO IT!

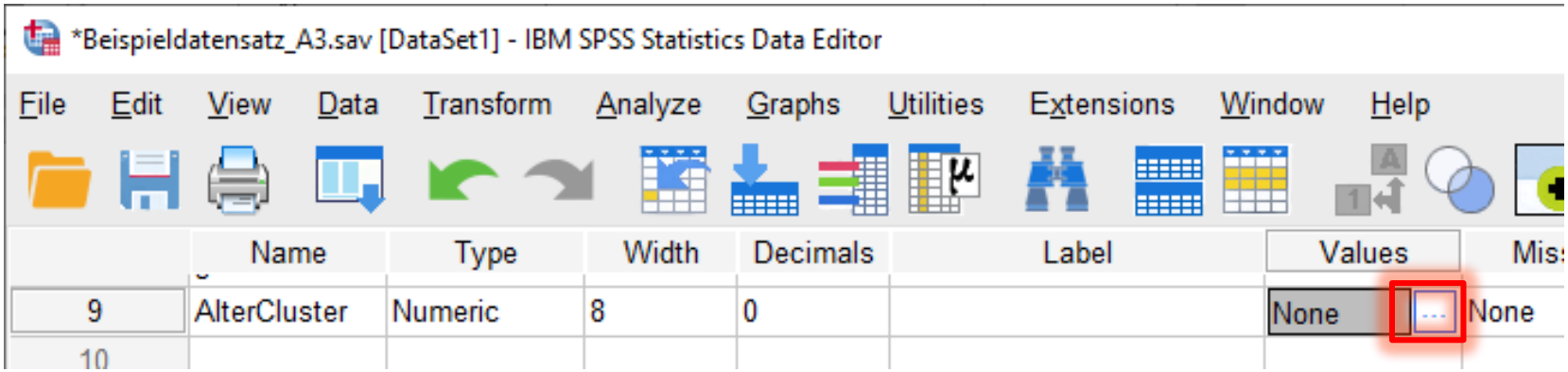
Exercise 2: Values

Assign “values“ to the new variable (AlterCluster)

What does “1” or “2” mean?

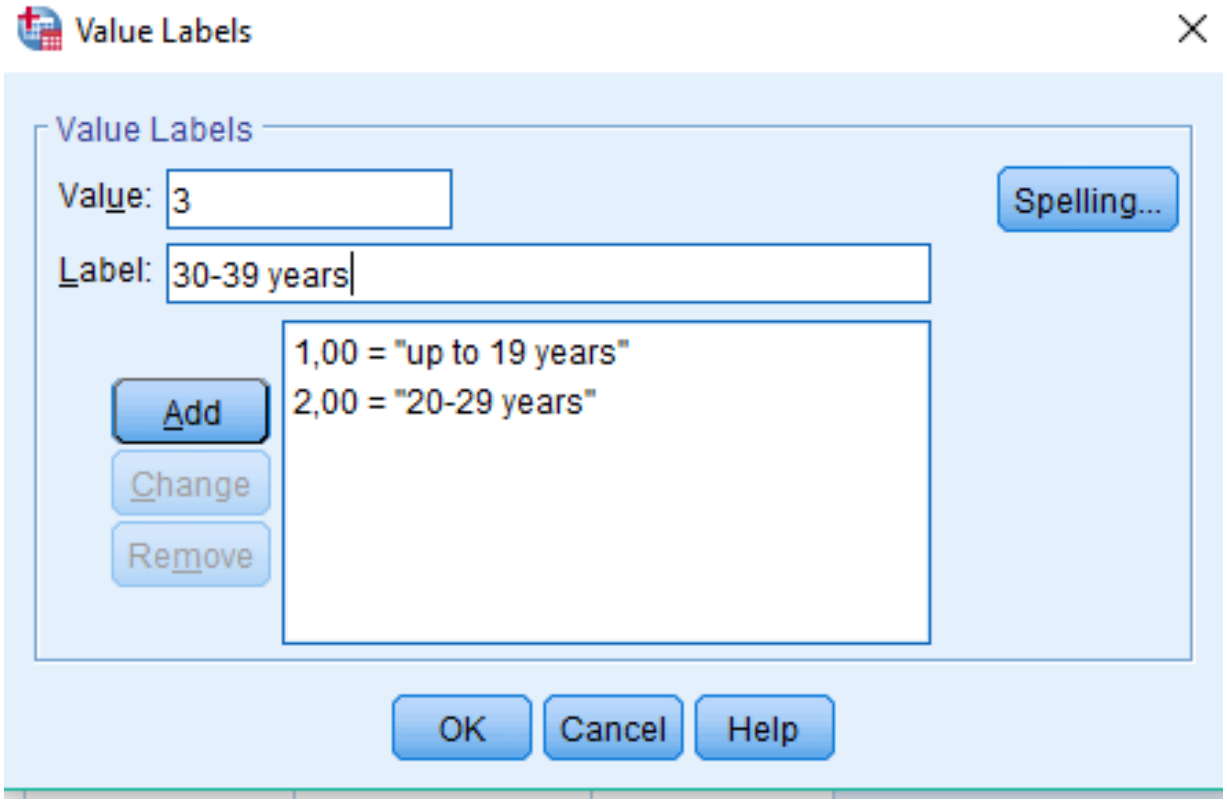
→ Go to “Variable view”

Exercise 2: Values



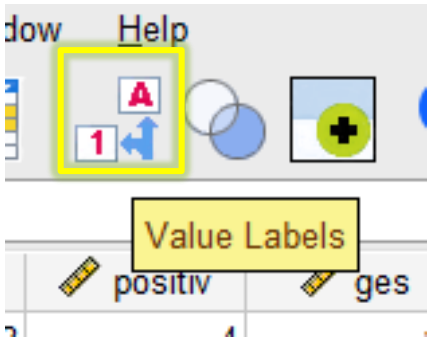
Exercise 2: Values

"Value labels"



Exercise 2: Values

AlterCluster
2
2
2
2
2
2
2
2
2
1
2
2
2
2
2
2
2
1
2
2
2
2
2
2
2
1
2
2
1
2
2



AlterCluster
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
18 to 19 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
18 to 19 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
20 to 29 years old
18 to 19 years old
20 to 29 years old
20 to 29 years old
18 to 19 years old
20 to 29 years old
20 to 29 years old

Exercise 2: Values

Result: meaningfully labelled categories for your analyses, e.g. frequency analyses:

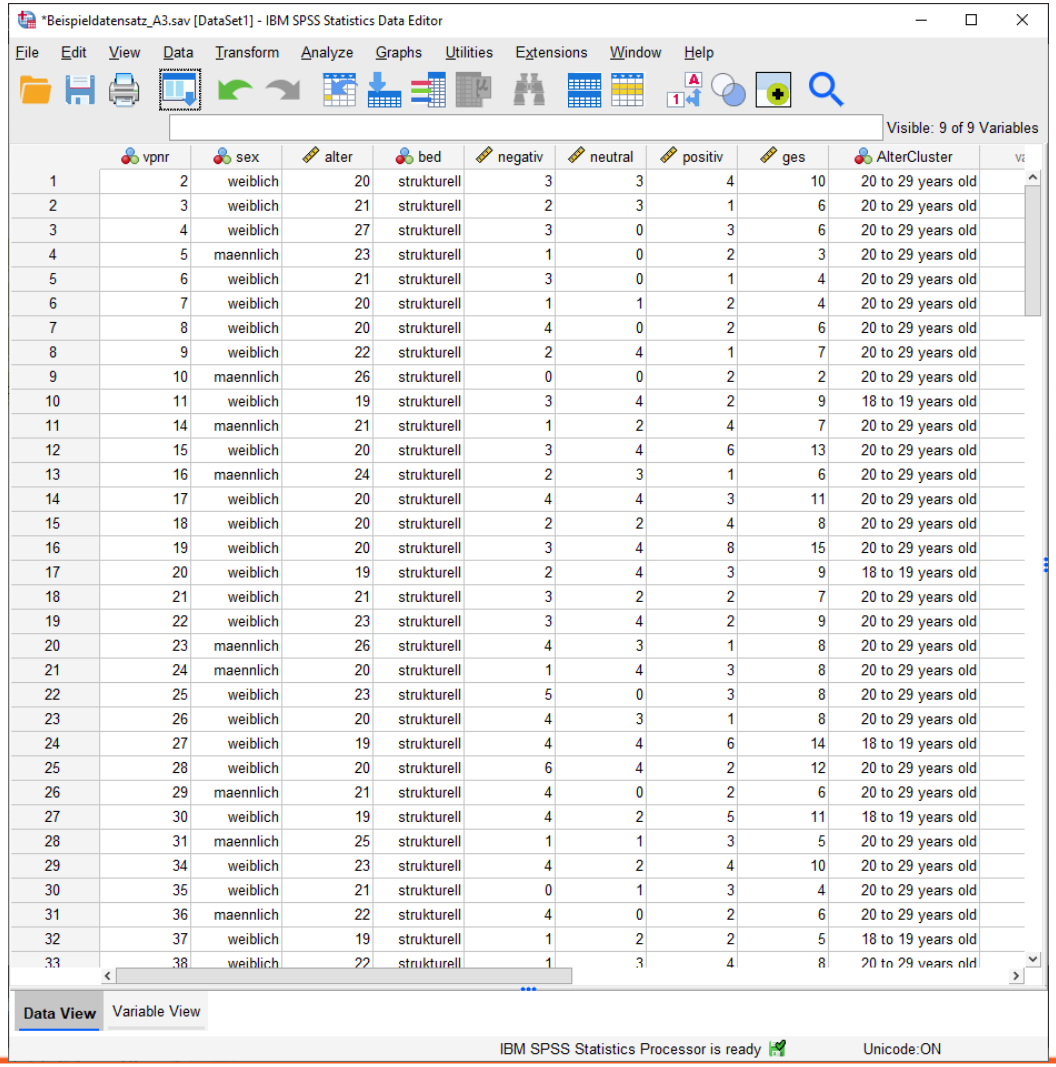
AlterCluster

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	up to 19 years	25	16,7	16,7	16,7
	20-29 years	123	82,0	82,0	98,7
	30-39 years	1	,7	,7	99,3
	40-49 years	1	,7	,7	100,0
	Total	150	100,0	100,0	

EXERCISE 2: NOW LET'S DO IT!

Exercise 3: Sorting

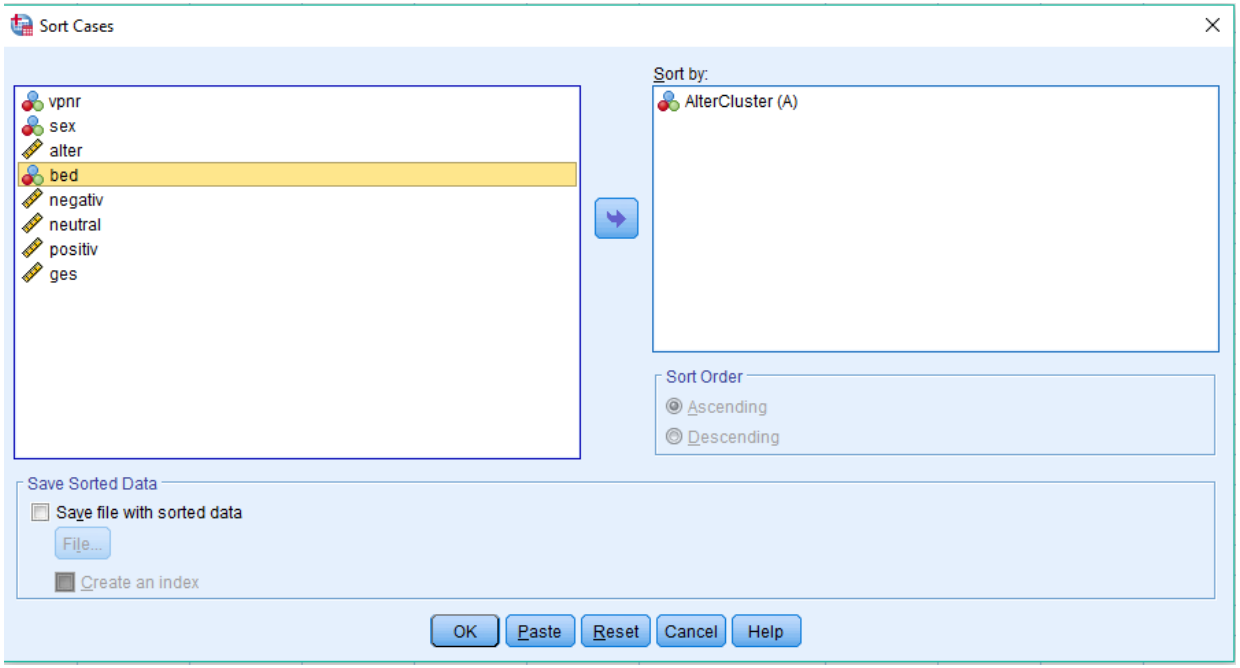
- Sort your cases according to certain criteria



	vpnr	sex	alter	bed	negativ	neutral	positiv	ges	AlterCluster
1	2	weiblich	20	strukturell	3	3	4	10	20 to 29 years old
2	3	weiblich	21	strukturell	2	3	1	6	20 to 29 years old
3	4	weiblich	27	strukturell	3	0	3	6	20 to 29 years old
4	5	maennlich	23	strukturell	1	0	2	3	20 to 29 years old
5	6	weiblich	21	strukturell	3	0	1	4	20 to 29 years old
6	7	weiblich	20	strukturell	1	1	2	4	20 to 29 years old
7	8	weiblich	20	strukturell	4	0	2	6	20 to 29 years old
8	9	weiblich	22	strukturell	2	4	1	7	20 to 29 years old
9	10	maennlich	26	strukturell	0	0	2	2	20 to 29 years old
10	11	weiblich	19	strukturell	3	4	2	9	18 to 19 years old
11	14	maennlich	21	strukturell	1	2	4	7	20 to 29 years old
12	15	weiblich	20	strukturell	3	4	6	13	20 to 29 years old
13	16	maennlich	24	strukturell	2	3	1	6	20 to 29 years old
14	17	weiblich	20	strukturell	4	4	3	11	20 to 29 years old
15	18	weiblich	20	strukturell	2	2	4	8	20 to 29 years old
16	19	weiblich	20	strukturell	3	4	8	15	20 to 29 years old
17	20	weiblich	19	strukturell	2	4	3	9	18 to 19 years old
18	21	weiblich	21	strukturell	3	2	2	7	20 to 29 years old
19	22	weiblich	23	strukturell	3	4	2	9	20 to 29 years old
20	23	maennlich	26	strukturell	4	3	1	8	20 to 29 years old
21	24	maennlich	20	strukturell	1	4	3	8	20 to 29 years old
22	25	weiblich	23	strukturell	5	0	3	8	20 to 29 years old
23	26	weiblich	20	strukturell	4	3	1	8	20 to 29 years old
24	27	weiblich	19	strukturell	4	4	6	14	18 to 19 years old
25	28	weiblich	20	strukturell	6	4	2	12	20 to 29 years old
26	29	maennlich	21	strukturell	4	0	2	6	20 to 29 years old
27	30	weiblich	19	strukturell	4	2	5	11	18 to 19 years old
28	31	maennlich	25	strukturell	1	1	3	5	20 to 29 years old
29	34	weiblich	23	strukturell	4	2	4	10	20 to 29 years old
30	35	weiblich	21	strukturell	0	1	3	4	20 to 29 years old
31	36	maennlich	22	strukturell	4	0	2	6	20 to 29 years old
32	37	weiblich	19	strukturell	1	2	2	5	18 to 19 years old
33	38	weiblich	22	strukturell	1	3	4	8	20 to 29 years old

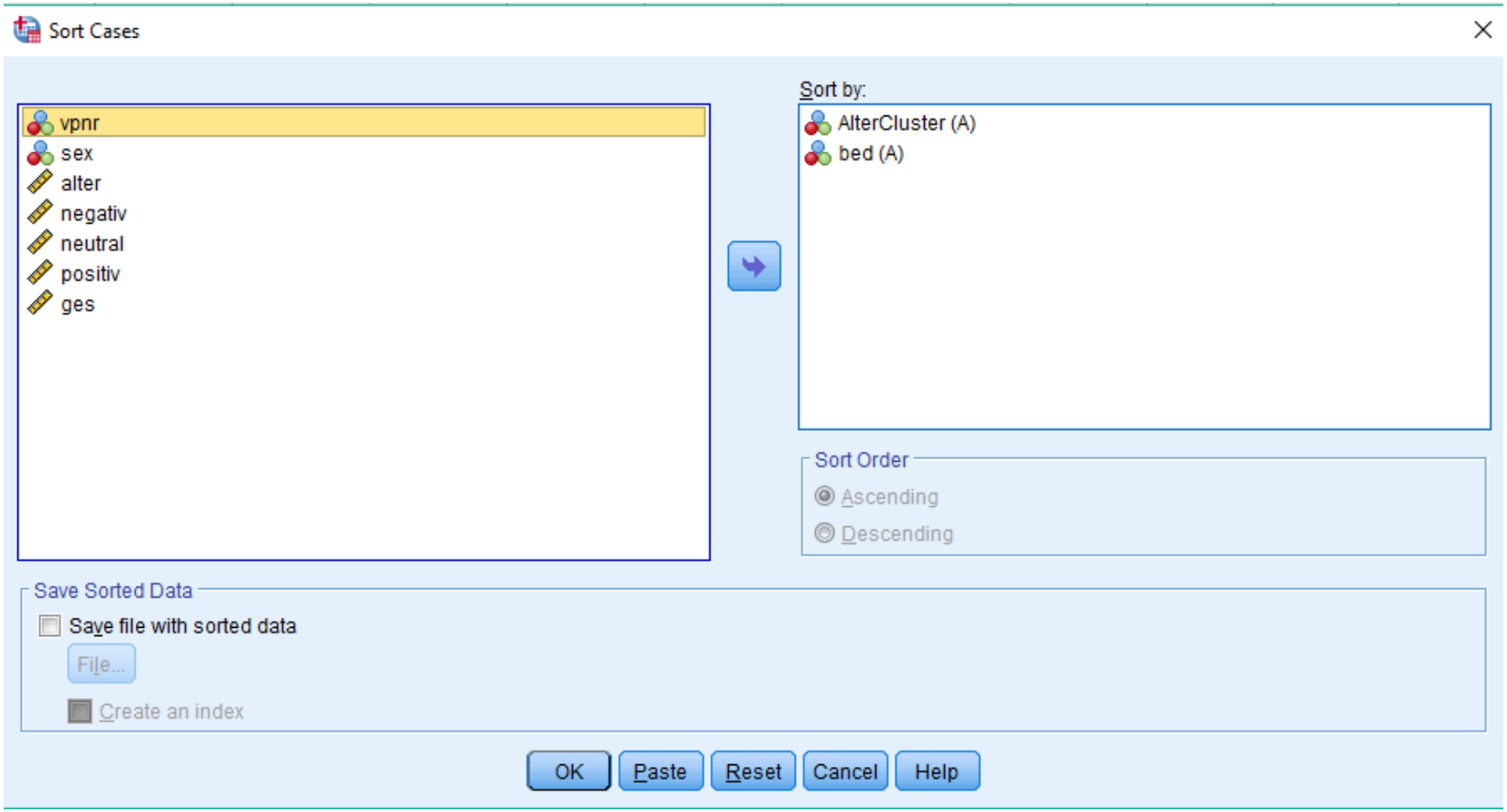
Exercise 3: Sorting

- Sort your cases according to certain criteria
- Data > Sort cases
- First: Sort by Alter-Cluster:



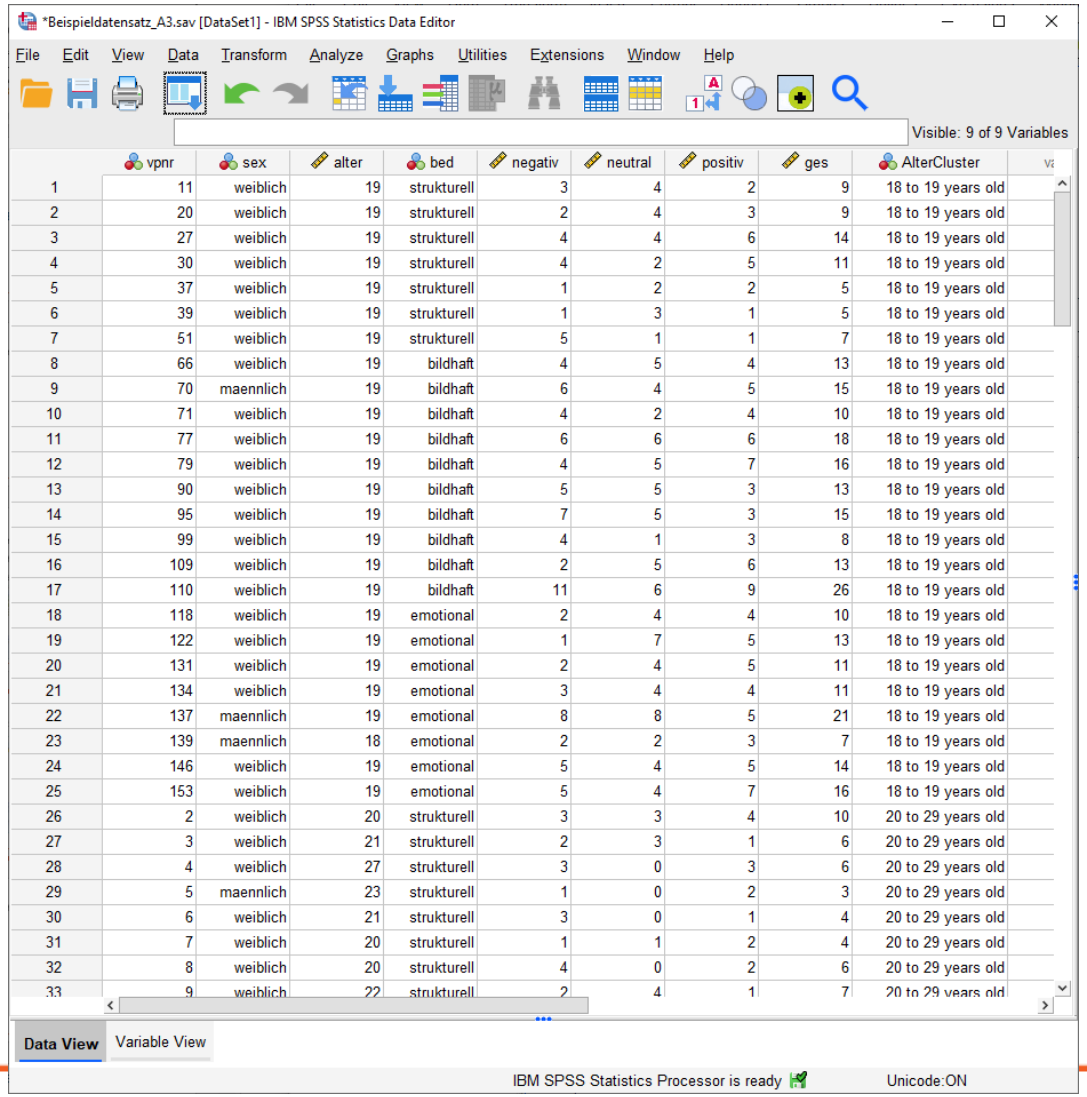
Exercise 3: Sorting

Additionally, sort by “bed” (condition)



Exercise 3: Sorting

- Data sorted!



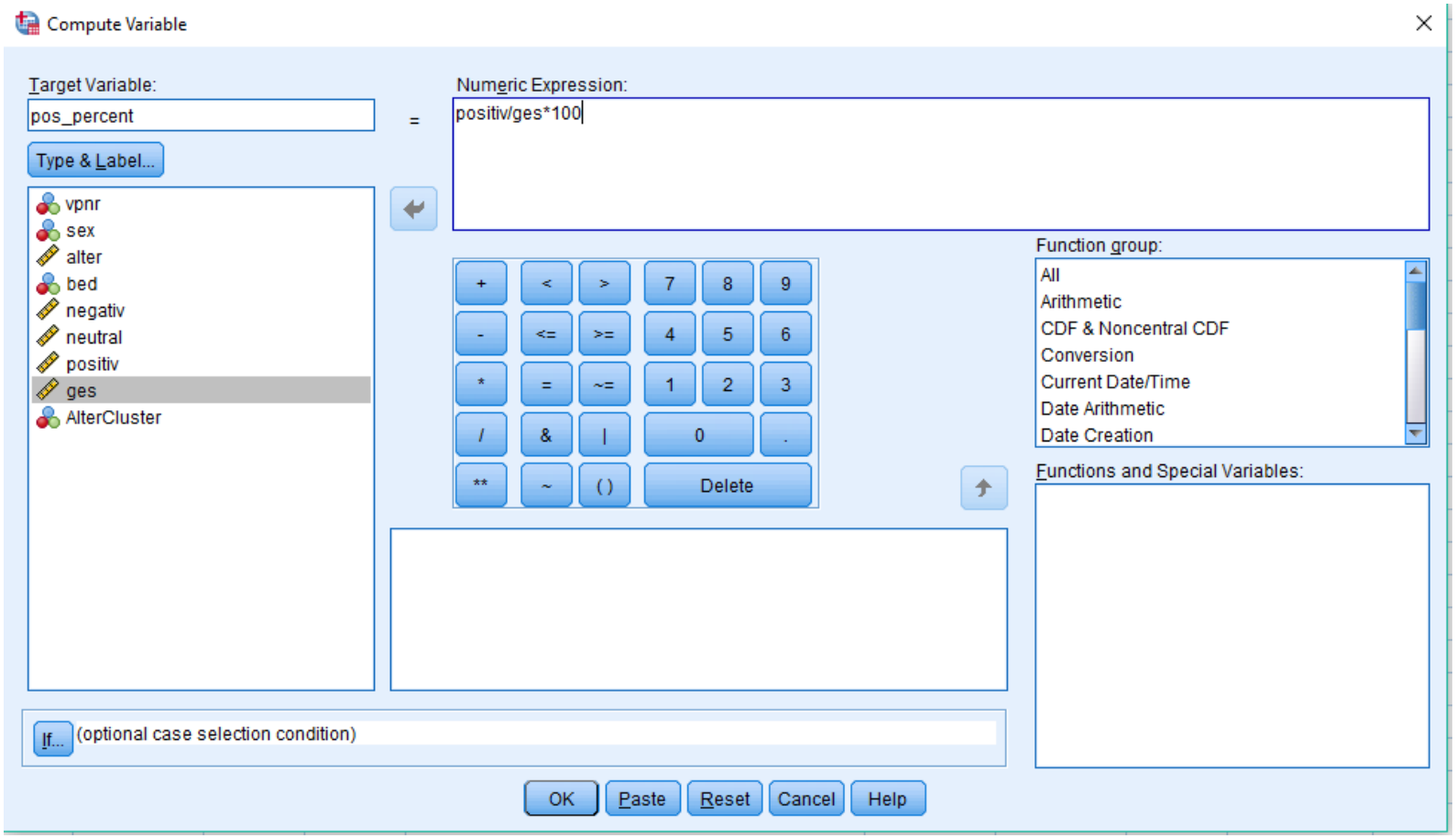
	vpnr	sex	alter	bed	negativ	neutral	positiv	ges	AlterCluster
1	11	weiblich	19	strukturell	3	4	2	9	18 to 19 years old
2	20	weiblich	19	strukturell	2	4	3	9	18 to 19 years old
3	27	weiblich	19	strukturell	4	4	6	14	18 to 19 years old
4	30	weiblich	19	strukturell	4	2	5	11	18 to 19 years old
5	37	weiblich	19	strukturell	1	2	2	5	18 to 19 years old
6	39	weiblich	19	strukturell	1	3	1	5	18 to 19 years old
7	51	weiblich	19	strukturell	5	1	1	7	18 to 19 years old
8	66	weiblich	19	bildhaft	4	5	4	13	18 to 19 years old
9	70	maennlich	19	bildhaft	6	4	5	15	18 to 19 years old
10	71	weiblich	19	bildhaft	4	2	4	10	18 to 19 years old
11	77	weiblich	19	bildhaft	6	6	6	18	18 to 19 years old
12	79	weiblich	19	bildhaft	4	5	7	16	18 to 19 years old
13	90	weiblich	19	bildhaft	5	5	3	13	18 to 19 years old
14	95	weiblich	19	bildhaft	7	5	3	15	18 to 19 years old
15	99	weiblich	19	bildhaft	4	1	3	8	18 to 19 years old
16	109	weiblich	19	bildhaft	2	5	6	13	18 to 19 years old
17	110	weiblich	19	bildhaft	11	6	9	26	18 to 19 years old
18	118	weiblich	19	emotional	2	4	4	10	18 to 19 years old
19	122	weiblich	19	emotional	1	7	5	13	18 to 19 years old
20	131	weiblich	19	emotional	2	4	5	11	18 to 19 years old
21	134	weiblich	19	emotional	3	4	4	11	18 to 19 years old
22	137	maennlich	19	emotional	8	8	5	21	18 to 19 years old
23	139	maennlich	18	emotional	2	2	3	7	18 to 19 years old
24	146	weiblich	19	emotional	5	4	5	14	18 to 19 years old
25	153	weiblich	19	emotional	5	4	7	16	18 to 19 years old
26	2	weiblich	20	strukturell	3	3	4	10	20 to 29 years old
27	3	weiblich	21	strukturell	2	3	1	6	20 to 29 years old
28	4	weiblich	27	strukturell	3	0	3	6	20 to 29 years old
29	5	maennlich	23	strukturell	1	0	2	3	20 to 29 years old
30	6	weiblich	21	strukturell	3	0	1	4	20 to 29 years old
31	7	weiblich	20	strukturell	1	1	2	4	20 to 29 years old
32	8	weiblich	20	strukturell	4	0	2	6	20 to 29 years old
33	9	weiblich	22	strukturell	2	4	1	7	20 to 29 years old

EXERCISE 3: NOW LET'S DO IT!

Exercise 4.1: Computing Variables

- Goal: You want a new variable telling you the percentage of positive from the total number of remembered adjectives
- Transform > Compute variable

Exercise 4.1: Computing Variables



Exercise 4.1: Computing Variables

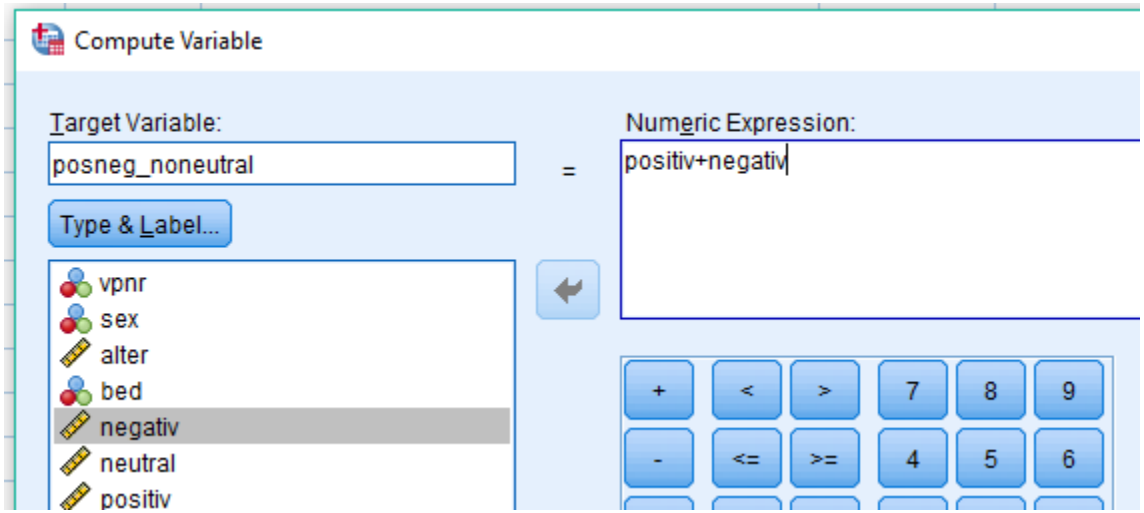
Result:

negativ	neutral	positiv	ges	AlterCluster	pos_percent
3	4	2	9	1,00	22,22
2	4	3	9	1,00	33,33
4	4	6	14	1,00	42,86
4	2	5	11	1,00	45,45
1	2	2	5	1,00	40,00
1	3	1	5	1,00	20,00
5	1	1	7	1,00	14,29
4	5	4	13	1,00	30,77
6	4	5	15	1,00	33,33
4	2	4	10	1,00	40,00
6	6	6	18	1,00	33,33
4	5	7	16	1,00	43,75
5	5	3	13	1,00	23,08
7	5	3	15	1,00	20,00

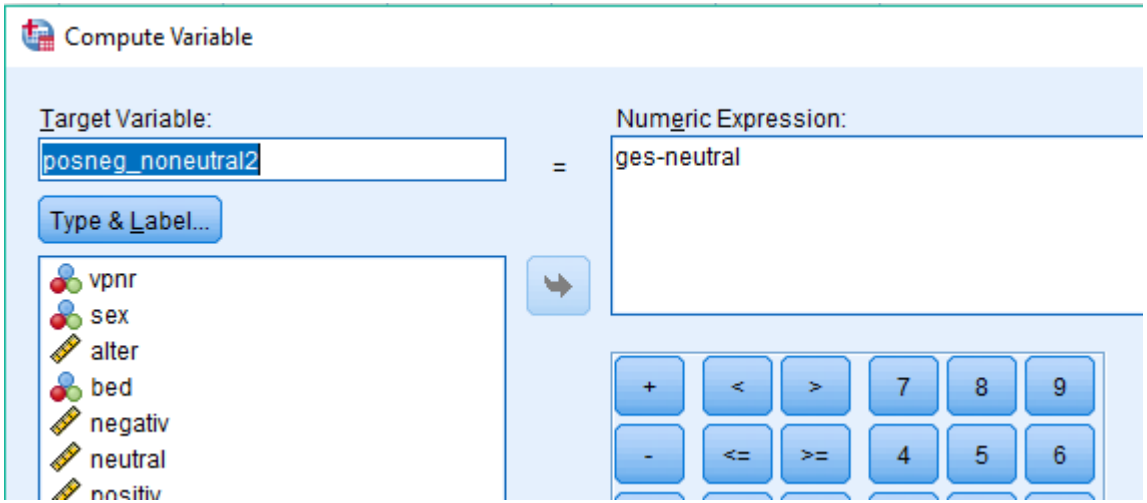
Exercise 4.1: Computing Variables

- Goal: You want a new variable telling you the total number of negative and positive remembered adjectives (without the neutral ones)
- Transform > Compute variable

Exercise 4.1: Computing Variables



Or:



→ There are often multiple ways to achieve the desired variable or, generally, results in SPSS

EXERCISE 4.1: NOW LET'S DO IT!

Exercise 4.2: Computing Variables

- Goal: You want a new variable telling you the sum of participant number (vpnr) and age (Alter)
- Transform > Compute variable

STOP*

https://memegenerator.net/instance/72605714/jeff-goldblum-life-finds-a-way-your-scientists-were-so-concerned-with-whether-or-not-they-could-they

*SPSS will let you do anything you want. However, it is your responsibility to make sure that it makes sense.

Exercise sheets

Don’t forget to submit Excel/SPSS files or screenshots if they were needed to complete the task

Q&A:
TODAY‘S TOPIC; ERM1 IN GENERAL

WEBCAMS ON FOR THE GOODBYE