

Climate denial, basic psychological needs, and ideology (#45126)

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1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

How do different forms of climate denial (literal, interpretive, implicatory denial) relate to basic psychological need satisfaction, life aspirations, and ideological beliefs?

What different profiles/subgroups of climate denial may be found in the data? Will any subgroups relate to the other study variables in meaningful ways?

Hypotheses:

Variable-centered approach:

- Need satisfaction is negatively associated with climate denial
- Intrinsic orientation is negatively associated with climate denial, mediated by need satisfaction
- Extrinsic orientation is positively associated with need frustration and ideology
- Male gender predicts climate denial, especially literal and interpretive denial
- Ideology is positively associated with climate denial, especially literal and interpretive denial
- Ideology mediates the association between gender and climate denial
- Climate denial is negatively associated with policy support and pro-environmental intentions

Person-centered approach:

- no a-priori hypotheses regarding potential subgroups in the data (exploratory analysis)

3) Describe the key dependent variable(s) specifying how they will be measured.

- Climate-relevant self-protective strategies/defensiveness/denial: "Climate Self-Protection Scale" by Wullenkord and Reese (under review)
- Literal climate denial, 4 items (2 items by Jylhä et al., 2016, own translation; 2 own items)
- Policy support (2 own items inspired by EES, 2014)
- Pro-environmental intentions (3 items based on Wullenkord et al., 2020)

4) How many and which conditions will participants be assigned to?

Independent variables:

- Basic psychological needs: „Balanced Measure of Basic Psychological Needs scale“, Sheldon & Hilpert (2012), German translation by Voss & Neubauer (2016)
- Aspirations: Short form „Aspiration Index“, Grouzet et al. (2005), German translation by Matthey & Kasser (2013)
- Ideology:
 - o Social dominance orientation: „SDO7(8) scale“, Ho et al. (2015), own translation
 - o Nature dominance: subscale 9 of the „Environmental Attitudes Inventory“, Milfont & Duckitt (2010), German translation items 1-4, 9 and 10 by Markey (2013), items 5-8 own translation
 - o Right-wing authoritarianism: „RWA 3D Skala“, Funke (2003)
 - o System justification: „System Justification Scale“, Kay & Jost (2003), German adaptation by Ullrich & Cohrs (2007)

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

Variable-centered approach: Path analysis

Person-centered approach: B-ESEM (Bifactor exploratory structural equation modelling) combined with LPA (latent profile analysis) to explore subgroups within the data regarding climate denial

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

Exclusion based on

- Attention checks: Participants who answer at least one of three control items wrong will be excluded. Those items are as follows: 2 x "When you read this question please select the answer option [X]" and "Thus far I have answered all questions honestly and diligently".
- Speeding: Participants with TIME_RSI > 2 or who took < 8 sec to answer questions on individual pages will be excluded.

- Multivariate outliers: Based on Mahalanobis distance with $p < .001$

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will collect data of at least 1000 participants, representative for age (18-69 years) and gender (female, male) in Germany.

Both B-ESEM and LPA are large sample methods. However, there are few resources discussing how to calculate power for those methods. Tein et al. (2013) suggest that for a LPA with Cohen's $d = .8$ and 10 indicators of class membership, sample size should be at least 500. We decided to recruit as large a sample as is financially feasible, relying on the external panel provider respondi. Sample size, thus, is restrained by financial considerations.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

Control variables: Age, gender, income, political orientation

Validation of the Climate Anxiety Scale (subscales "cognitive and emotional impairment" and "functional impairment", Clayton & Karazsia, 2020; own translation) in a representative German sample, testing the following hypotheses:

H1: Climate anxiety correlates negatively with extrinsic aspirations and positively with intrinsic aspirations.

H2: People with higher system justification, SDO and RWA report lower climate anxiety.

H3: Climate anxiety correlates negatively with climate denial.

H4a: Replicating Clayton & Karazsia, 2020: Climate anxiety is uncorrelated with pro-environmental intentions and policy support.

H4b: Interaction Climate anxiety x needs: (a) People with high need satisfaction and high climate anxiety show stronger policy support and intentions than (b) people with high need satisfaction and low climate anxiety, (c) people with high need frustration and high climate anxiety, and (d) people with high need frustration and low climate anxiety ($a > b > c > d$).

H5: Replicating Clayton & Karazsia, 2020: Positive correlation of climate anxiety and general anxiety and depressiveness.