



Universiteit  
Leiden  
The Netherlands

## Psychology Data from an Exploration of the Effect of Anticipatory Stress on Disgust vs. Non-Disgust Related Moral Judgments

Veer, A.E. van 't; Slegers, W.W.A.

### Citation

Veer, A. E. van 't, & Slegers, W. W. A. (2019). Psychology Data from an Exploration of the Effect of Anticipatory Stress on Disgust vs. Non-Disgust Related Moral Judgments. *Journal Of Open Psychology Data*, 7(1), e1. doi:10.5334/jopd.43

Version: Publisher's Version

License: [Creative Commons CC BY 4.0 license](https://creativecommons.org/licenses/by/4.0/)

Downloaded from: <https://hdl.handle.net/1887/83548>

**Note:** To cite this publication please use the final published version (if applicable).

## DATA PAPER

# Psychology Data from an Exploration of the Effect of Anticipatory Stress on Disgust vs. Non-Disgust Related Moral Judgments

Anna E. van 't Veer<sup>1,2</sup> and Willem W.A. Slegers<sup>3</sup><sup>1</sup> Methodology and Statistics Unit, Institute of Psychology, Leiden University, Leiden, NL<sup>2</sup> Leiden Institute for Brain and Cognition, Leiden University, Leiden, NL<sup>3</sup> Department of Social Psychology, Tilburg University, Tilburg, NLCorresponding author: Anna E. van 't Veer ([a.e.van.t.veer@fsw.leidenuniv.nl](mailto:a.e.van.t.veer@fsw.leidenuniv.nl))

In this lab-based experiment ( $N = 185$ , Tilburg University students) we tested the effect of anticipatory stress on moral condemnation. The data covers severity ratings for vignettes of two content types: vignettes with an inherent disgust-eliciting element (e.g., eating human flesh) and without (e.g., lying on a resume), filled out on computers using the survey platform Qualtrics. Participants in the anticipatory stress condition rated the vignettes as more morally wrong, and disgust-eliciting vignettes were rated as more morally wrong. No moderation by disgust content was found. Private Body Consciousness (PBC) was positively associated with condemnation for disgust-eliciting vignettes (but not with non-disgust-eliciting vignettes). The data can be used, for example, in research on incidental vs. inherent emotions, to identify the strength of induced emotions on judgments, and to identify moderators (e.g., PBC).

**Keywords:** Moral judgment; Moral condemnation; Anticipatory stress; Moral Dilemma; Private Body Consciousness; Rational-Experiential Inventory; Multidimensional Assessment of Interoceptive Awareness  
**Funding Statement:** AV was funded by TIBER (Tilburg Institute of Behavioral Economics Research) at the time of data collection.

## (1) Overview

### Context

### Collection Date(s)

2014 (November 3<sup>rd</sup> – November 7<sup>th</sup>).

### Background

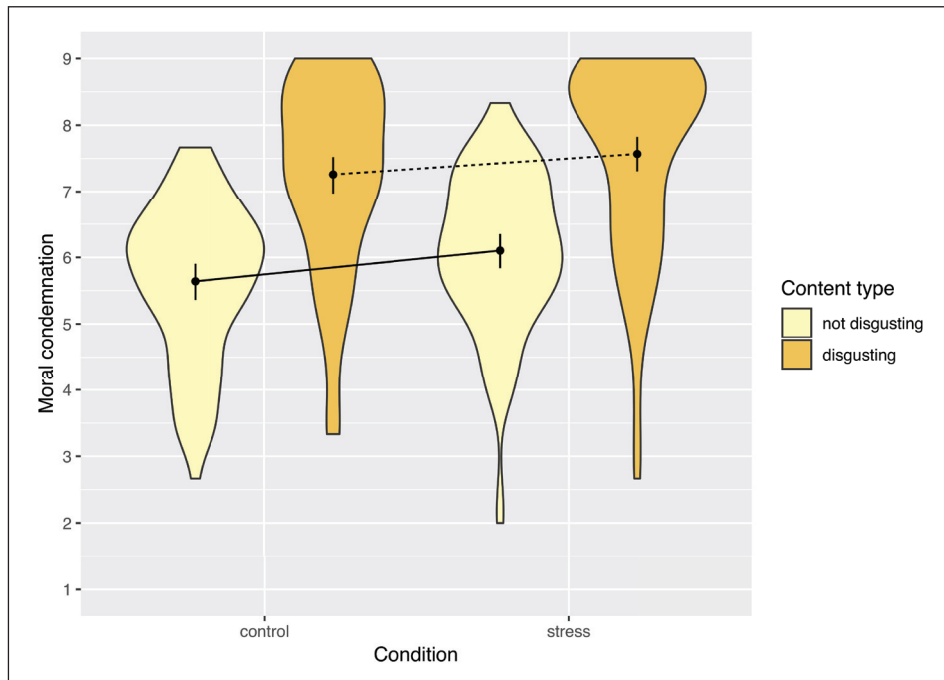
This data includes moral condemnation ratings by college students at Tilburg University for six vignettes describing disgust-eliciting and non-disgust-eliciting moral violations [1]. Participants were assigned to either an anticipatory stress or control condition in a lab study, where they completed several questionnaires in individual cubicles. The aim of the study was to test whether anticipatory stress selectively amplifies the condemnation of disgust-eliciting moral violations, or whether it affects both types of moral violations equally (e.g., [2, 3]). Moral violations may elicit emotions and physiological changes (e.g., [4, 5]). Notably, immoral behaviors that involve a purity violation have been argued to be uniquely tied to the experience of disgust [6–9]. Experimentally induced stress may enhance the role of emotion in judgment [10], yet it may also interfere with emotional-intuitive signals coming from the body [11]. Furthermore, in a stressful situation

the need to reject and avoid anything that may pose a threat of contamination could be stronger than rejecting other immoral acts, leading to greater condemnation (e.g., [12, 13]). Data provide support for a general, but not disgust-specific, effect of anticipatory stress on moral condemnation—participants in the anticipatory stress condition showed more moral condemnation than control participants (see **Figure 1**), with no moderation by disgust content. A secondary aim was to explore whether people who are more perceptive of their own physiological changes are more condemning of disgust eliciting moral violations. Correspondingly, Private Body Consciousness [14] (measured in the control condition only,  $n = 91$ ) correlated with condemnation of disgust eliciting vignettes but not with condemnation of non-disgust eliciting vignettes (see **Figure 2**). As ratings on moral vignettes are often skewed, these data may call for an analysis that takes this into account. We present the distribution of the ratings for the individual vignettes in **Figure 3**.

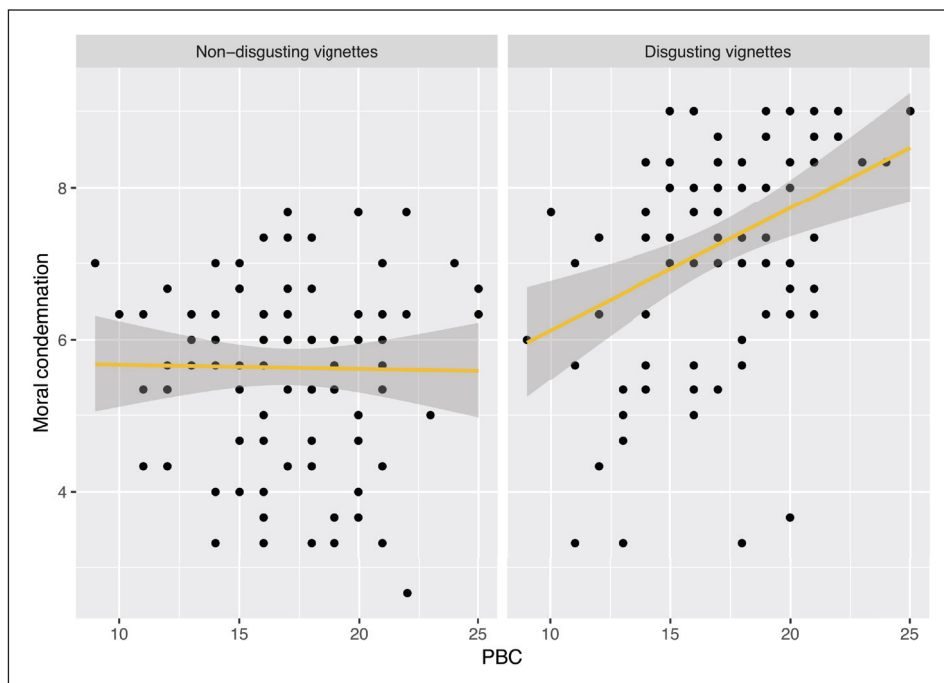
## (2) Methods

### Sample

The sample consists of 188 students at Tilburg University who participated in return for course credit. Three



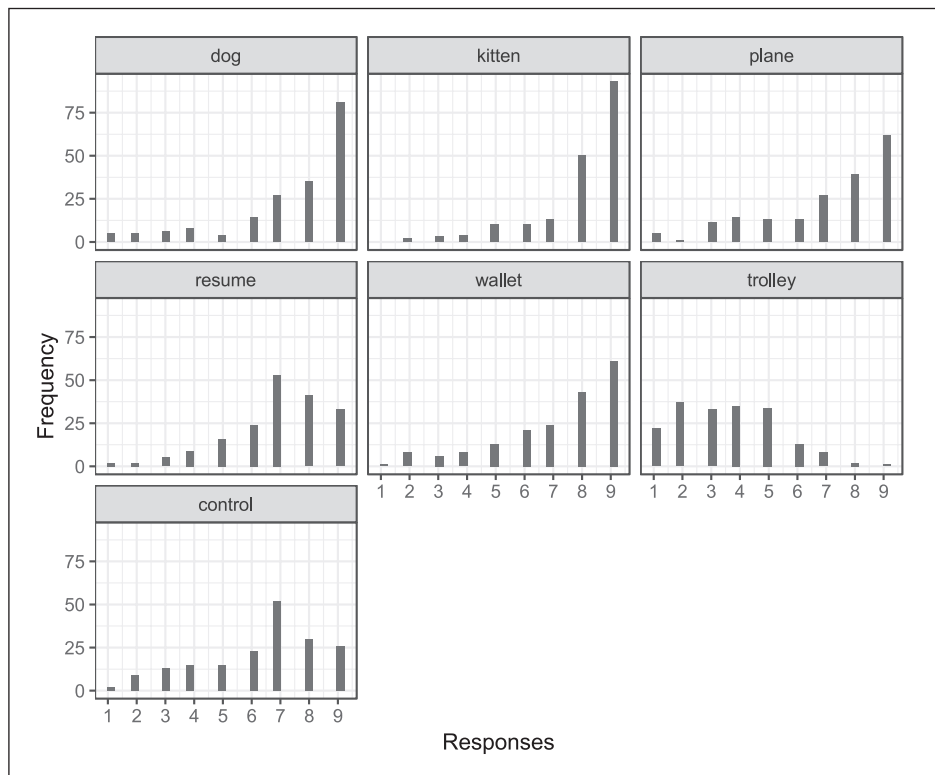
**Figure 1:** Mean condemnation ratings as a factor of condition and vignette content type. Anticipatory stress led to more moral condemnation,  $b = 0.46$ ,  $SE = 0.19$ ,  $t(354.84) = 2.40$ ,  $p = .017$ , and disgust-eliciting vignettes were condemned more,  $b = 1.61$ ,  $SE = 0.17$ ,  $t(187.78) = 9.26$ ,  $p < .001$ . Analysed with a linear mixed effects model (LMM) with condition (anticipatory stress vs. control), vignette content type (disgusting vs. not disgusting), and their interaction as fixed effects. The analysis was conducted with the lme4 [15] and lmerTest [16] packages, and confirmed with a robust LMM using the robustlmm package [17], see analysis scripts. Error bars indicate 95% bootstrapped confidence intervals of the estimated means. Colored areas (violins) show kernel probability density at different values of moral condemnation.



**Figure 2:** Association of Private Body Consciousness (PBC) with moral condemnation for non-disgust-eliciting vignettes (left panel,  $r(89) = .02$ ,  $p = .88$ ) and disgust-eliciting vignettes (right panel,  $r(89) = .38$ ,  $p < .001$ ). The bands represent 95% confidence intervals.

participants did not take part in the stress manipulation (i.e., giving a presentation), and were excluded from data analysis, leaving a total sample of 185,  $M_{age} = 19.6$ ,

$SD_{age} = 2.09$ , 78.9% female. Participants were recruited via the Tilburg University student recruitment website and flyers distributed on campus.



**Figure 3:** Frequency distribution of the ratings for the individual vignettes (6 moral vignettes and 1 neutral control vignette).

Logbook notes are included for 10 participants who indicated to be skeptical about whether the presentation would actually take place.

Questionnaire data (Private Body Consciousness, Rational-Experiential Inventory, Multidimensional Assessment of Interoceptive Awareness, see materials) was collected in the control condition ( $n = 91$ ).

### Materials

Anticipatory stress was manipulated in a between-subjects design (anticipatory stress vs. control). Participants in the anticipatory stress condition were instructed to prepare a public speech and were given 3 minutes to do so; participants in the control condition were asked to think of positive and negative aspects of their previous holiday for three minutes. Participants in the anticipatory stress condition were told the speech had to be about their own presentation skills and that the psychologists listening to the speech would evaluate them on psychological functioning. Participants were then informed (in the anticipatory stress condition only) that there was another participant giving the speech right now so ‘please fill out these other materials until it’s your turn’.

The materials consisted of six vignettes that describe a moral dilemma. Three vignettes did not have disgust-eliciting content (i.e., “Trolley”, “Wallet”, “Resume”), and three did (i.e., “Kitten”, “Plane crash”, and “Dog”, taken from [1]). Participants indicated for all six vignettes the extent to which they found the described act morally wrong. Answer scale from 1 (*perfectly OK*) to 9 (*extremely wrong*). We included one neutral (non-moral) control vignette (for which ratings did not differ statistically between stress and control condition,  $ns$ ).

One mood item was then administered: ‘At this moment, I feel:’ slider scale from 1 (*very bad*) to 100 (*very good*). The state part (20 items) of the State Trait Anxiety Inventory (STAI; [18]) was assessed as a manipulation check (see [19]), and includes items like “I am tense” and “I feel pleasant” (reversed coded) using a 4 point Likert-type scale ranging from 1 (*Not at all*) to 4 (*very much so*). A manipulation check indicated that participants in the anticipated stress condition felt more stress ( $M = 44.97$ ,  $SD = 11.32$ ) than the participants in the control condition ( $M = 36.78$ ,  $SD = 7.99$ ),  $t(167.55) = 5.7$ ,  $p < .001$ .

Additional scales that were administered (control condition only) consist of the Private Body Consciousness scale (5 items; [14]), the The Rational-Experiential Inventory (40 items; [20], some missing sum score values due to listwise deletion), the Multidimensional Assessment of Interoceptive Awareness (32 items; [21]).

For the Dutch translation of the vignettes and scales, see the Supplemental Materials.

### Procedures

Data was collected in the Tilburg University lab over the course of one week (as was determined by a predefined stopping rule). Participants were recruited via an online enrollment system and received course credit for participation. Upon arrival in the lab, participants were seated in a waiting room that was situated next to the room where the speeches were given (providing additional proof that the speech was real), and also right next to the entrance of 11 closed cubicles in which participants filled out the surveys via the survey platform Qualtrics. Before this experiment began, participants provided informed consent and

completed several other unrelated surveys. After the stress [control] induction, participants completed an unrelated experiment that also relied on the stress induction, and then filled out the mood item, the STAI, their gender and age, and the vignettes. Hereafter, participants in the stress condition performed the speech (individually) in the adjoining room in front of two or more psychologists and were complimented on it no matter the quality. Lastly, they returned to their cubicle to fill out the STAI again (allowing for verification that stress levels after the speech would return to normal). While participants in the stress condition were performing the speech, participants in the control condition filled out additional test materials in this order: PBC, REI, MAIA.

### Quality Control

Experienced experimenters oversaw the data collection. The R script includes code to filter out three participants who did not perform the speech. Although these participants did fill out the materials, it is likely they were not influenced by the stress induction as intended. Notes were taken during the lab sessions to document anything unusual, including whether participants mentioned not believing the speech would actually take place (see logbook.csv).

### Ethical issues

The study followed the ethical standards by the American Psychological Association. In addition, identifying questions and open-ended responses were removed from the data file (including student's ID number), as participants provided consent for sharing de-identified data.

## (3) Dataset description

### Object name

Repository contains:

1\_data\_preparation.R  
 2\_data\_analysis.R  
 codebook\_prepared\_data.docx  
 codebook\_raw\_data.docx  
 data\_report.docx  
 figure1.pdf  
 figure2.pdf  
 logbook.csv  
 prepared\_data.csv  
 raw\_data.csv  
 results.csv  
 session\_info\_data\_analysis.txt  
 session\_info\_data\_preparation.txt  
 supplemental\_material.docx

### Data type

Contains raw and prepared data, and scripts for preparation and analysis:

- raw\_data.csv contains the raw data, with accompanying codebook\_raw\_data.docx
- prepared\_data.csv contains data after preparation (renaming variables, item recoding, creating scale

sum scores, merging raw and logbook data) with "1\_data\_preparation.R", with accompanying codebook\_prepared\_data.docx

- results.csv contains an organized data file of the results of analyses in 2\_data\_analysis.R made with the tidystats package in R (see: <https://github.com/WillemSlegers/tidystats>)
- logbook\_data.csv contains comments written down by experimenter per subject and whether subject was excluded for analysis
- data\_report.docx contains metadata as filled out for DataverseNL
- session\_info\_\*.txt files contain session information of the R session used to prepare the data (e.g., which versions of the packages were used).

### Format names and versions

All data and results are available in .csv format which is easily imported in data analysis software (e.g., Excel, SPSS, R).

### Data Collectors

#### Experimenters

Anna van 't Veer, PhD-student at Tilburg University at time of data collection.

Terri Seuntjes, PhD-student at Tilburg University at time of data collection.

Joeri Wissink, lab assistant at Tilburg University at the time of data collection.

#### Assisting bachelor students at Tilburg University at the time of data collection

Marjolein Maas, Elise de Winter, Saskia Hartog, Mike van den Burgt, Nadiya Sayenko.

### Language

English

### License

CC-BY-4

### Embargo

Authors declare the dataset is not under embargo.

### Repository location

The dataset is available on DataverseNL: <https://dataverse.nl/dataset.xhtml?persistentId=hdl:10411/FBOVXA> and can also be approached via the Open Science Framework: <https://osf.io/x6n9p/>.

### Publication date

16/08/2018

## (4) Reuse potential

This dataset can be used in (meta) research on, for instance, moral judgment and incidental vs. inherent emotions (e.g., meta analysis on the effect of affect manipulations or on the effect of feelings elicited by vignettes on responding to moral dilemmas) and possible moderators (current data include several interoceptive/intuitive individual difference measures). Moreover, future research could use this

data for comparisons of different stress manipulations (e.g., to identify the effect strengths of manipulations on (moral) judgments). Next to this, the correlational data may inspire future confirmatory studies looking at the relationship between interoceptive awareness and condemnation of disgust-eliciting (vs. non disgust-eliciting) acts. To facilitate reuse, the data is accompanied by an organized data file of the statistical results of our initial analyses, which was produced using tidystats (<https://github.com/WillemSlegers/tidystats>). Further exploratory analyses and future collaborations are encouraged.

#### Additional File

The additional file for this article can be found as follows:

- **Supplemental material.** van 't Veer, A.E. & Slegers, W. (2019). Psychology data from an exploration of the effect of anticipatory stress on disgust vs. non-disgust related moral judgments. DOI: <https://doi.org/10.5334/jopd.43.s1>

#### Acknowledgements

Authors would like to thank all members of the department of Social Psychology at Tilburg University and TIBER (Tilburg Institute of Behavioral Economics Research) for their support and valuable discussions.

#### Competing Interests

The authors have no competing interests to declare.

#### Author Contribution

Conceptualization, A.E.V.; Methodology, A.E.V.; Investigation, A.E.V.; Formal Analysis, W.W.A.S. and A.E.V.; Data Curation, W.W.A.S. and A.E.V.; Writing – Original Draft, A.E.V. and W.W.S.; Writing – Review & Editing, W.W.S. and A.E.V.; Visualisation, W.W.A.S. and A.E.V.

#### References

1. Schnall, S, Haidt, J, Clore, G L and Jordan, A H 2008 Disgust as embodied moral judgment. *Personality and social psychology bulletin*, 34(8): 1096–1109. DOI: <https://doi.org/10.1177/0146167208317771>
2. Starcke, K, Wolf, O T, Markowitsch, H J and Brand, M 2008 Anticipatory stress influences decision making under explicit risk conditions. *Behavioral neuroscience*, 122(6): 1352. DOI: <https://doi.org/10.1037/a0013281>
3. Starcke, K, Ludwig, A C and Brand, M 2012 Anticipatory stress interferes with utilitarian moral judgment. *Judgment and Decision Making*, 7(1): 61. <http://journal.sjdm.org/11/11729/jdm11729.html>
4. Cannon, P R, Schnall, S and White, M 2011 Transgressions and expressions: Affective facial muscle activity predicts moral judgments. *Social psychological and personality science*, 2(3): 325–331. DOI: <https://doi.org/10.1177/1948550610390525>
5. Chapman, H A, Kim, D A, Susskind, J M and Anderson, A K 2009 In bad taste: Evidence for the oral origins of moral disgust. *Science*, 323(5918): 1222–1226. DOI: <https://doi.org/10.1126/science.1165565>
6. Horberg, E J, Oveis, C and Keltner, D 2011 Emotions as moral amplifiers: An appraisal tendency approach to the influences of distinct emotions upon moral judgment. *Emotion Review*, 3(3): 237–244. DOI: <https://doi.org/10.1177/1754073911402384>
7. Inbar, Y, Pizarro, D A and Bloom, P 2009 Conservatives are more easily disgusted than liberals. *Cognition and emotion*, 23(4): 714–725. DOI: <https://doi.org/10.1080/02699930802110007>
8. Rozin, P, Lowery, L, Imada, S and Haidt, J 1999 The CAD triad hypothesis: a mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of personality and social psychology*, 76(4): 574. DOI: <https://doi.org/10.1037/0022-3514.76.4.574>
9. Wagemans, F, Brandt, M J and Zeelenberg, M 2018 Disgust sensitivity is primarily associated with purity-based moral judgments. *Emotion*, 18(2): 277. DOI: <https://doi.org/10.1037/emo0000359>
10. Youssef, F F, Dookeeram, K, Basdeo, V, Francis, E, Doman, M, Mamed, D, Legall, G, et al. 2012 Stress alters personal moral decision making. *Psychoneuroendocrinology*, 37(4): 491–498. DOI: <https://doi.org/10.1016/j.psyneuen.2011.07.017>
11. Preston, S D, Buchanan, T W, Stansfield, R B and Bechara, A 2007 Effects of anticipatory stress on decision making in a gambling task. *Behavioral neuroscience*, 121(2): 257. DOI: <https://doi.org/10.1037/0735-7044.121.2.257>
12. Tybur, J M, Lieberman, D, Kurzban, R and DeScioli, P 2013 Disgust: Evolved function and structure. *Psychological review*, 120(1): 65. DOI: <https://doi.org/10.1037/a0030778>
13. Inbar, Y and Pizarro, D A 2014 Pollution and purity in moral and political judgment. In J. Wright and H. Sarkissian (Eds.), *Advances in experimental moral psychology* (pp. 112–129). London, UK: Bloomsbury Academic.
14. Miller, L C, Murphy, R and Buss, A H 1981 Consciousness of body: Private and public. *Journal of personality and social psychology*, 41(2): 397. DOI: <https://doi.org/10.1037/0022-3514.41.2.397>
15. Bates, D, Maechler, M, Bolker, B and Walker, S 2015 Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software*, 67(1): 1–48. DOI: <https://doi.org/10.18637/jss.v067.i01>
16. Kuznetsova, A, Brockhoff, P B and Christensen, R H B 2017 lmerTest Package: Tests in Linear Mixed Effects Models. *Journal of Statistical Software*, 82(13): 1–26. DOI: <https://doi.org/10.18637/jss.v082.i13>
17. Koller, M 2016 robustlmm: An R Package for Robust Estimation of Linear Mixed-Effects Models. *Journal of Statistical Software*, 75(6): 1–24. DOI: <https://doi.org/10.18637/jss.v075.i06>
18. Spielberger, C D, Gorsuch, R L and Lushene, R E 1970 Manual for the state-trait anxiety inventory. Palo Alto, CA: Consulting Psychologists, 22.
19. Starcke, K and Brand, M 2012 Decision making under stress: A selective review. *Neuroscience & Biobehavioral Reviews*, 36(4): 1228–1248. DOI: <https://doi.org/10.1016/j.neubiorev.2012.02.003>

20. **Pacini, R** and **Epstein, S** 1999 The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon. *Journal of Personality and Social Psychology*, 76(6): 972–987. DOI: <https://doi.org/10.1037/0022-3514.76.6.972>
21. **Mehling, W E, Price, C, Daubenmier, J J, Acree, M, Bartmess, E** and **Stewart, A** 2012 The Multidimensional Assessment of Interoceptive Awareness (MAIA). *PloS One*, 7(11), e48230. DOI: <https://doi.org/10.1371/journal.pone.0048230>

**How to cite this article:** van 't Veer, A E and Slegers, W W A 2019 Psychology Data from an Exploration of the Effect of Anticipatory Stress on Disgust vs. Non-Disgust Related Moral Judgments. *Journal of Open Psychology Data*, 7: 1. DOI: <https://doi.org/10.5334/jopd.43>

**Published:** 15 May 2019

**Copyright:** © 2019 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See <http://creativecommons.org/licenses/by/4.0/>.