Preregistration

Study Information

Title (required)

Provide the working title of your study. It is helpful if this is the same title that you submit for publication of your final manuscript, but it is not a requirement.

How do like and dislike buttons affect privacy calculus? A one-week field experiment

Authors (required)

The author who submits the preregistration is the recipient of the award money and must also be an author of the published manuscript. Additional authors may be added or removed at any time.

Research Questions (required)

Please list each research question included in this study.

With the study, we will analyze how the like and dislike buttons that are implemented on a website can influence a users' privacy calculus. As first research question, we aim to replicate prior findings analyzing the privacy calculus. As second research question, we will extend privacy calculus by including two new variables; i.e., trust and privacy deliberation. As third research questions, we will analyze how both like and dislike buttons affect the privacy calculus.

Specifically, in a field experiment with a between subject design, we will test how the design of a website that has either (a) no like or dislike buttons, (b) only like buttons, or (c) both like and dislike buttons influences people's willingness to self-disclose online, and whether this potential influence is mediated by people's (a) obtained gratifications, (b) privacy concerns, (c) communication self-efficacy, (d) trust in the website's provider, community, and infrastructure, and (e) privacy deliberation.

The website will be a political discussion forum/website. Participants are asked to discuss potential ways to address the danger of terrorist attacks. On the website, participants can then self-disclose their political opinions.

Hypotheses (required)

For each of the research questions listed in the previous section, provide one or multiple specific and testable hypotheses. Please state if the hypotheses are directional or non-directional. If directional, state the direction. A predicted effect is also appropriate here.

Research Question 1:

People are more likely to communicate actively on the website, …

1. … the more gratifications they obtain from using the website.
2. … the less they are concerned about their privacy.
3. … the more self-efficacious they feel to communicate on the website.

Research Question 2:

People are more likely to communicate actively on the website, …

4. … the more they trust the provider, the website, and the other users.

Research Question 3:

Depending on the website that people use, they will show the following differences:

5. People who use the website with like buttons will *self-disclose* more than people who use the website without buttons.
6. People who use the website with like and dislike buttons will *self-disclose* more than people who use the website without buttons.
7. People who use the website with like buttons will obtain more *gratifications* as compared to people who use the website without buttons.
8. People who use the website with like and dislike buttons will obtain more *gratifications* as compared to people who use the website without buttons.
9. People who use the website with like buttons will be less *concerned* about their privacy than people who use the website without buttons.
10. People who use the website with like and dislike buttons will be more *concerned* about their privacy as compared to people who use the website with only like buttons.
11. People who use the website with like buttons will *deliberate* more on whether they should communicate online than people who use the website without buttons.
12. People who used the website with like and dislike buttons will *deliberate* more on whether they should communicate online than people who used the website without buttons.
13. People who used the website with like and dislike buttons will *deliberate* more on whether they should communicate online than people who used the website with only like buttons.

Indirect effects of website design on self-disclosure:

In addition, we will also test the indirect effects for statistical significance (e.g., H7 x H1; i.e., a1.1 x b1; see Figure 1). Given that the significance of the indirect effects is a direct function of the Hypotheses mentioned here, they are not listed individually.

For a tabular overview, see Table 1; for a graphical overview, see Figure 1.

Sampling Plan

In this section we'll ask you to describe how you plan to collect samples, as well as the number of samples you plan to collect and your rationale for this decision. Please keep in mind that the data described in this section should be the actual data used for analysis, so if you are using a subset of a larger dataset, please describe the subset that will actually be used in your study.

Existing Data (required)

Preregistration is designed to make clear the distinction between confirmatory tests, specified prior to seeing the data, and exploratory analyses conducted after observing the data. Therefore, creating a research plan in which existing data will be used presents unique challenges. Please select the description that best describes your situation. Please do not hesitate to contact us if you have questions about how to answer this question (prereg@cos.io).

  (a) <u>Registration prior to creation of data</u>
  (b) Registration prior to any human observation of the data
  (c) Registration prior to accessing the data
  (d) Registration prior to analysis of the data
  (e) Registration following analysis of the data

Explanation of existing data (required)

If you indicate that you will be using some data that already exist in this study, please describe the steps you have taken to assure that you are unaware of any patterns or summary statistics in the data. This may include an explanation of how access to the data has been limited, who has observed the data, or how you have avoided observing any analysis of the specific data you will use in your study. The purpose of this question is to assure that the line between confirmatory and exploratory analysis is clear.

We have not yet collected any data.

Data collection procedures (required)

Please describe the process by which you will collect your data. If you are using human subjects, this should include the population from which you obtain subjects, recruitment efforts, payment for participation, how subjects will be selected for eligibility from the initial pool (e.g. inclusion and exclusion rules), and your study timeline. For studies that don't include human subjects, include information about how you will collect samples, duration of data gathering efforts, source or location of samples, or batch numbers you will use.

We will use human subjects. Participants will be sampled from the German population. We aim to collect a sample that is representative for Germany in terms of age, sex, and federal state. Recruitment will be done by a professional panel agency (http://www.norstat.de/). The panel agency will be paid by grant funds available to this project. As incentive, participants will be awarded by the panel agency through the collection of points, which they can use to get reduction/special offers with other companies. In order to be able to take part, participants need to be above the age of 18 and have to live in Germany.

The panel agency will send invitations to their panel members ("Invitation"). If panel members decide to take part in the study, they will be sent to first questionnaire ("T1"). Here, we will ask for the participants' sociodemographics, provide more detail about the study, and include a registration link to the one of the three websites. The registration links are randomized: Respondents will either register on website 1 (no like/dislike buttons), website 2 (only like buttons), or website 3 (both like and dislike buttons).

In order to achieve representativeness, we will use quotas for specific subgroups of the German population (i.e., in terms of age, sex, and residence). Once a specific quota is met, people from this stratum will not be invited to the study any more. In order to be able to balance the sample and achieve representativeness, the panel agency will send out invitation links throughout the course of one week.

Once people have registered on the website, they have the chance to communicate on the website for 1 week ("Field Phase"). After one week, participants will be invited for the follow up study ("T2"), in which we will collect the self-reported measures.

Sample size (required)

Describe the sample size of your study. How many units will be analyzed in the study? This could be the number of people, birds, classrooms, plots, interactions, or countries included. If the units are not individuals, then describe the size requirements for each unit. If you are using a clustered or multilevel design, how many units are you collecting at each level of the analysis?

The panel agency will continue to distribute invitations until we achieve a sample size of 1400 for T1. This sample will be representative. Based on prior experience, the panel agency estimates a mortality rate of ~30%. Hence, we expect and hope to achieve a sample size of at least $N \geq 936$ participants for T2 (see below).

Sample size rationale (required)

This could include a power analysis or an arbitrary constraint such as time, money, or personnel.

In online communication research, meta-analyses often find effect sizes that are small or small-to-medium sized (Baruh et al. 2017). In addition, given that we are running a field experiment that is mainly based on self-reports, there will be a significant amount of random noise, further suggesting that effect sizes will be small. As a result, with this study we are interested in interpreting small effect sizes.

In terms of power, we aim to achieve a minimum power of 80% (Cohen 1992). If possible, we would like to test our hypotheses with a balanced level alpha and beta error (Moshagen und Erdfelder 2015), representing a power of 95%. However, due to lack of further financial resources, we cannot recruit as many participants to guarantee this level of power. The following power-analyses are thus based on our minimum level of power, i.e., 80%.

For each hypothesis we have calculated power using linear bivariate regression logic (for more information, see "Analysis Plan"). Power estimates were calculated using the software gpower.

- t tests - Linear bivariate regression: One group, size of slope
- Analysis: A priori: Compute required sample size
- Input: Tail(s) =   One
- Slope H1   =   0.10
- Alpha err prob =   0.05
- Power (1-Alpha err prob)   =   0.80
- Slope H0   =   0
- Std dev sigma_x   =   1
- Std dev sigma_y   =   1
- Output: Noncentrality parameter delta   =   2.4903856
- Critical t   =   1.6473472
- Df   =   612
- Total sample size   =   614
- Actual power   =   0.8003237

The results showed that each model needs to have an *n* of at least 614 participants. In conclusion, each experimental group needs to have an n of at least 614 / 2 = 312, **resulting in a minimum total sample size of N = 3 x 312 = 936.**

Due to mortality, it could be that we cannot achieve a sample size of N = 936. If so, this would be addressed in the implications.

Stopping rule (required)

If your data collection procedures do not give you full control over your exact sample size, specify how you will decide when to terminate your data collection.

The panel agency will automatically stop collecting data once financial resources are depleted. The goal is to collect as many observations as possible to achieve sufficient power. There will be no prior data analyses, data collection cannot be stopped throughout.

Variables

In this section you can describe all variables (both manipulated and measured variables) that will later be used in your confirmatory analysis plan. In your analysis plan, you will have the opportunity to describe how each variable will be used. If you have variables which you are measuring for exploratory analyses, you are not required to list them, though you are permitted to do so.

Manipulated variables (required)

Describe all variables you plan to manipulate and the levels or treatment arms of each variable. For observational studies and meta-analyses, simply state that this is not applicable.

We will run a field experiment in which we design three different websites. After a short questionnaire (T1), people will randomly be assigned to one of the three websites. On the website, people register and have the chance to write comments on articles that cover a political issue (i.e., terror prevention).

Variable: Website Design

Level:

1. On the website there will be no like or dislike button (⊘)
2. On the website there will be like buttons. That is, people have the chance to like others people's comments (👍)
3. On the website there will be like buttons and dislike buttons. That is, people have the chance to either like or to dislike others people's comments (👍👎)

Measured variables (required)

Describe each variable that you will measure. This will include outcome measures, as well as any predictors or covariates that you will measure. You do not need to include any variables that you plan on collecting if they are not going to be included in the confirmatory analyses of this study.

Behavioral measure

1. Observed Self-Disclosure
   1.1. ln(words + (likes + dislikes) * 2)

Explanation: Log scale of the number of words each participant wrote in a comment plus the number of likes and dislikes, with likes and dislikes being multiplied by two. Like and dislike buttons are multiplied by two because basically like buttons abbreviate the sentence "I like" and dislike buttons the sentence "I dislike"—hence two words.

Self-reported measures:

- Gratifications obtained (GR)
  - Das Nutzen der Beteiligungsplattform …
    1. … hatte viele Vorteile für mich.
    2. … hat sich für mich gelohnt.
    3. … fand ich sinnvoll.
    4. … hat mir Spaß gemacht.
    5. … hat mich inhaltlich weitergebracht.
- Privacy Concerns (PC)
  - Ich hatte beim Nutzen der Beteiligungsplattform …
    1. … Bedenken, was mit meinen Daten passiert.
    2. … Bedenken, Informationen über mich preiszugeben.

- 3. … keinerlei Bedenken. (inverted)
- 4. … Bedenken, dass andere meine richtige Identität (d.h., Name und Vorname) herausfinden könnten.
- 5. … Bedenken, dass Informationen über mich in falsche Hände gelangen könnten.
- 6. … Bedenken, dass andere herausfinden könnten, was meine politischen Einstellungen sind.
- 7. … Bedenken um meine Privatsphäre.
- **Self-Disclosure Self-Efficacy (SE)**
  - 1. Ich habe mich ganz grundsätzlich dazu in der Lage gefühlt, einen Kommentar zu schreiben.
  - 2. Ich habe mich technisch kompetent genug gefühlt, einen Kommentar zu schreiben.
  - 3. Ich habe mich inhaltlich kompetent genug gefühlt, meine Meinung zu äußern.
  - 4. Ich fand es einfach, meine Meinung zum Thema zu äußern.
  - 5. Ich fand es kompliziert, einen Kommentar zu schreiben. (inverted)
  - 6. Mich hat es überfordert, einen Kommentar zu schreiben. (inverted)
- **Trust (TR)**
  - Bitte geben Sie an, inwiefern Sie folgenden Aussagen über die Beteiligungsplattform zustimmen: …
    - 1. Die anderen Nutzer erschienen mir vertrauenswürdig.
    - 2. Die Kommentare der anderen Nutzer waren hilfreich.
    - 3. Die anderen Nutzer hatten gute Absichten.
    - 4. Ich konnte mich auf die Aussagen der anderen Nutzer verlassen.
  - Bitte geben Sie an, inwiefern Sie folgenden Aussagen zustimmen
    - 1. Die Betreiber der Beteiligungsplattform erschienen mir vertrauenswürdig.
    - 2. Die Betreiber der Beteiligungsplattform haben gute Arbeit geleistet.
    - 3. Es war den Betreibern wichtig, dass die Nutzer mit der Beteiligungsplattform zufrieden sind.
    - 4. Ich konnte mich auf die Aussagen der Betreiber der Beteiligungsplattform verlassen.
  - Bitte geben Sie an, inwiefern Sie folgenden Aussagen zustimmen:
    - 1. Die Website erschien mir vertrauenswürdig.
    - 2. Die Website hat gut funktioniert.
    - 3. Ich hatte den Eindruck, dass meine Daten für die Nutzung der Website notwendig waren.
    - 4. Ich fand die Website sinnvoll.
- **Privacy Deliberation (PD)**
  - Bitte geben Sie an, inwiefern Sie folgenden Aussagen zustimmen: Beim Nutzen der Beteiligungsplattform …
    - 1. … habe ich überlegt, ob mir durch das Schreiben eines Kommentars Nachteile entstehen könnten.
    - 2. … habe ich überlegt, ob mir durch das Schreiben eines Kommentars Vorteile entstehen könnten.
    - 3. … habe ich Vorteile und Nachteile des Schreibens eines Kommentars abgewogen.
    - 4. … habe ich über die Konsequenzen eines möglichen Kommentars nachgedacht.
    - 5. … habe ich mir Gedanken darüber gemacht, ob ich einen Kommentar verfassen soll oder nicht.

Additional measures

- Willingness for Future Self-Disclosure
  - „Nehmen wir einmal an, die Beteiligungsplattform würde auch in Zukunft fortbestehen. Bitte geben Sie an, inwiefern Sie folgenden Aussagen zustimmen:
    Ich wäre bereit, in Zukunft auf der Beteiligungsplattform …"
    - 1. … politische Themen zu diskutieren.

2. … meine persönliche Meinung zu äußern.
3. … Kommentare zu verfassen.
4. … Sorgen und Ängste zu offenbaren.
5. … persönliche Erfahrungen zu teilen.

- Manipulation Check
    1. Gab es auf der Beteiligungsplattform die Möglichkeit, andere Beiträge zu „liken" (sprich, sie mit einem aufwärtsgerichteten Daumen positiv zu bewerten)?
    2. Gab es auf der Beteiligungsplattform die Möglichkeit, andere Beiträge zu „disliken" (sprich, sie mit einem abwärtsgerichteten Daumen negativ zu bewerten)?
- Identifiability
    - Haben Sie auf der Beteiligungsplattform bei dem Nutzernamen …
    1. Ihren richtigen Vornamen angegeben?
    2. Ihren richtigen Nachnamen angegeben?
- Plausibilität
    - Bitte geben Sie an, inwiefern Sie folgenden Aussagen zustimmen:
      Ich fand die Gestaltung der Beteiligungsplattform …
    1. … Authentisch
    2. … Professionell
    3. … Glaubwürdig

Covariates

1. Age
2. Sex

Indices (required)

If any measurements are going to be combined into an index (or even a mean), what measures will you use and how will they be combined? Include either a formula or a precise description of your method. If your are using a more complicated statistical method to combine measures (e.g. a factor analysis), you can note that here but describe the exact method in the analysis plan section.

All measured variables that are based on self-reports will be included as latent variables (see part "Statistical models"). In order to warrant factorial validity, we will test all variables with confirmatory factor analyses.

Decision tree:

- If a scale does not show sufficient fit (see below), the item with the lowest factor loading will be deleted; similarly, items that generally are malfunctioning (e.g., sometimes inverted items do not work properly and necessitate a method factor) or that reduce overall factorial fit significantly will be deleted. The process will be repeated until at least sufficient fit is achieved.
- If good factorial fit can be achieved while maintaining at least 4 items, we will select items accordingly.

As indices for sufficient factorial fit, we will refer to the following minimum thresholds:
CFI > .90, TLI > .90, RMSEA < .10, SRMR < .10, REL(omega) > .60, AVE > .40.

As indices for good factorial fit, we will refer to the following minimum thresholds:
CFI > .95, TLI > .95, RMSEA < .08, SRMR < .08, REL(omega) > .70, AVE > .50.

Design Plan

In this section, you will be asked to describe the overall design of your study. Remember that this research plan is designed to register a single study, so if you have multiple experimental designs, please complete a separate preregistration.

Study type (required)

Please check one of the following statements

(f) <u>Experiment - A researcher randomly assigns treatments to study subjects, this includes field or lab experiments. This is also known as an intervention experiment and includes randomized controlled trials.</u>

(g) Observational Study - Data is collected from study subjects that are not randomly assigned to a treatment. This includes surveys, "natural experiments", and regression discontinuity designs.

(h) Meta-Analysis - A systematic review of published studies.

(i) Other

Blinding (required)

Blinding describes who is aware of the experimental manipulations within a study. Mark all that apply.

(a) <u>No blinding is involved in this study.</u>

(b) For studies that involve human subjects, they will not know the treatment group to which they have been assigned.

(c) Research personnel who interact directly with the study subjects (either human or non-human subjects) will not be aware of the assigned treatments.

(d) Research personnel who analyze the data collected from the study are not aware of the treatment applied to any given group.

Study design (required)

Describe your study design. Examples include two-group, factorial, randomized block, and repeated measures. Is it a between (unpaired), within-subject (paired), or mixed design? Describe any counterbalancing required. Typical study designs for observation studies include cohort, cross sectional, and case-control studies.

The study is designed as a field experiment with three groups (1. website with no like/dislike buttons, 2. website with like buttons, 3. website with like and dislike buttons) as between-subject design.

Randomization (required)

If you are doing a randomized study, how will you randomize, and at what level?

At the end of the questionnaire in T1, we will include the registration links to the website. The registration links are randomized: Respondents can either register on website 1 (no like/dislike buttons), website 2 (like buttons), or website 3 (like and dislike buttons). Respondents are not being informed that several versions of the website exist.

Analysis Plan

You may describe one or more confirmatory analysis in this preregistration. Please remember that all analyses specified below must be reported in the final article, and any additional analyses must be noted as exploratory or hypothesis-generating.

A confirmatory analysis plan must state up front which variables are predictors (independent) and which are the outcomes (dependent), otherwise it is an exploratory analysis. You are allowed to describe any exploratory work here, but a clear confirmatory analysis is required.

Statistical models (required)

What statistical model will you use to test each hypothesis? Please include the type of model (e.g. ANOVA, multiple regression, SEM, etc) and the specification of the model (this includes each variable that will be included as predictors, outcomes, or covariates). Please specify any interactions that will be tested and remember that any test not included here must be noted as an exploratory test in your final article.

Hypotheses

H1 – H4: The replication of the privacy calculus will be analyzed with the entire sample using multiple regression in a structural equation model (SEM). All hypotheses will be tested simultaneously in one single multiple regression with SD as dependent variable and GR, PC, SE, TR and PD as predictor variables (Model 1).

H5 – H13: The effects of the three different websites will be analyzed using (multiple) regression in three different SEMS. Hence, we will design three different SEMs consisting of three different subsamples.

- Contrast 1(👍 vs ⊘): Analyzes the difference between the website with like buttons and the website without buttons (i.e., H5, H7, H9, & H12). It will be analyzed in Model 2. Only those participants who were assigned to these two website will be included in the model (2/3 of N).
- Contrast 2 (👍👎 vs ⊘): Analyzes the difference between the website with both like and dislike buttons and the website without buttons (i.e., H6, H10, H13). It will be analyzed in Model 3. Only those participants who were assigned to these two website will be included in the model (2/3 of N).
- Contrast 3 (👍👎 vs 👍): Analyzes the difference between the website with both like and dislike buttons and the website with only like buttons (i.e., H8 & H11). It will be analyzed in one Model 4. Only those participants who were assigned to these two website will be included in the model (2/3 of N).

For an overview, see Table 1 or Figure 1.

Table 1: Overview of all Hypotheses

| #	Label	Effect	Direction	Model	p (critical)
H1	b1	GR -> SD	positive	1	0.05
H2	b2	PC -> SD	negative	1	0.05
H3	b3	SE -> SD	positive	1	0.05
H4	b4	TR -> SD	positive	1	0.05
H5	c1	👍 vs ⊘ -> SD	positive	2	0.05
H6	c2	👍👎 vs ⊘ -> SD	positive	3	0.05
H7	a1.1	👍 vs ⊘ -> GR	positive	2	0.05
H8	a2.1	👍👎 vs ⊘ -> GR	positive	3	0.05
H9	a1.2	👍 vs ⊘ -> PC	negative	2	0.05
H10	a3.2	👍👎 vs 👍 -> PC	positive	4	0.05
H11	a1.5	👍 vs ⊘ -> PD	positive	2	0.05
H12	a2.5	👍👎 vs ⊘ -> PD	positive	3	0.05
H13	a3.5	👍👎 vs 👍 -> PD	positive	4	0.05
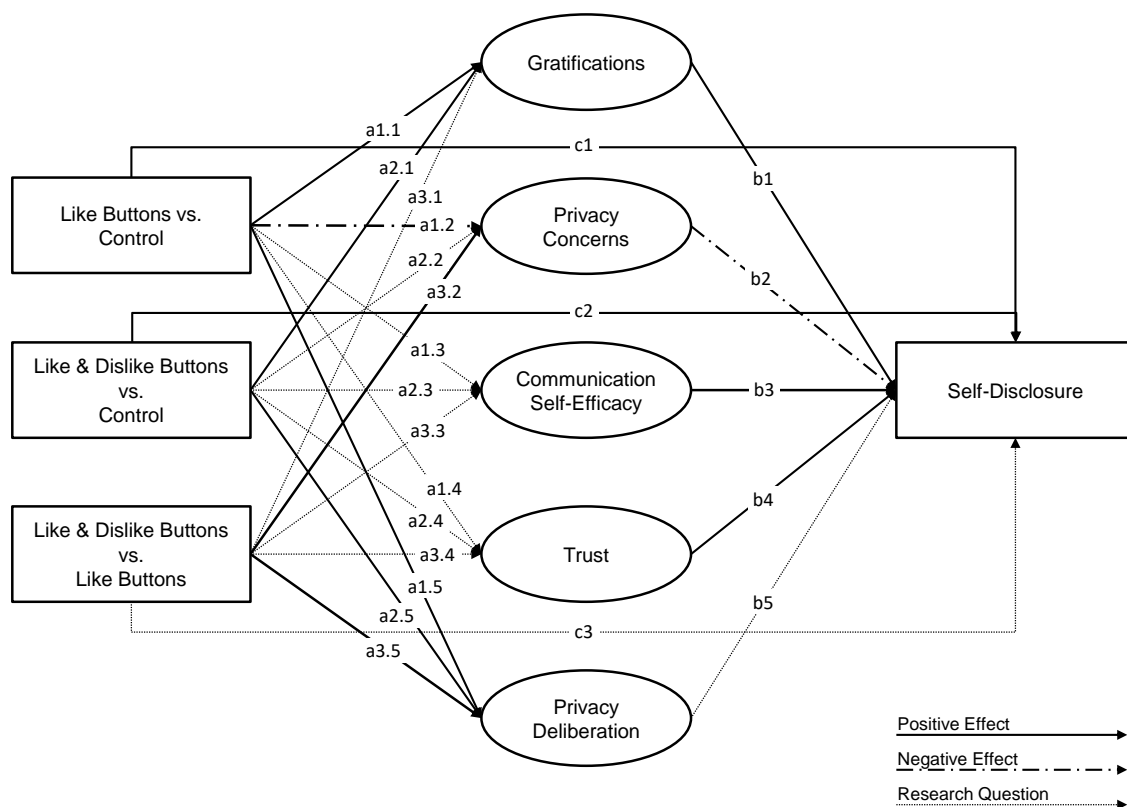
Figure 1: Graphical overview of all Hypotheses and Research Questions; will be tested in four different SEMs.

Further assumptions/specifications

In all analyses, we will control for Sex and Age. We will provide all analyses without covariates in the online supplementary material.

Decision Trees:

- If multivariate normal distribution is warranted, we will test will used the regular maximum likelihood estimation.
  - If the assumption of multivariate normal distribution cannot be met, we will use the maximum likelihood estimation with robust standard errors and a Satorra-Bentler scaled test statistic.
- We plan to test our hypotheses with the self-reported measures as latent variables.
  - If model fit does not reach the minimum level that is required (i.e., CFI > .90, TLI > .90, RMSEA < .10, SRMR < .10, REL(omega) > .60, AVE > .50), we will model all self-reported measures using parcels.
    - If model fit afterward does not reach the above stated minimum level that is required, we will model all self-reported measures as observed variables using factors scores produced by the approach of Bartlett (DiStefano et al. 2009).

Transformations (required)

If you plan on transforming, centering, recoding the data, or will require a coding scheme for categorical variables, please describe that process.

For our dependent measure, we will log-transform the number of words participants wrote in their comments (ln(words + (likes + dislikes) * 2); see "Measured variables"). We will recode inverted items (see item list).

Follow-up analyses (required)

If not specified previously, will you be conducting any confirmatory analyses to follow up on effects in your statistical model, such as subgroup analyses, pairwise or complex contrasts, or follow-up tests from interactions? Remember that any analyses not specified in this research plan must be noted as exploratory.

All potential follow-up analyses (e.g., specific contrasts, tests of indirect effects) are outlined in the section "Hypotheses".

Inference criteria

What criteria will you use to make inferences? Please describe the information you'll use (e.g. specify the p-values, Bayes factors, specific model fit indices), as well as cut-off criterion, where appropriate. Will you be using one or two tailed tests for each of your analyses? If you are comparing multiple conditions or testing multiple hypotheses, will you account for this?

See Table 1, Table 2, and "Exploratory Analyses", "Indices", and "Statistical models".

Data exclusion (required)

How will you determine which data points or samples (if any) to exclude from your analyses? How will outliers be handled?

A pretest revealed that respondents who filled out the questionnaire (T2) in less than 6 minutes provided useless data (i.e., response patterns, missing values). Hence, we will exclude all participants who finished the questionnaire (T2) in less than 6 minutes.

In addition, we will reserve the right to delete specific participants who provided extreme response patterns. These deletions will be specified explicitly. In addition, we will also provide all results on the basis of all participants in the online supplementary material.

Missing data (required)

How will you deal with incomplete or missing data?

We will assess whether missing values are missing at random. If so, we will impute data via the estimation maximization method using Boot-Strapping. We will also provide all results without data imputation in the online supplementary material.

Exploratory analysis (optional)

If you plan to explore your data set to look for unexpected differences or relationships, you may describe those tests here. An exploratory test is any test where a prediction is not made up front, or there are multiple possible tests that you are going to use. A statistically significant finding in an exploratory test is a great way to form a new confirmatory hypothesis, which could be registered at a later time.

We are currently planning to conduct 10 exploratory research questions (see Table 2). All exploratory tests will be controlled for inflation of alpha-error using the Holm correction. This means that we will adapt our critical p-values as follows:

The smallest empirical p-value will be compared with a critical p-values of $p = \alpha$ / number of tests; hence, in our case, the smallest p-value will be compared to $p(1) = .05 / 10 = .0050$. The second smallest empirical p-value will be compared with a critical p-value of $p(2) = \alpha$ / number of tests -1. Hence, in our case, the second smallest p-value will be compared to $p = .05 / 9 = .0056$; and so forth.

Ultimately, this will lead to the following set of critical p-values: $p(1) = 0.005$, $p(2) = 0.0056$, $p(3) = 0.0063$, $p(4) = 0.0071$, $p(5) = 0.0083$, $p(6) = 0.01$, $p(7) = 0.0125$, $p(8) = 0.0167$, $p(9) = 0.025$, $p(10) = 0.05$.

All empirical p-values that are above the critical p-values but below α will be labelled as suggestive. (Benjamin et al. 2018).

Table 2. Exploratory Research Questions

#	Label	Effect	Direction	Model	p (critical)
RQ1	b5	PD -> SD	?	1	Holm adjusted
RQ2	c3	👍👎 vs 👍 -> SD	?	4	Holm adjusted
RQ3	a3.1	👍👎 vs 👍 -> GR	?	4	Holm adjusted
RQ4	a2.2	👍👎 vs ⊘ -> PC	?	3	Holm adjusted
RQ5	a1.3	👍 vs ⊘ -> SE	?	2	Holm adjusted
RQ6	a2.3	👍👎 vs ⊘ -> SE	?	3	Holm adjusted
RQ7	a3.3	👍👎 vs 👍 -> SE	?	4	Holm adjusted
RQ8	a1.4	👍 vs ⊘ -> TR	?	2	Holm adjusted
RQ9	a2.4	👍👎 vs ⊘ -> TR	?	3	Holm adjusted
RQ10	a3.4	👍👎 vs 👍 -> TR	?	4	Holm adjusted

Other (optional)

If there is any additional information that you feel needs to be included in your preregistration, please enter it here.

Literaturverzeichnis

Baruh, Lemi; Secinti, Ekin; Cemalcilar, Zeynep (2017): Online privacy concerns and privacy management. A meta-analytical review. In: *J. Commun.* 67 (1), S. 26–53. DOI: 10.1111/jcom.12276.

Benjamin, Daniel J.; Berger, James O.; Johannesson, Magnus; Nosek, Brian A.; Wagenmakers, E.-J.; Berk, Richard et al. (2018): Redefine statistical significance. In: *Nat. hum. behav.* 2 (1), S. 6–10. DOI: 10.1038/s41562-017-0189-z.

Cohen, Jacob (1992): A power primer. In: *Psychological Bulletin* 112 (1), S. 155–159. DOI: 10.1037/0033-2909.112.1.155.

DiStefano, Christine; Zhu, Min; Mindrila, Diana (2009): Understanding and using factor scores: Considerations for the applied researcher. In: *Practical Assessment, Research & Evaluation* 14 (20).

Moshagen, Morten; Erdfelder, Edgar (2015): A new strategy for testing structural equation models. In: *Structural Equation Modeling: A Multidisciplinary Journal* 23 (1), S. 54–60. DOI: 10.1080/10705511.2014.950896.