



Empirical Research Methods 1

SPSS introduction

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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

Exam

- ◇ Requirements:
 1. Submitting your presentation draft in time (two weeks in advance) and giving the presentation
 2. At least 50% of the points in the exercise sheets
 3. Registering for the exam in LSF
- ◇ Exam:
 - ◇ Pen & paper
 - ◇ Graded (1.0 – 4.0)
 - ◇ Date: 1st February, 2021



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

transactivity - Google Scholar

scholar.google.com/scholar?hl=de&as_sdt=0%2C5&q=transactivity&btnG=

Google Scholar

transactivity

ANMELDEN

Artikel Ungefähr 5.460 Ergebnisse (0,04 Sek.)

Mein Profil Meine Bibliothek

Bellebige Zeit

Seit 2020

Seit 2019

Seit 2016

Zeitraum wählen...

Nach Relevanz sortieren

Nach Datum sortieren

Bellebige Sprache

Seiten auf Deutsch

Patente einschließen

Zitate einschließen

Alert erstellen

Using **transactivity** in conversation for summarization of educational dialogue [PDF] psu.edu

M.Joshi, C.P.Rosé - ... on Speech and Language Technology in ..., 2007 - isca-speech.org

We present our ongoing work towards using the concept of **transactivity** [1] for automatically assessing learning of students working together in a collaborative setting. Transactive segments of student dialogue are proposed as useful components of conversation ...

☆ Zitiert von: 76 Ähnliche Artikel Alle 12 Versionen

[HTML] Developing argumentation skills in mathematics through computer-supported collaborative learning: The role of **transactivity** [HTML] springer.com

F.Vogel, I.Kollar, S.Ufer, E.Reichersdorfer, K.Reiss - Instructional ..., 2016 - Springer

Collaboration scripts and heuristic worked examples are effective means to scaffold university freshmen's mathematical argumentation skills. Yet, which collaborative learning processes are responsible for these effects has remained unclear. Learners presumably will ...

☆ Zitiert von: 31 Ähnliche Artikel Alle 16 Versionen

[PDF] wiley.com

Are you with me or not? Temporal synchronicity and **transactivity** during CSCL [PDF] wiley.com

V.Popov, A.van Leeuwen - Journal of Computer ..., 2017 - Wiley Online Library

Do the simultaneous alignment of student activities (temporal synchronicity) and students successively building on each other's reasoning (**transactivity**) predict the quality of collaborative learning products? To address this question, we used a mixed-method ...

☆ Zitiert von: 15 Ähnliche Artikel Alle 6 Versionen

[HTML] SUV39H1 interacts with AML1 and abrogates AML1 **transactivity**. AML1 is methylated in vivo [HTML] nature.com

Getit@Grifols

With VPN

scholar?hl=de&as_sdt=0%2C5&q=transactivity&btnG=

Private (2)

ANMELDEN

Mein Profil Meine Bibliothek

ation for summarization of educational dialogue [PDF] psu.edu

Language Technology in ..., 2007 - isca-speech.org

using the concept of **transactivity** [1] for automatically together in a collaborative setting. Transactive posed as useful components of conversation ...

kel Alle 12 Versionen

on skills in mathematics through computer- [HTML] springer.com

ng: The role of **transactivity** [HTML] Full View

fer, K.Reiss - Instructional ..., 2016 - Springer

ed examples are effective means to scaffold umentation skills. Yet, which collaborative learning facts has remained unclear. Learners presumably will ...

kel Alle 16 Versionen Web of Science: 15

oral synchronicity and **transactivity** during CSCL [PDF] wiley.com

f Computer ..., 2017 - Wiley Online Library

ent activities (temporal synchronicity) and students easoning (**transactivity**) predict the quality of ress this question, we used a mixed-method ...

[PDF] wiley.com SULB Volltext

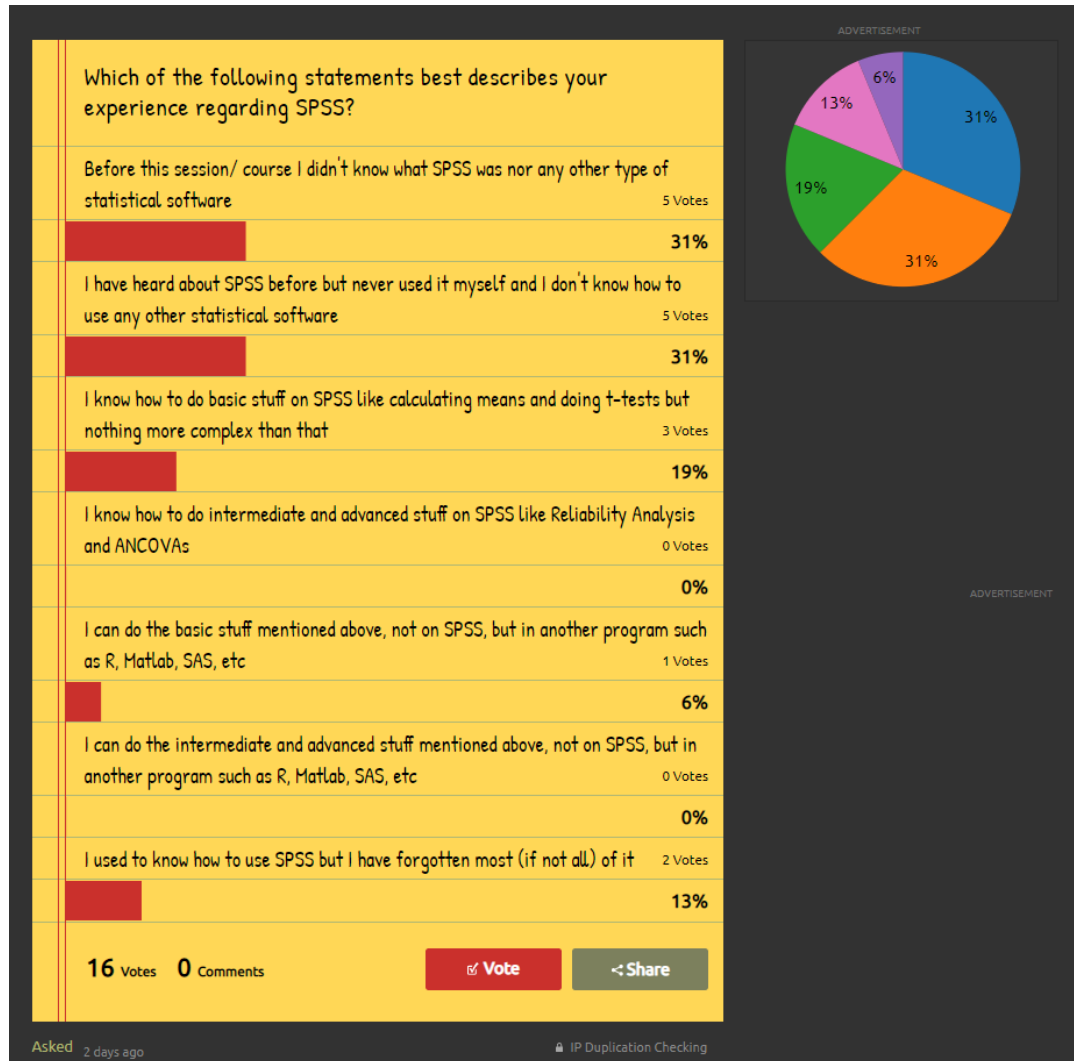
Alert erstellen [HTML] SUV39H1 interacts with AML1 and abrogates AML1 **transactivity**. AML1 is methylated in vivo [HTML] Full View

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

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 \(2006\)](#)

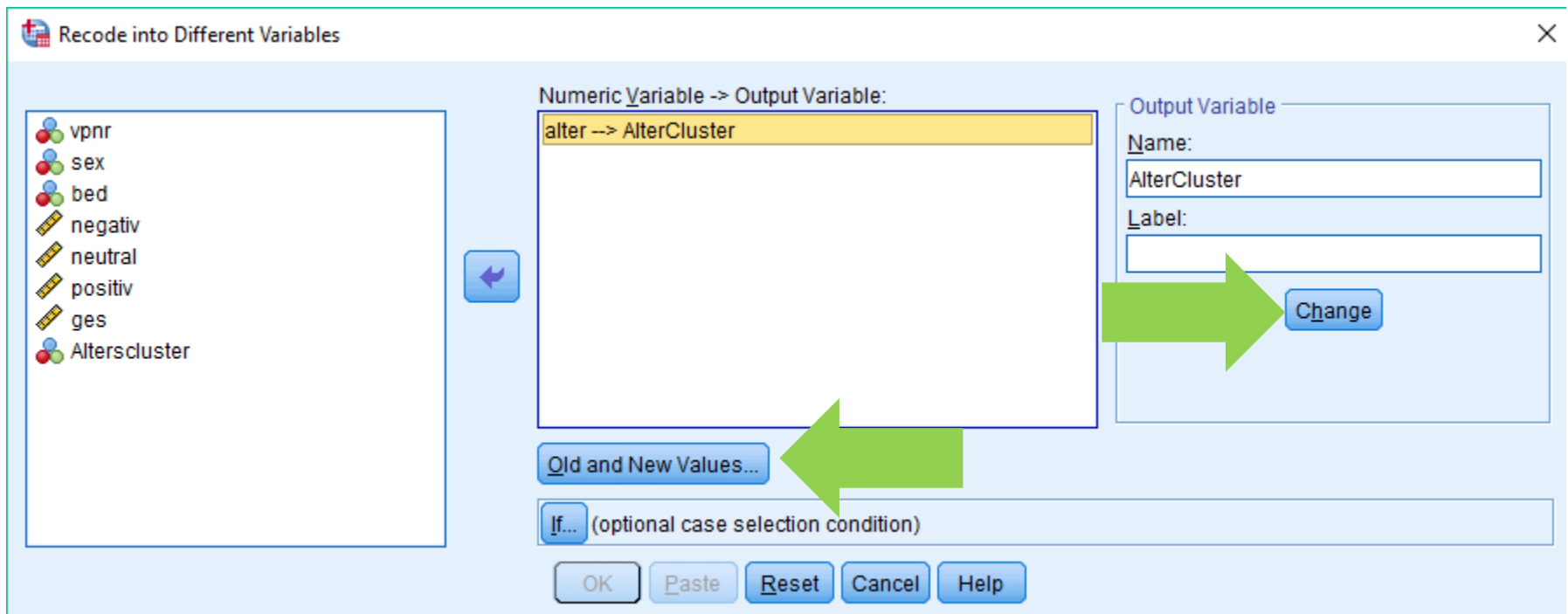
Please
download

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”

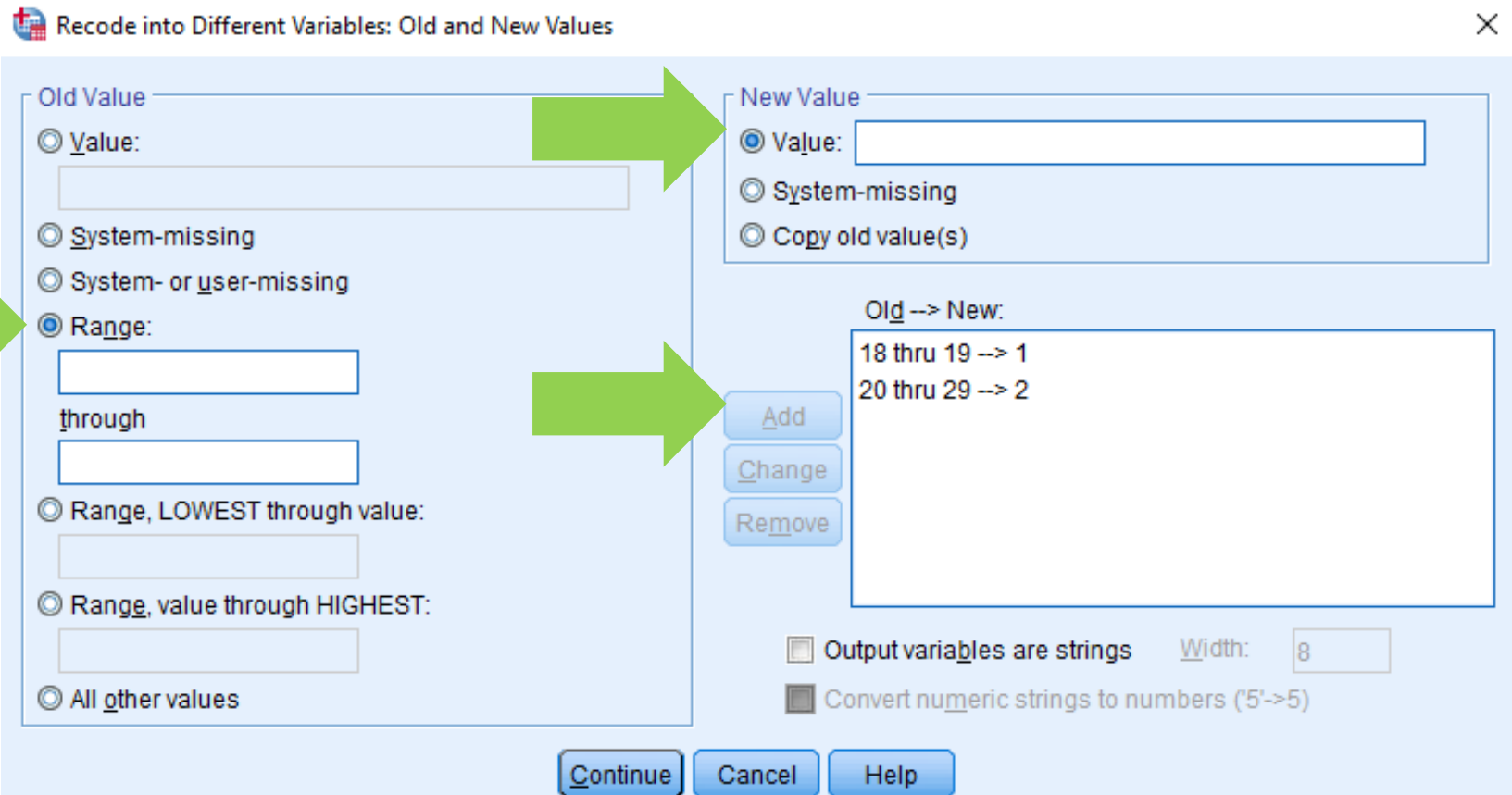
Exercise 1: Recoding

- ◇ 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



Recode into Different Variables: Old and New Values

Old Value

- Value:
- System-missing
- System- or user-missing
- Range:
through
- Range, LOWEST through value:
- Range, value through HIGHEST:
- All other values

New Value

- Value:
- System-missing
- Copy old value(s)

Old --> New:

- 18 thru 19 --> 1
- 20 thru 29 --> 2

Buttons: Add, Change, Remove



Options:
 Output variables are strings Width: 8
 Convert numeric strings to numbers ('5'->5)

Buttons: Continue, Cancel, Help

Green arrows point from the 'Range' option in the 'Old Value' section to the 'Value' option in the 'New Value' section, and from the 'Add' button to the list of recodes.

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?

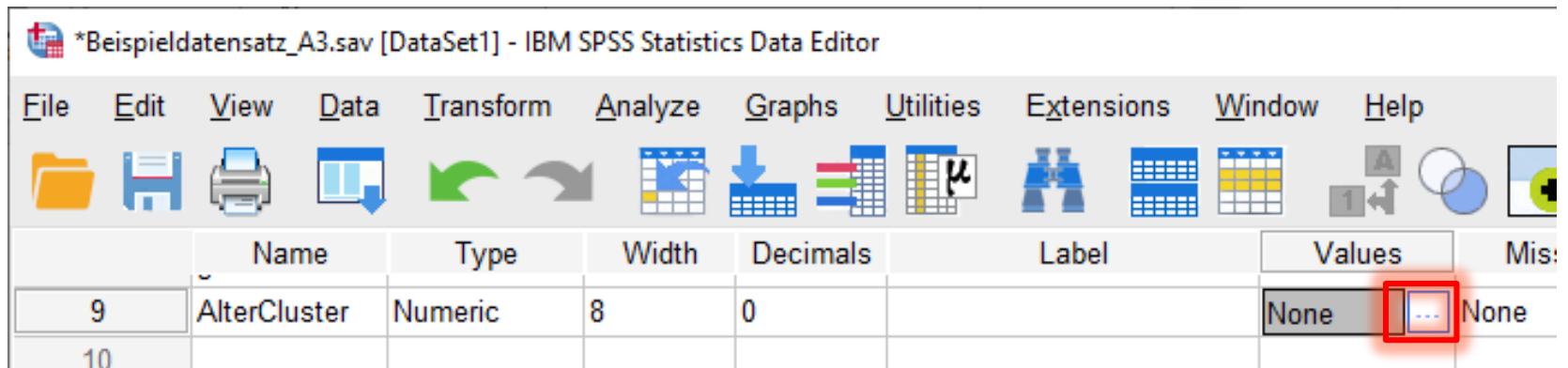
→ Go to “Variable view”

AlterCluster
1,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
2,00
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1,00
1,00
2,00
2,00
2,00
2,00
2,00
2,00
1,00
2,00
1,00
2,00

Exercise 2: Values

*Beispieldatensatz_A3.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help



The screenshot shows the IBM SPSS Statistics Data Editor interface. The menu bar includes File, Edit, View, Data, Transform, Analyze, Graphs, Utilities, Extensions, Window, and Help. Below the menu bar is a toolbar with various icons. The main window displays a data editor with the following table:

	Name	Type	Width	Decimals	Label	Values	Mis:
9	AlterCluster	Numeric	8	0		None	None
10							

A red box highlights the 'None' value in the 'Values' column for the variable 'AlterCluster'.

Exercise 2: Values

“Value labels”

Value Labels

Value: 3

Label: 30-39 years

Spelling...

Add

Change

Remove

1,00 = "up to 19 years"
2,00 = "20-29 years"

OK Cancel Help

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

*Beispieldatensatz_A3.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Visible: 9 of 9 Variables

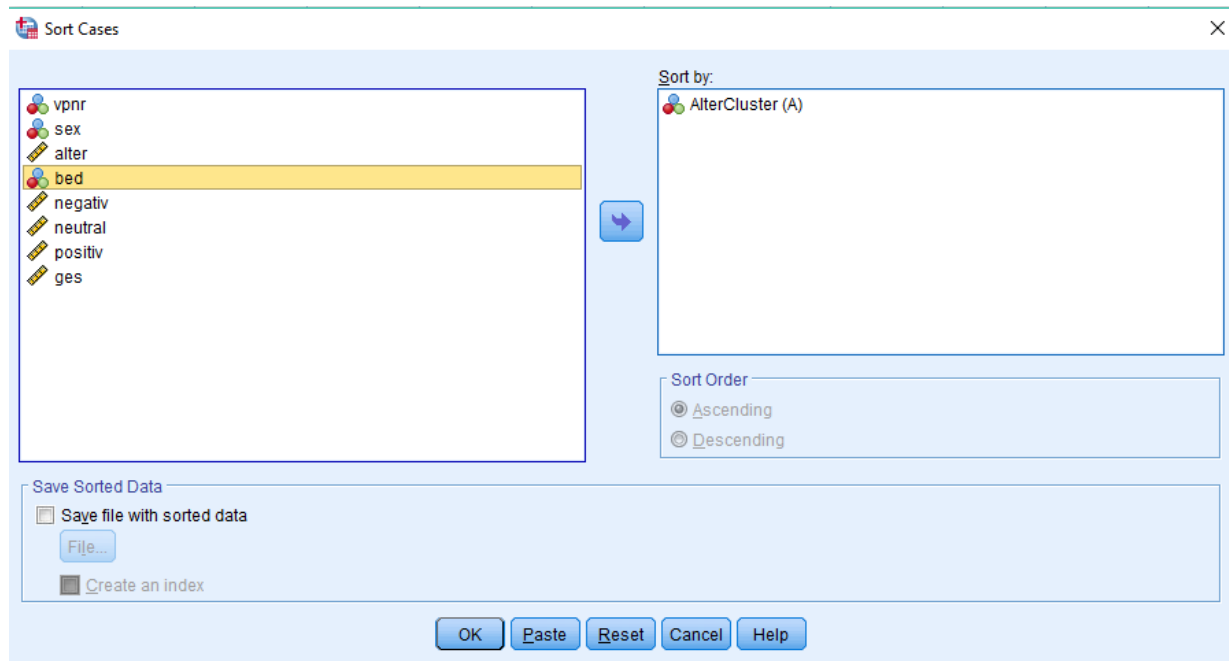
	vpnr	sex	alter	bed	negativ	neutral	positiv	ges	AlterCluster
1	2	weiblich	20	strukturell	3	3	4	10	20 to 29 years old
2	3	weiblich	21	strukturell	2	3	1	6	20 to 29 years old
3	4	weiblich	27	strukturell	3	0	3	6	20 to 29 years old
4	5	maennlich	23	strukturell	1	0	2	3	20 to 29 years old
5	6	weiblich	21	strukturell	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

Data View Variable View

IBM SPSS Statistics Processor is ready Unicode:ON

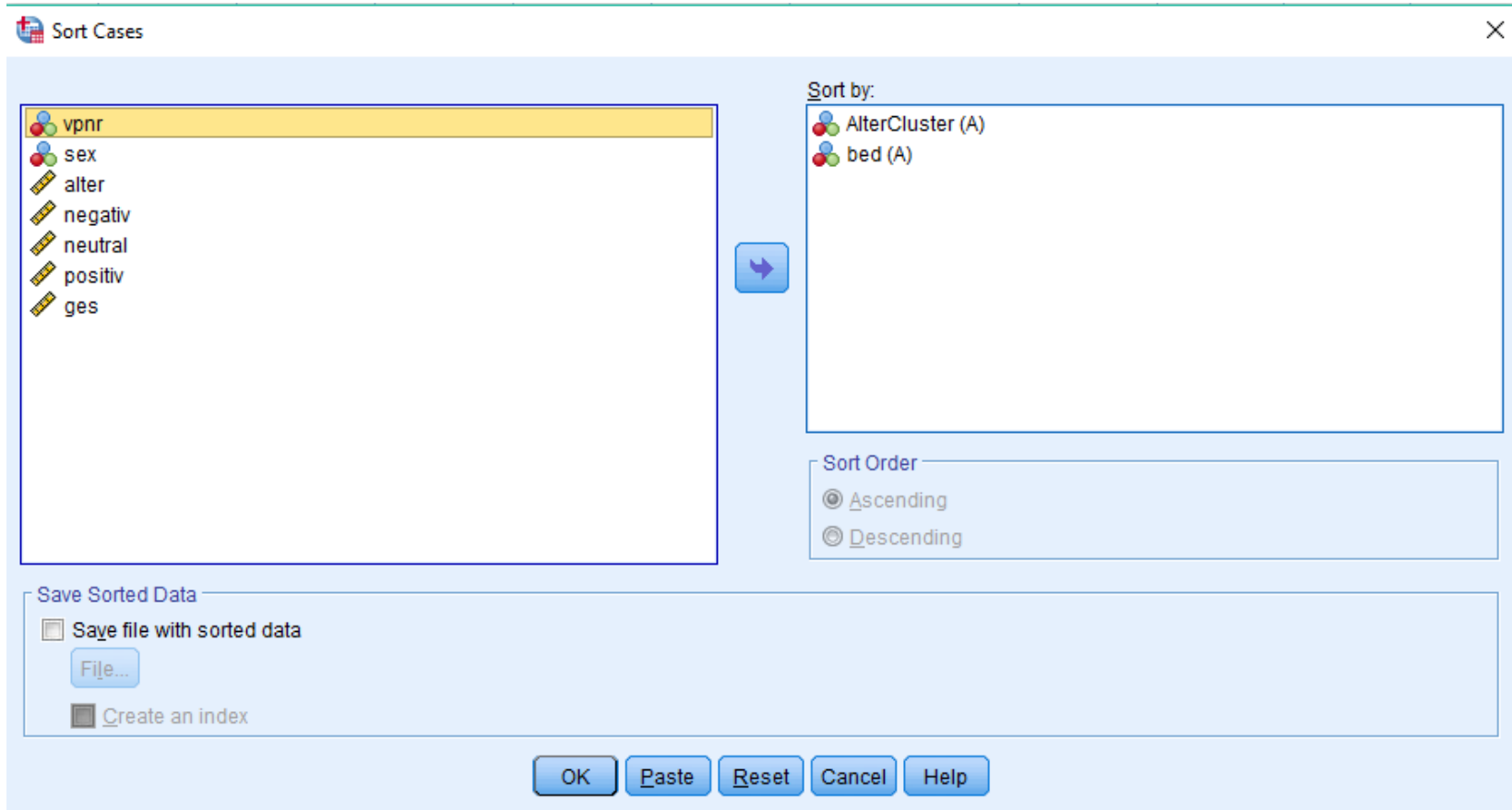
Exercise 3: Sorting

- ◇ 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!

*Beispieldatensatz_A3.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

Visible: 9 of 9 Variables

	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

Data View Variable View

IBM SPSS Statistics Processor is ready Unicode:ON

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

The screenshot shows the 'Compute Variable' dialog box in SPSS. The 'Target Variable' field contains 'pos_percent'. The 'Numeric Expression' field contains the formula 'positiv/ges*100'. On the left, a list of variables includes 'vpnr', 'sex', 'alter', 'bed', 'negativ', 'neutral', 'positiv', 'ges', and 'AlterCluster', with 'ges' highlighted. A calculator keypad is positioned in the center. On the right, the 'Function group' list includes 'All', 'Arithmetic', 'CDF & Noncentral CDF', 'Conversion', 'Current Date/Time', 'Date Arithmetic', and 'Date Creation'. At the bottom, there is an 'If...' field for optional case selection conditions and buttons for 'OK', 'Paste', 'Reset', 'Cancel', and 'Help'.

Exercise 4.1: Computing Variables

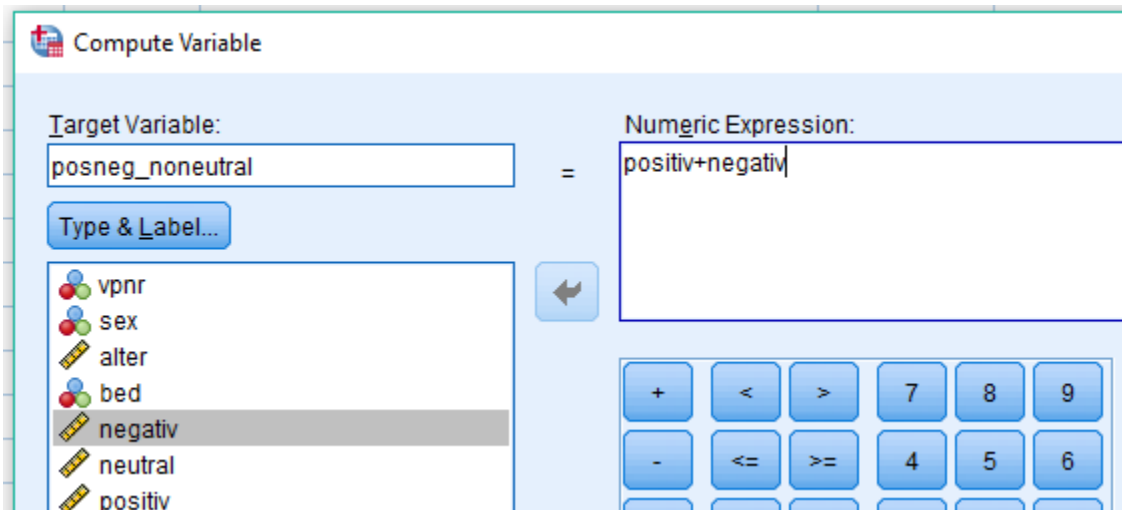
Result:

 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

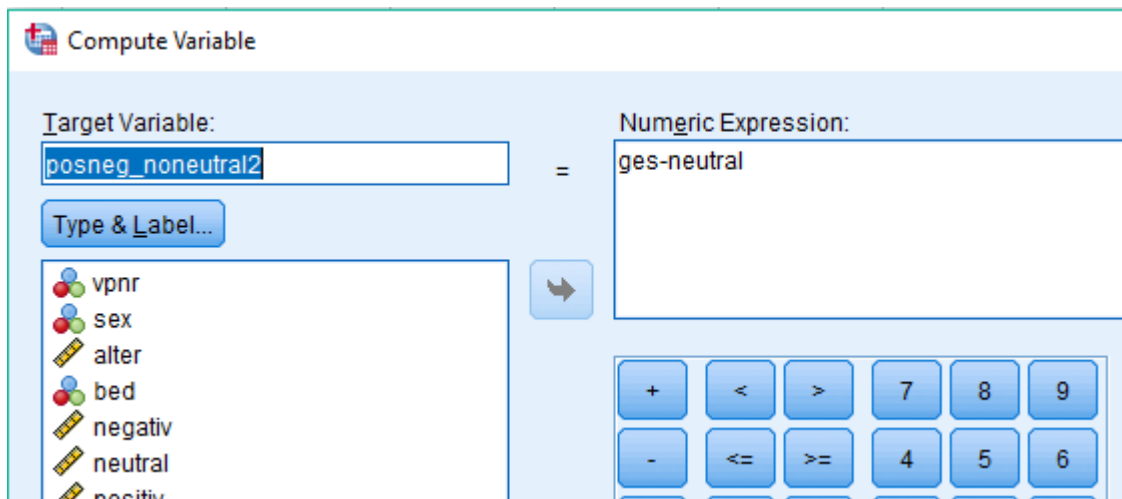
Exercise 4.1: Computing Variables

- ◇ 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