

A group of four students are sitting around a table in a library, engaged in a study session. A young man in a grey t-shirt is smiling and looking towards a young woman with glasses who is holding a document. Another young woman is looking at a laptop on the table, and a fourth student is partially visible in the foreground. The background is filled with bookshelves. The image has a semi-transparent blue overlay on the left side.

Psi Beta National Research Study

How to prepare the data file. How to analyze your data.



ACKNOWLEDGEMENTS



Psi Beta's National Research Committee

- This study was made possible and supported by Psi Beta's National Research Committee, all professors of psychology and Psi Beta advisers:
- **Heather Schoenherr** (chair & Rocky Mt. VP)
- **Liza Veliz** (Southwest VP)
- **Elizabeth Arnot-Hill** (Midwest VP)
- **Jerry Rudmann** (Psi Beta's Executive Director)

The following Individuals at Irvine Valley College's Psi Beta Chapter

- **Lidia McCarter** – Student Researcher (Lidia compiled the psychological scales used in the study)
- **Nick Wolf** – Student Researcher (Nick helped with study's design)
- **Allie Amirault** – Student Researcher (Allie narrated and helped design the experimental treatment)
- **Dr. Kari Tucker** – Professor of Psychology. Kari is a Psi Beta chapter adviser, and a nationally recognized expert on Positive Psychology and the psychological construct of Appreciation. Kari designed the study and assisted with a summer pilot test.

Access and Use of Psi Beta's National Research Study Data Files



Who can use the data? If you have a Psi Beta chapter...

All psychology teachers and their students (regardless of Psi Beta membership) are encouraged to use the data.

If the data are used for a poster or research paper, please acknowledge Psi Beta National as the data source.



Access and Use of Psi Beta's National Research Study Data Files



Do you have an active Psi Beta chapter on your campus?

If so, here is the URL: <https://psibeta.org/national-research-study-2020-2021-raw-data/>

Have your primary advisor contact Jerry Rudmann for the password: **jerryrudmann@gmail.com**

Files mentioned in this presentation can be downloaded from a password protected posting on the Psi Beta website.





Protected: National Research Study (2020-2021) Data Preparation and Analysis Suggestions

Key files to download

Please [CLICK HERE](#) to download the raw data file.

Please [CLICK HERE](#) to download the codebook.

Please [CLICK HERE](#) to download a PDF copy of the research questionnaire that participants responded to.

Please [CLICK HERE](#) to download a PDF copy of Soto & John (2017) article on Big Five Inventory (BFI-2)

The experimental treatments you can view

- Link to the Appreciation treatment video <https://www.youtube.com/watch?v=hrgRgM9InCc&feature=youtu.be>
- Link to the Neutral treatment video <https://www.youtube.com/watch?v=npZLIS1RUM8&feature=youtu.be>
- Link to the Frustration treatment video <https://www.youtube.com/watch?v=59dY-INMiW0&feature=youtu.be>

Steps needed to prepare the raw data file before you can analyze it

To prepare your data:

1. Remove any duplicate cases. [This has been done. Over 140 duplicate cases were removed.]

Study Overview...

- The study involved a questionnaire administered online.
- We used Google Forms to create the questionnaire.
- A PDF version of the entire questionnaire can be downloaded from Psi Beta's website.
- The study was mainly a correlational study, but there also was an attempt to include an experiment.
- Finally, we tried using a Google Forms "add on" called "Form Publisher." It allowed us to (automatically) email summary scores to most of our participants.
- Take a look at what participants saw - <https://forms.gle/JuaUekvroRhJBNCR8>

Psi Beta

INFORMED CONSENT - This study is to investigate the relationship between dispositional optimism and gratitude. Participants will be randomly assigned to approximately 800 participants and another 800 participants.

RISKS - There are no risks associated with this study on several characteristics.

VOLUNTARY - Participation in this study is voluntary.

RIGHT TO WITHDRAW - You may withdraw from the study at any time without penalty.

- If, however, you do not wish to participate, you may withdraw at any time.
- We have a 1% chance of receiving a summary of your scores to participate in the study.

POSSIBLE EXTENSIONS - This study is being conducted by a professor who is interested in the study. You may be contacted for a list of participants.

BENEFITS TO PARTICIPANTS -

- POSSIBLE EXTENSIONS - This study is being conducted by a professor who is interested in the study.
- EXPERIENCE - The experience of participating in an actual psychological study
- SUMMARY REPORT - So that you can receive a summary of your scores, you will be

7. To what extent do you feel fortunate RIGHT NOW?

Mark only one oval.

1 2 3 4 5 6 7

Not at all fortunate Extremely fortunate

8. How would you characterize your level of appreciation RIGHT NOW?

Mark only one oval.

1 2 3 4 5 6 7

No appreciation at all A great deal of appreciation

9. To what extent do you feel grateful RIGHT NOW?

Mark only one oval.

1 2 3 4 5 6 7

Not grateful at all Extremely grateful

10. To what extent is the following statement true of you? "I have a sense of being connected to everything."

Mark only one oval.

1 2 3 4 5 6 7

The Experimental Manipulation

13. Pick one of the number sets below. *

Mark only one oval.

Click here if the last digit of your phone number is 7, 8, or 9
Skip to section 6 (An Activity for You)

Appreciation

Click here if the last digit of your phone number is 4, 5, or 6
Skip to section 9 (An Activity for You)

Neutral

Click here if the last digit of your phone number is 0, 1, 2, or 3
Skip to section 8 (An Activity for You)

Frustration

Skip to question 17

An
Activity
for You

The following 8-minute video requires that you think about a particular area of your life. Before you click on the video, be sure the audio level adjusted. If you are in a public place, you may want to use earphones or a headset. After that, just click on the video and continue on as instructed.

Video-paced Thinking Activity - NOTE: Please do not click on the Back or Next button below until you finish this 8-minute activity. If you do, your data will not be useful. Thank you.

What is it about "S" that is so important or valuable to you? Think about the following:

- What is the most positive aspect of "S" to you?
- What do you like best about "S"?
- Do most people think about "S" as positively as you?
- Why is "S" so meaningful in your life?

Please try to think about a **person** in your life (someone you know personally) whom you appreciate, has value or importance to you, and who is positive or meaningful to you.

Take your time in thinking of someone who has this meaning to you. You will have a minute to think about and choose the person whom you appreciate.

This person will be referred to as "P" for the follow-up questions.

Ready? Begin thinking.

Think about a....PERSON, OBJECT, PLACE/LOCATION, EVENT

<https://www.youtube.com/watch?v=hrgRgM9InCc&feature=youtu.be>

The Treatment

Independent Variable

A “brief intervention” in which participants were asked to focus on ONE of the following – (between groups design)

1. Frustrating experiences
 - Object
 - Location or place
 - Person
2. Neutral experiences
 - Object
 - Location or place
 - Person
3. Appreciated experiences
 - Object
 - Location or place
 - Person

Dependent Variables

Gratitude scale
Appreciation
Awe
Happiness
Satisfaction with Life
Self-esteem
Big Five Inventory scales
Positive and Negative Affect
Etc.

The Participant's Experience...

1. Informed Consent

2. Demographics

- Sex
- Age
- Community College

3. Participant's Present State. Right now, how...

- Happy?
- Fortunate?
- Appreciative?
- Grateful?
- Connected to everything?
- Satisfied with life?
- Interested?
- Excited?
- Inspired?
- Alert?
- Distressed?
- Upset?
- Hostile?
- Irritable

4. Assigned to Treatment (Appreciation, Neutral, or Frustration)

5. Satisfaction with Life (SWL) scale

6. General Appreciation Scale (GAS) (Tucker)

7. Gratitude

8. Subjective Happiness Scale (Lyubomirsky)

9. Awe

10 Big Five 2

11. Positive Affect Negative Affect (PANAS)

12. Optimism

13. Participant's Present State. Right now, how...

- Happy?
- Fortunate?
- Appreciative?
- Grateful?
- Connected?
- Satisfied with Life?

Accessing and Preparing the Raw Data

Software needed to prepare the data file for analysis

- Excel
- JASP or SPSS

Files you'll need to download

- “Raw” data file (Excel)
- PDF of questionnaire (what the participants responded to when they participated)
- Code book – list of each variable in the data file
- The Big Five Inventory – 2 (BFI-2) (Soto & John, 2017)

Steps for Preparing & Using the National Research Study Datafile

“Raw” Data

- Composed of cases and variables
- Contains unneeded columns (i.e., variables)
- Contains sensitive information
- Duplicate cases
- Incomplete cases
- Suspicious cases
- Reverse-coded items
- Numerical variables with words

Prepare Data

- Variable removal
 - Sensitive info
 - Useless info
- Rename variables
 - Refer to PDF of questionnaire and the codebook as you rename the variables on your raw data spreadsheet
- Recode string variables to numerical variables
- Reverse code Likert items
- Delete cases
 - — Duplicates
 - Incomplete cases
 - “Test” cases and “attend another college” cases

Conduct Data Analyses

- In JASP – make sure all variables are numerical
- In JASP or SPSS - Compute scale and subscale scores
- Describe participants (compute Descriptive stats)
- Run statistical tests to evaluate your hypotheses

Raw Data Spreadsheet (Excel)

Microsoft Excel interface showing a spreadsheet with columns A through T. The spreadsheet contains data for 36 rows, including timestamps, email addresses, consent status, gender, college names, and various numerical ratings. The spreadsheet is titled 'SPSS_dups_removed_2_15_2021'.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
1	Timestamp	EmailAdd	Ifyouacknowledgethatyou	Yourassignedsex	Whatisyc	Communitycolley	Towhatex	Towhatex	Howwoul	Towhatex	Towhatex	Towhatex	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	
2	7-Oct-20	erinchane	YES, I give my consent	Female	44	College of Western	5	6	6	6	6	6	5	4	4	5	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
3	7-Oct-20		YES, I give my consent	Female	21	College of Western	5	6	4	4	3	6	2	3	2	3	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
4	8-Oct-20		YES, I give my consent	Female	28	College of Western	4	7	6	7	4	5	3	4	3	3	1 Not at al	2	1 Not at al	5	
5	8-Oct-20		YES, I give my consent	Female	17	College of Western	5	4	3	3	6	3	5	5	5	3	1 Not at al	1 Not at al	2	2	
6	8-Oct-20		YES, I give my consent	Male	28	College of Western	4	4	3	4	4	4					1 Not at al	this way			
7	8-Oct-20		YES, I give my consent	Male	31	College of Western	6	6	5	6	3	4	5	6	5	3	3	1 Not at al	1 Not at al	1 Not at al	
8	9-Oct-20		YES, I give my consent	Male	37	College of Western	3	7	4	5	4	4	5	2	3	3	4	1 Not at al	1 Not at al	5	
9	9-Oct-20		YES, I give my consent	Male	24	College of Western	4	5	5	6	6	5	6	3	4	5	3	2	1 Not at al	2	
10	9-Oct-20		YES, I give my consent	Male	24	College of Western	5	5	6	7	5	3	5	6	3	2	5	7 Very mu	4	4	
11	10-Oct-20		YES, I give my consent	Female	24	College of Western	7	7	7	7	7	6	5	5	7 Very mu	5	2	1 Not at al	1 Not at al	1 Not at al	
12	11-Oct-20		YES, I give my consent	Female	21	College of Western	4	3	3	3	3	5	4	2	5	6	7 Very mu	7 Very mu	1 Not at al	5	
13	12-Oct-20		YES, I give my consent	Female	28	College of Western	5	6	6	6	4	1	5	3	6	7 Very mu	5	3	1 Not at al	3	
14	12-Oct-20		YES, I give my consent	Female	41	College of Western	4	7	5	7	4	6	2	2	3	2	5	5	1 Not at al	6	
15	12-Oct-20		YES, I give my consent	Male	21	College of Western	2	2	2	2	2	2	4	4	4	4	4	4	4	4	
16	12-Oct-20		YES, I give my consent	Female	31	College of Western	5	6	6	6	4	6	6	5	5	4	1 Not at al	2	1 Not at al	2	
17	12-Oct-20		YES, I give my consent	Female	37	College of Western	5	6	6	5	4	4	5	5	5	5	4	1 Not at al	1 Not at al	2	
18	13-Oct-20		YES, I give my consent	Female	29	College of Western	5	7	6	6	5	5	4	2	3	3	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
19	13-Oct-20		YES, I give my consent	Female	30	College of Western	5	7	7	7	5	7	5	4	4	3	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
20	13-Oct-20		YES, I give my consent	Female	19	College of Western	4	7	5	6	4	5	4	4	3	5	4	1 Not at al	1 Not at al	5	
21	13-Oct-20		YES, I give my consent	Female	18	College of Western	5	6	7	7	5	5	6	6	6	5	5	1 Not at al	1 Not at al	2	
22	13-Oct-20		YES, I give my consent	Female	31	College of Western	4	5	5	5	4	4	5	2	3	5	5	4	2	6	
23	13-Oct-20		YES, I give my consent	Female	20	College of Western	4	6	6	5	4	6	4	4	5	3	3	6	2	4	
24	13-Oct-20		YES, I give my consent	Female	18	College of Western	4	6	6	6	4	6	3	4	5	2	6	2	2	1 Not at al	
25	13-Oct-20		YES, I give my consent	Female	32	College of Western	5	6	4	4	3	5	5	4	4	3	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
26	14-Oct-20		YES, I give my consent	Female	20	College of Western	6	7	7	7	4	7	3	3	3	4	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
27	14-Oct-20		YES, I give my consent	Female	32	College of Western	5	6	6	6	6	5	3	3	5	5	3	2	2	2	
28	14-Oct-20		YES, I give my consent	Male	20	College of Western	5	7	6	7	#NULL!	6	5	6	5	5	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
29	14-Oct-20		YES, I give my consent	Male	18	College of Western	6	7	7	7	5	7	7 Very mu	7 Very mu	7 Very mu	6	2	1 Not at al	1 Not at al	1 Not at al	
30	15-Oct-20		YES, I give my consent	Female	20	College of Western	3	6	6	6	4	2	2	2	1 Not at al	4	5	6	1 Not at al	5	
31	15-Oct-20		YES, I give my consent	Female	23	College of Western	5	5	6	7	5	5	6	4	5	6	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
32	15-Oct-20		YES, I give my consent	Would rather not say	18	College of Western	4	6	5	5	5	5	3	2	5	4	2	2	1 No	al	3
33	16-Oct-20		YES, I give my consent	Female	36	College of Western	5	5	5	6	4	5	5	5	5	1 Not at al	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
34	16-Oct-20		YES, I give my consent	Female	18	College of Western	1	4	3	4	7	1	4	4	4	5	7 Very mu	7 Very mu	3	2	
35	16-Oct-20		YES, I give my consent	Female	21	College of Western	5	7	7	7	5	4	6	4	4	6	7 Very mu	4	4	4	
36	17-Oct-20		YES, I give my consent	Female	24	College of Western	5	7	7	7	6	5	6	6	6	7 Very mu	4	2	1 Not at al	2	

Raw Data Spreadsheet (Excel)

Microsoft Excel interface showing a spreadsheet with columns A through T. The spreadsheet contains survey data including timestamps, email addresses, consent status, gender, college names, and various Likert scale responses. The spreadsheet is titled 'SPSS_dups_removed_2_15_2021'.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
1	Timestamp	EmailAdd	Ifyouacknowledgethatyou	Yourassignedsex	Whatisyc	Communitycollege	Towhatex	Towhatex	Howwoul	Towhatex	Towhatex	Towhatex	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	Pleaseind	
2	7-Oct-20	erinchane	YES, I give my consent	Female	44	College of Western	5	6	6	6	6	6	5	4	4	5	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
3	7-Oct-20		YES, I give my consent	Female	21	College of Western	5	6	4	4	3	6	2	3	2	3	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
4	8-Oct-20		YES, I give my consent	Female	28	College of Western	4	7	6	7	4	5	3	4	3	3	1 Not at al	2	1 Not at al	5	
5	8-Oct-20		YES, I give my consent	Female	17	College of Western	5	4	3	3	6	3	5	5	5	3	1 Not at al	1 Not at al	2	2	
6	8-Oct-20		YES, I give my consent	Male	28	College of Western	4	4	3	4	4	4	4	5	5	3	1 Not at al	all this way			
7	8-Oct-20		YES, I give my consent	Male	31	College of Western	6	6	5	6	3	4	5	6	5	3	3	1 Not at al	1 Not at al	1 Not at al	
8	9-Oct-20		YES, I give my consent	Male	37	College of Western	3	7	4	5	4	4	5	2	3	3	4	1 Not at al	1 Not at al	5	
9	9-Oct-20		YES, I give my consent	Male	24	College of Western	4	5	5	6	6	5	6	3	4	5	3	2	1 Not at al	2	
10	9-Oct-20		YES, I give my consent	Male	24	College of Western	5	5	6	7	5	3	5	6	3	2	5	7 Very mu	4	4	
11	10-Oct-20		YES, I give my consent	Female	24	College of Western	7	7	7	7	7	6	5	5	7 Very mu	5	2	1 Not at al	1 Not at al	1 Not at al	
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15	12-Oct-20		YES, I give my consent	Male	21	College of Western	2	2	2	2	2	2	4	4	4	4	4	4	4	4	
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23	13-Oct-20		YES, I give my consent	Female	20	College of Western	4	6	6	5	4	6	4	4	5	3	3	6	2	4	
24	13-Oct-20		YES, I give my consent	Female	18	College of Western	4	6	6	6	4	6	3	4	5	2	6	2	2	1 Not at al	
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27	14-Oct-20		YES, I give my consent	Female	32	College of Western	5	6	6	6	6	5	3	3	5	5	3	2	2	2	
28	14-Oct-20		YES, I give my consent	Male	20	College of Western	5	7	6	7	#NULL!	6	5	6	5	5	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
29	14-Oct-20		YES, I give my consent	Male	18	College of Western	6	7	7	7	5	7	7	7 Very mu	7 Very mu	7 Very mu	6	2	1 Not at al	1 Not at al	1 Not at al
30	15-Oct-20		YES, I give my consent	Female	20	College of Western	3	6	6	6	4	2	2	2	1 Not at al	4	5	6	1 Not at al	5	
31	15-Oct-20		YES, I give my consent	Female	23	College of Western	5	5	6	7	5	5	6	4	5	6	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
32	15-Oct-20		YES, I give my consent	Would rather not say	18	College of Western	4	6	5	5	5	5	3	2	5	4	2	2	1 No	3	
33	16-Oct-20		YES, I give my consent	Female	36	College of Western	5	5	5	6	4	5	5	5	5	1 Not at al	1 Not at al	1 Not at al	1 Not at al	1 Not at al	
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35	16-Oct-20		YES, I give my consent	Female	21	College of Western	5	7	7	7	5	4	6	4	4	6	7 Very mu	4	4	4	
36	17-Oct-20		YES, I give my consent	Female	24	College of Western	5	7	7	7	6	5	6	6	6	7 Very mu	4	2	1 Not at al	2	

The Codebook

	A	B	C	D	E	F	G
1	Reverse Coded	Variable	Description of Variable	Response range			
2		Informed Consent					
3		Sex					
4		Age					
5		College of participant					
6		Q1	Happy right now	Likert 1 - 7			
7		Q2	Fortunate right now	Likert 1 - 7			
8		Q3	Appreciative right now	Likert 1 - 7			
9		Q4	Grateful right now	Likert 1 - 7			
10		Q5	Connect right now	Likert 1 - 7			
11		Q6	Satisfied with life right now	Likert 1 - 7			
12		Q7	Interested	Likert 1 - 7			
13		Q8	Excited	Likert 1 - 7			
14		Q9	Inspired	Likert 1 - 7			
15		Q10	Alert	Likert 1 - 7			
16		Q11	Distressed	Likert 1 - 7			
17		Q12	Upset	Likert 1 - 7			
18		Q13	Hostile	Likert 1 - 7			
19		Q14	Irritable	Likert 1 - 7			
20		GROUP (treatment)	Treatment Group	1 - Frustration	2 - Neutral	3 - Appreciation	
21		Object	Object I thought about				
22		Location	Place or location I thought about				
23		Event	Event I thought about				
24		Q15	Satisfaction with Life	Likert 1 - 7			
25		Q16	Satisfaction with Life	Likert 1 - 7			
26		Q17	Satisfaction with Life	Likert 1 - 7			
27		Q18	Satisfaction with Life	Likert 1 - 7			
28		Q19	Satisfaction with Life	Likert 1 - 7			
29		Q20	General Appreciation Scale	Likert 1 - 7			
30		Q21	General Appreciation Scale	Likert 1 - 7			
31		Q22	General Appreciation Scale	Likert 1 - 7			
32		Q23	General Appreciation Scale	Likert 1 - 7			
33		Q24	General Appreciation Scale	Likert 1 - 7			
34		Q25	Self-esteem				
35	R	Q26	Self-esteem				

The Codebook

	A	B	C	D
1	Reverse Coded	Variable	Description of Variable	Response range
47		Q38	Gratitude	
48		Q39	Gratitude	
49	R	Q40	Gratitude	
50		Q41	Subjective Happiness Scale	
51		Q42	Subjective Happiness Scale	
52		Q43	Subjective Happiness Scale	
53	R	Q44	Subjective Happiness Scale	
54		Q45	Awe	
55		Q46	Awe	
56		Q47	Awe	
57		Q48	Awe	
58		Q49	Awe	
59		Q50	Awe	
60		Q51	Awe-Connectedness	
61		Q52	Awe-Connectedness	
62		Q53	Awe-Connectedness	
63		Q54	Awe-Connectedness	
64		Q55	Awe-Connectedness	
65		Q56	Awe-Connectedness	
66		Q57	Awe-Connectedness	

	A	B	C
1	Reverse Coded	Variable	Description of Variable
55		Q56	Awe-Connectedness
56		Q57	Awe-Connectedness
57		Q58	Awe-Connectedness
58		Q59	Awe-Connectedness
59		Q60	Awe-Connectedness
70		B1	Big 5 Personality
71		B2	Big 5 Personality
72	R	B3	Big 5 Personality
73		B4	Big 5 Personality
74	R	B5	Big 5 Personality
75		B6	Big 5 Personality
76		B7	Big 5 Personality
77	R	B8	Big 5 Personality
78		B9	Big 5 Personality
79		B10	Big 5 Personality
80	R	B11	Big 5 Personality
81	R	B12	Big 5 Personality
82		B13	Big 5 Personality
83	R	B14	Big 5 Personality
84		B15	Big 5 Personality

Q1 to Q60
B1 to B60
Q121 to Q156

A. Rename each variable to match the codebook

B. Remove all duplicate cases – sort by email address and removed cases having same email (This has been done)

C. Recode string variables to numerical variables - Use Excel's "find and replace" feature to change words to numbers

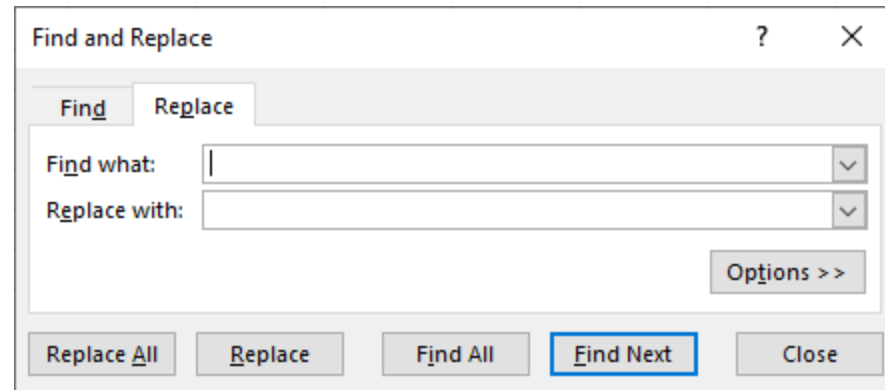
D. Remove cases with too much missing data - Use eyeball or use Excel's "Countblank" formula to count number of blank cells per participant

Rename your variables...

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
1	Timestamp	Email Address	CONSENT	SEX	AGE	COLLEGE	Q1	Q2	Q3	Q4	Q5										
2	10/7/2020 19:40:00		YES, I give my consent	Female	44	College of Western Idaho		5	6	6	6	6	4	4	5	1	Not at all	1	Not at all	1	Not at all
3	10/7/2020 20:03:31		YES, I give my consent	Female	21	College of Western Idaho		5	6	6	6	6	4	4	5	1	Not at all	1	Not at all	1	Not at all
4	10/8/2020 1:37:19		YES, I give my consent	Female	28	College of Western Idaho		4	6	7	6	6	3	2	3	1	Not at all	1	Not at all	1	Not at all
5	10/8/2020 17:20:41		YES, I give my consent	Female	17	College of Western Idaho		5	6	4	3	3	4	3	3	1	Not at all	2	1	Not at all	5
6	10/8/2020 21:22:42		YES, I give my consent	Male	31	College of Western Idaho		6	6	6	5	6	6	5	6	1	Not at all	1	Not at all	1	Not at all
7	10/9/2020 2:46:07		YES, I give my consent	Male	37	College of Western Idaho		3	7	7	4	5	6	5	6	1	Not at all	1	Not at all	1	Not at all
8	10/9/2020 6:12:41		YES, I give my consent	Male	24	College of Western Idaho		4	5	6	5	6	6	5	6	1	Not at all	1	Not at all	1	Not at all
9	10/9/2020 23:27:48		YES, I give my consent	Male	24	College of Western Idaho		5	6	6	5	6	6	6	6	1	Not at all	1	Not at all	1	Not at all
10	10/10/2020 17:32:48		YES, I give my consent	Female	24	College of Western Idaho		7	7	7	7	7	6	7	7	1	Not at all	1	Not at all	1	Not at all
11	10/11/2020 10:25:41		YES, I give my consent	Female	21	College of Western Idaho		4	3	3	3	3	6	6	6	1	Not at all	1	Not at all	1	Not at all
12	10/12/2020 4:29:15		YES, I give my consent	Female	28	College of Western Idaho		5	6	6	6	6	6	6	6	1	Not at all	1	Not at all	1	Not at all
13	10/12/2020 15:30:36		YES, I give my consent	Female	41	College of Western Idaho		4	7	7	5	7	6	7	7	1	Not at all	1	Not at all	1	Not at all
14	10/12/2020 18:32:32		YES, I give my consent	Male	21	College of Western Idaho		2	2	2	2	2	6	6	6	1	Not at all	1	Not at all	1	Not at all
15	10/12/2020 22:56:59		YES, I give my consent	Female	31	College of Western Idaho		5	6	6	6	6	6	6	6	1	Not at all	1	Not at all	1	Not at all

Remove all words from your numerical variables

Use Excel's Find and Replace dialog box



Step-by-step for replacing words with numbers

The screenshot shows the Microsoft Excel interface with a spreadsheet. A 'Find and Replace' dialog box is open, showing the 'Replace' tab. The 'Find what' field contains '1 Not at all this way' and the 'Replace with' field contains '1'. The 'Replace All' button is highlighted with a red box, and a red arrow points to it from the right. The spreadsheet data includes columns L through X and rows 1 through 6. The status bar at the bottom indicates 'Count: 2' and the date '2/16/2021'.

This is a close-up of the 'Find and Replace' dialog box. The 'Replace' tab is selected. The 'Find what' field contains '1 Not at all this way' and the 'Replace with' field contains '1'. The 'Replace All' button is highlighted with a red box, and a red arrow points to it from the bottom. Other buttons visible include 'Find Next', 'Find All', 'Replace', and 'Close'.

Reverse code your variables

Reverse Coding – Step by Step

- Q37 states “When I look at the world, I don’t have much to be grateful for.”
- The codebook indicates that item **Q37** needs to be reverse coded.



	A	B	C
31		Q22	General Appreciation Scale
32		Q23	General Appreciation Scale
33		Q24	General Appreciation Scale
34		Q25	Self-esteem
35	R	Q26	Self-esteem
36		Q27	Self-esteem
37		Q28	Self-esteem
38	R	Q29	Self-esteem
39	R	Q30	Self-esteem
40		Q31	Self-esteem
41	R	Q32	Self-esteem
42	R	Q33	Self-esteem
43		Q34	Self-esteem
44		Q35	Gratitude
45		Q36	Gratitude
46	R	Q37	Gratitude
47		Q38	Gratitude
48		Q39	Gratitude
49	R	Q40	Gratitude
50		Q41	Subjective Happiness Scale
51		Q42	Subjective Happiness Scale
52		Q43	Subjective Happiness Scale
53	R	Q44	Subjective Happiness Scale
54		Q45	Awe

Reverse Coded Variable - example

This item needs to be reverse coded.

Q35 – I have so much in life to be thankful for.

- 1 (Strongly Disagree)
- 2
- 3
- 4
- 5
- 6
- 7 (Strongly Agree)

Q37 – When I look at the world, I don't see much to be grateful for.

- 1 (Strongly Disagree)
- 2
- 3
- 4
- 5
- 6
- 7 (Strongly Agree)

Reverse Coding

Original

- 1 (Strongly Disagree)
- 2
- 3
- 4
- 5
- 6
- 7 (Strongly Agree)

Original to Reverse Coded

- 1 = 7
- 2 = 6
- 3 = 5
- 4 = 4
- 5 = 3
- 6 = 2
- 7 = 1

Reverse Coding – A Step-By-Step Example to reverse-code Q37 all others

- Find column Q307 on the data Excel sheet
- Add a blank column to the very right of the Q37 column
- Change the label of the original Q37 column to Q37B (for “Q37 Before”)
- Label the new column Q37
- Place the cursor in the first cell of column Q37 (row 2).
- Enter this formula `=8-AU2` and press the enter key. You should see reverse code of the original number (i.e., 1 is now 7). AU is the column, 2 is the cell row. Note that when you drag down to the rows below, Excel automatically changes your formula (e.g., “`=8-AU2`” changes to “`=8-AU3`” in the next cell down, and so on).
- Now place your cursor on the bottom right corner of column AV cell 1 and pull the cursor down to the last row in the data set. This procedure recodes the values in Q37B and puts them in Q37.
- Repeat this procedure for all variables in the codebook that need recoding. If you see an R in the first column of the codebook, the adjacent variable needs to be recorded.

AT	AU	AV	AW	Q39
	Q37B	Q37	Q38	
7	1	=8-AU2	7	
6	2		7	
5	1		6	
3	3		5	
5	5		6	
7	2		5	
7	2		4	
6	2		2	

AT	AU	AV	AW
5	Q37B	Q37	Q38
7	1	7	
6	2	6	
5	1	7	
3	3	5	
5	5	3	
7	2	6	
7	2	6	
6	2	6	
7	1	7	
5	2	6	
6	3		
7	1		
7	1		
3	5		
7	1		

NOTE: Do NOT delete the Q37B column. Leave it be.

Remove bad cases

- Cases with too much missing data (i.e., blank cells)
- Cases from unknown college

Finding Cases With Missing Data

- Use Excel's "CountBlank" formula

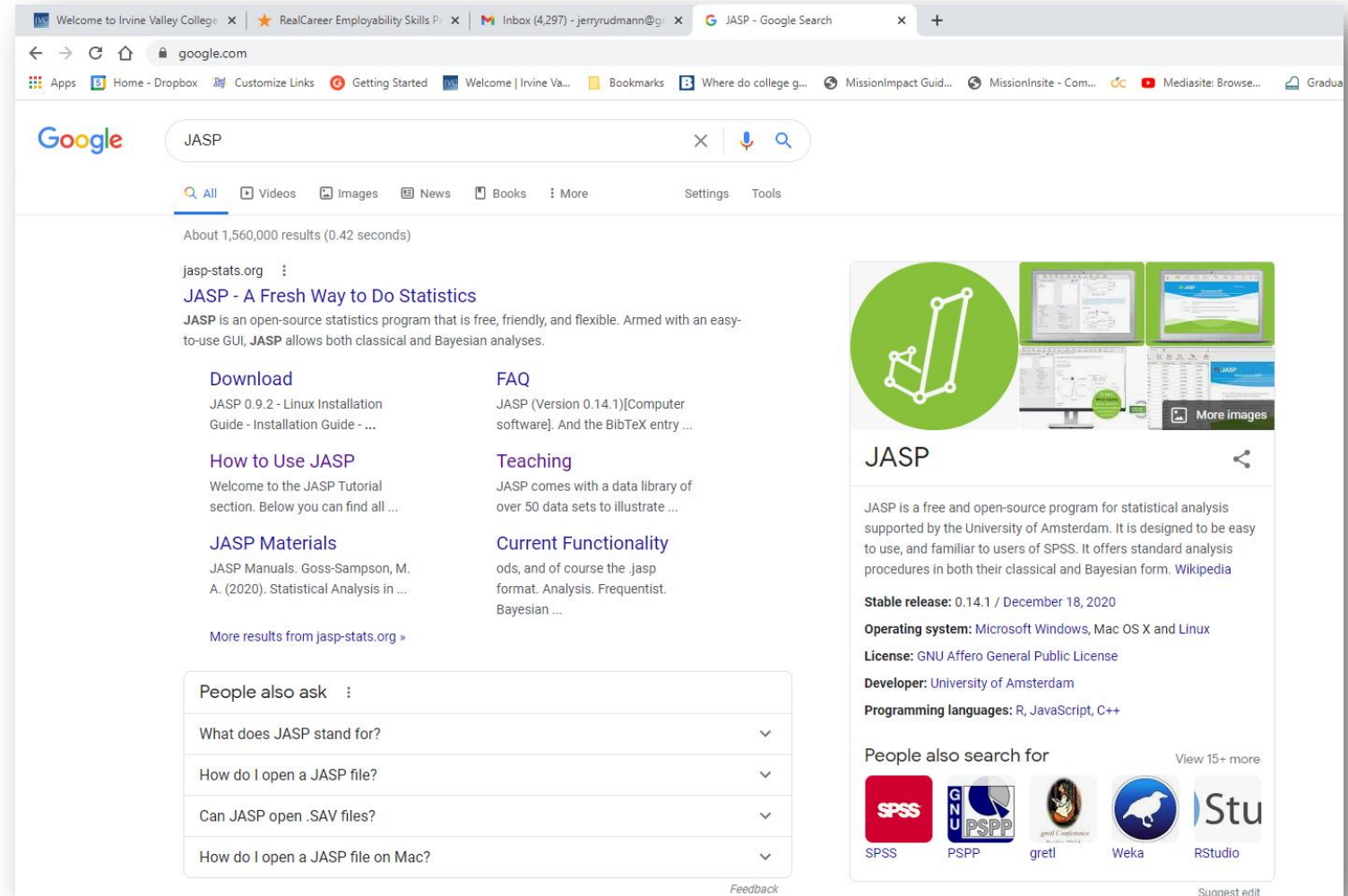
	GW	GX	GY	GZ
	Q154	Q155	Q156	CountBlanks
5	5	5	5	3
7	7	7	6	6
5	6	6	5	5
7	7	7	5	1
5	5	5	4	4
4	4	4	4	4
6	6	6	5	6
6	7	7	4	3
3	6	6	4	6
5	5	5	2	6
4	3	3	3	5
5	5	5	4	4
7	7	7	6	4
5	5	5	4	4
5	5	5	4	4
1	2	2	4	1
5	5	5	3	6
5	5	5	5	4
6	7	7	3	5
5	5	5	4	4

	GZ
	CountBlanks
3	=COUNTBLANK(G2:GY2)
6	0
5	0
1	0
4	0
4	0

After finding cases with blanks, delete cases with too much missing data – 1,243 cases

Using JASP

- Download JASP at jasp-stats.org
- Save your Excel file as a CSV file
- Start JASP and open the CSV file
- In JASP
 - Convert all variables to “scale”
 - Use JASP to compute all new variables (e.g., scale scores or BFI subscale scores)
 - Use JASP for analyzing your datafile



JASP's Opening Screen

The screenshot shows the JASP software interface. On the left is a data table with columns for Timestamp, Email Address, CONSENT, and SEX. On the right is a welcome screen with the JASP logo, version number (0.9.2), and a list of features: Free, Friendly, and Flexible. The interface includes a menu bar (File, Common) and a toolbar with icons for Descriptives, T-Tests, ANOVA, Regression, Frequencies, and Factor.

	Timestamp	Email Address	CONSENT	SEX
50	1/22/2021 19:30:00		YES, I give my consent	Female
51	1/24/2021 15:38:32		YES, I give my consent	Male
52	1/22/2021 19:54:10		YES, I give my consent	Female
53	1/27/2021 8:22:17		YES, I give my consent	Female
54	1/20/2021 0:31:08		YES, I give my consent	Female
55	1/26/2021 23:25:33		YES, I give my consent	Female
56	1/20/2021 23:34:59		YES, I give my consent	Female
57	1/20/2021 3:43:24		YES, I give my consent	Female
58	1/22/2021 19:26:54		YES, I give my consent	Female
59	1/19/2021 17:21:35		YES, I give my consent	Female
60	1/29/2021 1:24:28		YES, I give my consent	Female
61	1/23/2021 18:02:04		YES, I give my consent	Female
62	1/22/2021 16:57:42		YES, I give my consent	Male
63	1/22/2021 21:13:20		YES, I give my consent	Female
64	1/22/2021 16:26:20		YES, I give my consent	Female
65	2/1/2021 20:40:41		YES, I give my consent	Female
66	1/21/2021 20:18:47		YES, I give my consent	Female
67	1/22/2021 22:57:43		YES, I give my consent	Female
68	1/30/2021 16:41:24		YES, I give my consent	Female
69	1/30/2021 20:25:37		YES, I give my consent	Female
70	1/26/2021 3:53:02		YES, I give my consent	Male
71	1/23/2021 0:40:50		YES, I give my consent	Female
72	12/12/2020 6:14:53		YES, I give my consent	Female
73	12/9/2020 5:20:55		YES, I give my consent	Female
74	12/2/2020 14:00:56		YES, I give my consent	Male
75	12/8/2020 6:38:14		YES, I give my consent	Female
76	12/8/2020 18:30:00		YES, I give my consent	Female
77	12/1/2020 4:30:05		YES, I give my consent	Male
78	12/10/2020 19:04:33		YES, I give my consent	Male
79	12/2/2020 20:38:29		YES, I give my consent	Female

Version 0.9.2

Welcome to JASP




A Fresh Way to Do Statistics: Free, Friendly, and Flexible




- **Free:** JASP is an open-source project with structural support from the University of Amsterdam.
- **Friendly:** JASP has an intuitive interface that was designed with the user in mind.
- **Flexible:** JASP offers standard analysis procedures in both their classical and Bayesian manifestations.





So open a data file and take JASP for a spin!

Please keep in mind that this is a preview release and a number of features are still missing.
If JASP doesn't do all you want today, then check back tomorrow: JASP is being developed at break-neck speed!

Change all numerical variables

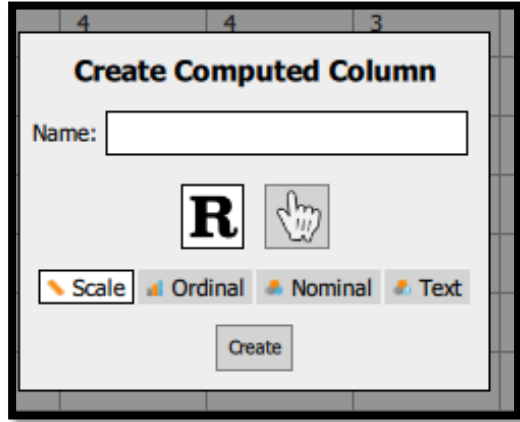
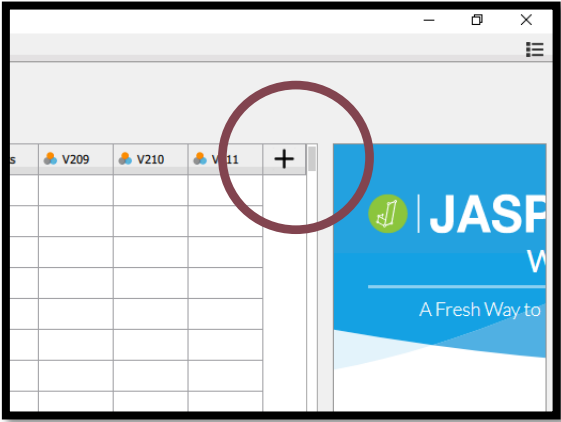
Compute column								
 Q1	 Q2	 Q3	 Q4	 Q5	 Q6	 Q7	 Q8	
4	6	5	5	5	5	4	3	
5	6	7	7	6	5	4	5	
4	5	6	5	4	3	2	3	
5	4	6	6	4	6	3	5	
3	3	4	4	4	2	5	5	
5	7	6	6	4	5	6	5	
2	4	6	5	4	5	2	4	
6	6	7	6	3	5	7	7	
4	7	7	7	1	4	6	3	

 Scale	5
 Ordinal	7
 Nominal	6

Compute column				
 Q1	 Q2	 Q3	 Q4	
4	6	5	5	
5	6	7	7	
4	5	6	5	
5	4	6	6	
3	3	4	4	


To Create New Variables in JASP (for example the SHS)

	A	B	C	
163		Q154	Post Grateful right now	
164		Q155	Post Connected right now	
165		Q156	Post Satisfied with Life right now	
166	Computed Variables		<i>Below are formulas for computing each scale or sub-scale</i>	NO BEF sub
167		Pre_Positive	$(Q1+Q2+Q3+Q4+Q5+Q6)/6$	
168		Pre_Pos_Affect	$(Q7+Q8+Q9+Q10)/4$	
169		Pre_Neg_Affect	$(Q11+Q12+Q13+Q14)/4$	
170		Satisfaction with Life (SWL)	$(Q15+Q16+Q17+Q18+Q19)/5$	
171		General Appreciation Scale (GAS)	$(Q20+Q21+Q22+Q23+Q24)/5$	
172		Self-Esteem	$(Q25+Q26+Q27+Q28+Q29+Q30+Q31+Q32+Q33+Q34)/10$	
173		Gratefulness	$(Q35+Q36+Q37+Q38+Q39+Q40)/6$	
174		Subjective Happiness Scale	$(Q41+Q42+Q43+Q44)/4$	
175		AWE	$(Q45+Q46+Q47+Q48+Q49+Q50+Q51+Q52+Q53+Q54+Q55+Q56+Q57+Q58+Q59+Q60)/16$	
176	BFI -2 Domain Scales	Extraversion	$(B1+B6+B11+B16+B21+B26+B31+B36+B41+B46+B51+B56)/12$	
177		Agreeableness	$(B2+B7+B12+B17+B22+B27+B32+B37+B42+B47+B52+B57)/12$	
178		Conscientiousness	$(B3+B8+B13+B18+B23+B28+B33+B38+B43+B48+B53+B58)/12$	
179		Negative Emotionality	$(B4+B9+B14+B19+B24+B29+B34+B39+B44+B49+B54+B59)/12$	
180		Open-Mindedness	$(B5+B10+B15+B20+B25+B30+B35+B40+B45+B50+B55+B60)/12$	
181		Post-Pos_Affect	$(Q121+Q123+Q125+Q129+Q130+Q132+Q134+Q136+Q137+Q139)/10$	
182		Post-Neg_Affect	$(Q122+Q124+Q126+Q127+Q128+Q131+Q133+Q135+Q138+Q140)/10$	
183		Optimism	$(Q141+Q142+Q143+Q144+Q145+Q146+Q147+Q148+Q149+Q150)/10$	
184		Post_Positive	$(Q151+Q152+Q153+Q154+Q155+Q156)/6$	



The JASP software interface showing the 'Common' menu. The menu includes options for Descriptives, T-Tests, ANOVA, Regression, Frequencies, and Factor. Below the menu is a text input field containing the R code: `#Enter your R code here :)
(Q41+Q42+Q43+Q44) / 4`. A large red arrow points down from the code field to a data table below.

	L42	Q143B	Q143	Q144	Q145	Q146	Q147B	Q147
1	7	1	7	7	7	5	3	
2	4	4	5	6	5	4	4	
3	5	3	4	4	5	4	4	
4	3	5	4	6	6	5	3	
5	3	5	4	4	4	5	3	
6	7	1	1	4	7	7	1	
7	1	7	6	7	6	3	5	
8	4	4	5	6	5	4	4	
9	6	2	3	5	7	6	2	
10	3	5	6	4	3	2	6	
11	5	3	6	6	7	2	6	

		?	x
11	 SHS	+	
	5		
	4		
	4		
	5		
	3		
	4.25		
	3.5		
	4.5		
	2		
	5.25		
	5		
	6.25		
	5.25		
	3.75		
	5.25		
	5		
	5.5		
	5.5		
	4.25		
	2.75		
	4.5		
	3.5		
	3.25		

Common +

T-Tests ANOVA Regression Frequencies Factor

Q155	Q156	CountBlanks	f _x SWL	f _x Optimism	f _x Pre_Positive	f _x Pre_Pos_Affect	f _x Pre_Neg_Affect	f _x GAS	f _x Post_Pos_Affect	f _x Post_Neg_Affect	f _x Self_Esteem	f _x Post_Positive	+
	1	0	1	2.7	3	1.5	5.5	3.6	1.7	5.7	2.7	5	+
	5	0	4.2	4.6	5.66667	5.75	1.75	5.4	4.1	3.1	5.6	5	
	4	0	2.4	4.7	5.33333	5.75	3	5	5.1	3.8	3.7	5.33333	
	6	0	4.4	4.5	4.83333	4.75	2.5	5	5	2.9	5.2	5.33333	
	5	0	4	4.9	4	2.75	2.5	5.4	3.9	4.1	3.8	4.33333	
	7	0	5.6	5.8	6.33333	6.25	1.25	6.4	6.6	2.3	5.9	6.33333	
	6	0	5.4	4.7	6	5.25	1	6.8	6.2	2.1	5.7	6.16667	
	6	0	5.2	6.1	6.33333	4.25	1.25	5.8	5.7	1.8	3.9	6.5	
	5	0	5.2	4.3	6.33333	4.75	1.75	7	5.7	4.6	3.9	6.33333	

double-click to edit data

After all variables (scales) have been created, it is time to analyze your data.

Basic Statistical Tests to Try

- For Method section of paper or poster...you need to describe your participants.
- Use Descriptives and check the Frequencies box.

The screenshot shows the SPSS software interface with the 'Frequencies' dialog box open. The 'Variables' list includes AGE, SEX, and COLLEGE. The 'Frequency tables (nominal and ordinal variables)' checkbox is checked. The output window displays the following tables:

Descriptive Statistics

	AGE	SEX	COLLEGE
Valid	1196	1196	1196
Missing	0	0	0
Mean	23.86		
Std. Deviation	7.552		
Minimum	15.00		
Maximum	68.00		

Note. Not all values are available for Nominal Text variables

Frequencies

Frequency Tables

Frequencies for SEX

SEX	Frequency	Percent	Valid Percent	Cumulative Percent
Female	945	79.0	79.0	79.0
Male	242	20.2	20.2	99.2
Other	4	0.3	0.3	99.6
Would rather not say	5	0.4	0.4	100.0
Missing	0	0.0		
Total	1196	100.0		

Frequencies for COLLEGE

COLLEGE	Frequency	Percent	Valid Percent	Cumulative Percent
Alvin Community College (TX)	59	4.9	4.9	4.9
Bakersfield College	475	39.7	39.7	44.6
College of DuPage	88	7.4	7.4	52.0
College of Western Idaho	101	8.4	8.4	60.5
Collin College	123	10.3	10.3	70.7
Irvine Valley	33	2.8	2.8	73.5
Lonestar College - North Harris	3	0.3	0.3	73.7
Lorain County Community College	34	2.8	2.8	76.6
Orange Coast College	43	3.6	3.6	80.2
Palomar College	25	2.1	2.1	82.3
Paradise Valley	50	4.2	4.2	86.5
San Diego Mesa College	49	4.1	4.1	90.6
South Texas College	113	9.4	9.4	100.0
Missing	0	0.0		
Total	1196	100.0		

Run Pearson coefficient of correlation tests...

The screenshot shows the JASP software interface. The top menu bar includes 'File' and 'Common'. Below the menu is a toolbar with icons for Descriptives, T-Tests, ANOVA, Regression, Frequencies, and Factor. The main window displays a data table with the following columns: Timestamp, Email Address, and CONSEN. The data table contains 10 rows of data. To the right of the data table is a 'Results' panel with a 'Correlation Matrix' section. This section displays 'Pearson Correlations' for three variables: SWL, Optimism, and Self_Esteem. The matrix shows Pearson's r and p-values for each pair of variables.

		SWL	Optimism	Self_Esteem
SWL	Pearson's r	—		
	p-value	—		
Optimism	Pearson's r	0.541	—	
	p-value	< .001	—	
Self_Esteem	Pearson's r	0.613	0.685	—
	p-value	< .001	< .001	—

One-way ANOVA

The screenshot displays the JASP software interface for a one-way ANOVA. The top menu bar includes 'File' and 'Common'. The toolbar contains icons for Descriptives, T-Tests, ANOVA, Regression, Frequencies, and Factor. The main window is divided into a left sidebar with a list of variables (Q11-Q16, OBJECT, LOCATION, EVENT) and a central configuration panel. The configuration panel shows 'SWL' as the dependent variable and 'GROUP' as the fixed factor. Below the configuration panel are expandable sections for Model, Assumption Checks, Contrasts, Post Hoc Tests, Descriptives Plots, Additional Options, Simple Main Effects, and Nonparametrics. On the right, the 'Results' section displays the ANOVA table for 'SWL'.

Results

ANOVA

ANOVA - SWL

Cases	Sum of Squares	df	Mean Square	F	p
GROUP	18.23	2	9.115	4.915	0.007
Residual	2212.27	1193	1.854		

Note. Type III Sum of Squares

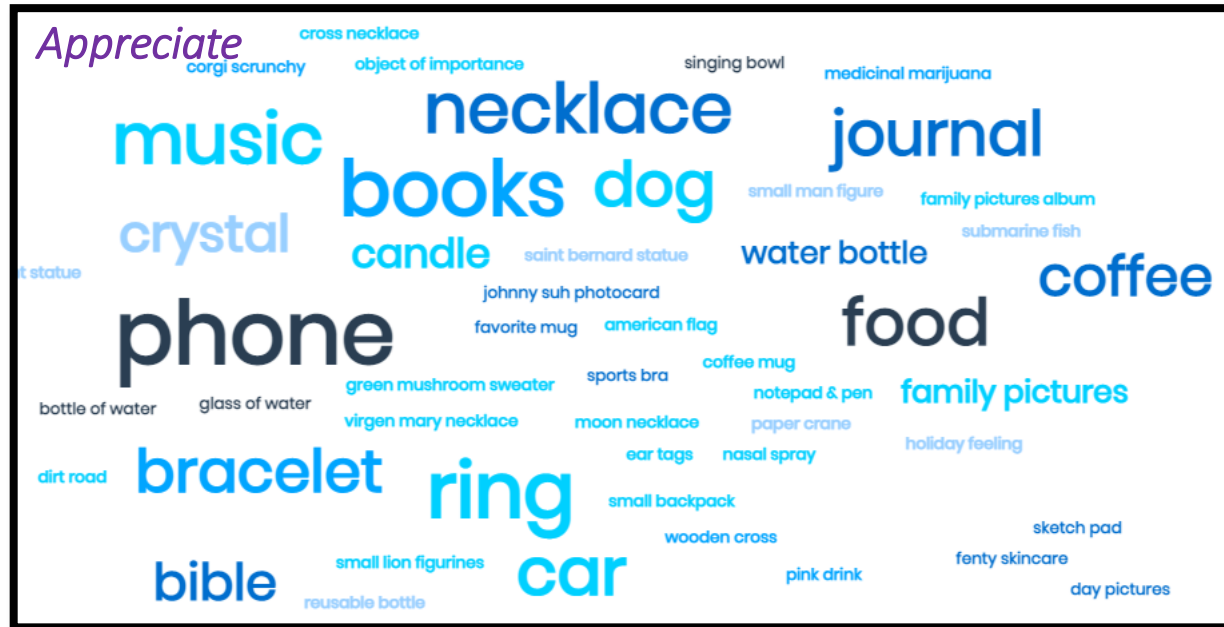
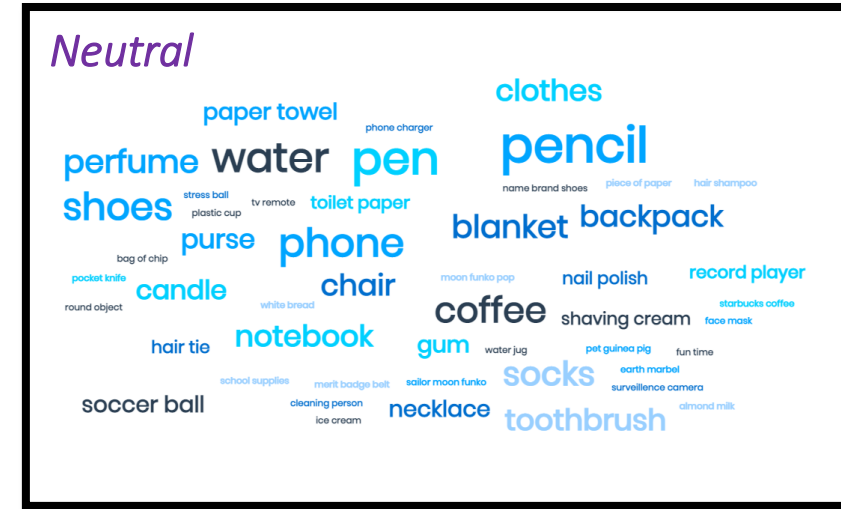
To select just certain a specific value of a variable to analyze...

The screenshot shows the JASP software interface with a data table. The 'GROUP' variable is selected in the filter, and only the value '3' is visible in the table. The table has 13 rows and 7 columns. The columns are labeled '11', 'Q12', 'Q13', 'Q14', 'GROUP', and 'Label'. The 'GROUP' column has a dropdown arrow pointing to '3'. The 'Label' column contains various categories like 'food', 'small children', 'Water', 'Dr Pepper', 'School', 'Coffee', 'Necklace', 'Coffee', 'Textbooks', 'Popcorn', 'N/A', 'House Plant', and 'Vehicle'.

Filter	Value	Label
<input checked="" type="checkbox"/>	1	1
<input checked="" type="checkbox"/>	2	2
<input checked="" type="checkbox"/>	3	3

	11	Q12	Q13	Q14	GROUP	Label
1		3	2	2	2	food
2		3	1	3	1	small children
3		2	1	3	2	Water
4		5	2	5	3	Dr Pepper
5		3	3	3	3	School
6		7	2	6	2	Coffee
7		1	1	1	2	Necklace
8		1	1	1	3	Coffee
9		5	4	5	2	Textbooks
10		1	1	1	2	Popcorn
11		1	1	1	1	N/A
12		4	1	5	2	House Plant
13		4	1	1	3	Vehicle

Work Clouds Object



Looking Forward...



Q1. What do the results suggest for future research in this area?

Q2. How or where could the study's results be used in the real world?

Q3. What should Psi Beta's next national research study investigate?





MORE RESEARCH OPPORTUNITIES...

***Emerging Researcher Award
(sponsored by Macmillan Learning)

***Student Research Journal

THANK YOU

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