# Results

Research questions (only go here for now):

* 1. How do climate attitude and climate behaviour of students change over time (including one year after the end of a ESD intervention)?
  2. How do climate attitude and behaviour respond to levels of involvement of the students?
  3. How is climate attitude and behaviour influenced by self-efficacy beliefs?
  4. How do self-efficacy beliefs respond to levels of involvement of the students?

## Sustainability competences over time and level of involvement (Research Question 1a/b)

Looking at the relationship between sustainability competences over time and level of involvement, I found some significant differences between the two groups (see Figure XX, Table XX).

* Visually, all SCs peak at timepoint 2, straight after the ESD intervention and go down again after.
* Visually, involved group always higher, than control group
* I found no significant differences between of sustainability competences over time. See results of Kruskal Wallis Test in Table XX, Appendix XX.
* For behaviour, intention and TPB at start, there were already significant differences between the groups
* Attitude scored the highest, subjective norms, the lowest
* All sustainability competences differ at time point 2
* Only TPB, behaviour, and intention differ at time point 3

A screenshot of a graph

Description automatically generated

Figure XX: Components of sustainablity competences differed at various timepoints between groups across the XX (nt1= XX, nt2= XX, nt3= XX) students surveyed using Wilcoxon test for significance (see Table XX for full testing outputs). Points represent calculated mean values from the self-reported survey. Error bars represent 95% confidence intervals. Stars indicate significance level resulting form the Wilcoxon test comparing the groups. See Table XX for meanings of number of stars.

## Sustainability competences and self-efficacy beliefs (Research Question 2a/b)

### Self-efficacy as validation for TPB (or other way round?)

## A graph of a line with green dots Description automatically generated

Figure XX:

### At timepoint 3: comparing individual self-efficacy and TPB between groups

Stars indicate significant differences between groups

* Type of graph: point, box, or violin (or split violins)?
* Include CS here? Otherwise comparing individual self-efficacy
* See examples at very bottom

A screenshot of a computer screen

Description automatically generated

### At timepoint 3: comparing individual self-efficacy vs collective self-efficacy between groups

* No spearman correlation, but rather test for differences using Wilcoxon?
* Overall and/or for specific questions?
* Compare individual CS group2 with collective SW group 2?

OLD GRAPHIC:

Instead of spearman, I want to check for differences using Wilcoxon

I need add the comparision of groups into each question, so then I’m comparing whether e.g. group 2 differed in individual vs collective efficacy

A graph with different colored bars

Description automatically generated

### At timepoint 3: comparing different categories of self-efficacy (aim vs action) between groups

* Links in 3 (agent-action, agent-aim, agent-action-aim) or just differentiate between action and aim focussed?
* At the moment combination of individual/collective 🡪 add between individual vs collective?

### A diagram of a graph Description automatically generated with medium confidence

### Alternatives at timepoint 3: comparing individual self-efficacy and TPB between groups

### Alternative at timepoint 3: comparing individual self-efficacy vs collective self-efficacy , between groups?

# All outputs from coding

A graph of groups of groups

Description automatically generated with medium confidenceA screenshot of a computer

Description automatically generatedA screenshot of a graph

Description automatically generated

## A screenshot of a computer Description automatically generated

## A screenshot of a computer Description automatically generatedA graph with colored squares and black text Description automatically generated with medium confidence

Overview Data

A screenshot of a puzzle

Description automatically generated

Normality test results

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Stichprobengröße und Zusammenhang Grundgesamtheit

<https://www.qualtrics.com/uk/experience-management/research/determine-sample-size/?rid=ip&prevsite=de&newsite=uk&geo=DE&geomatch=uk>

A screenshot of a calculator

Description automatically generated A screenshot of a computer

Description automatically generated

Cronbachs alpha without B3/B4 and with means for missing answers:

* Create table with numbers of items per scale!

A screenshot of a computer

Description automatically generated

1. Do students experience changes in climate attitude and behaviour over time (one year)*? // How do sustainability competences (climate attitude and behaviour) among students change over time (through different phases of an ESD intervention)?// How do students' sustainability competences develop in the dimensions of knowledge, attitudes and behavior over the course of a school year?*

*A screenshot of a computer

Description automatically generated*

*A screenshot of a table

Description automatically generated*

A graph of different groups

Description automatically generated

*A graph of groups by competencies

Description automatically generated*

A screenshot of a graph

Description automatically generated

*A graph with yellow and white lines

Description automatically generated with medium confidence*

*A graph of a graph with lines

Description automatically generated with medium confidence*

1. How do climate attitude and behaviour and self-efficacy beliefs respond to levels of involvement of the students?// How does the level of participation relate to the development of students' sustainability competences?

A table with numbers and a number of cases

Description automatically generated with medium confidence

1. How is climate attitude and behaviour influenced by self-efficacy beliefs?

A line graph with green dots

Description automatically generated

A graph with red and blue dots

Description automatically generated

A graph of values for competencies

Description automatically generated

A screenshot of a computer

Description automatically generated

A graph of values for competencies

Description automatically generated

A screenshot of a computer

Description automatically generated

A graph of groups of groups

Description automatically generated with medium confidence

A line graph with green dots

Description automatically generated

EXTRA QUESTION?

Relationship CS and SW???

A graph of a line with green dots

Description automatically generated