

Tilburg University

Trait ratings for the Radboud Faces Database

Jaeger, B.

DOI:
[10.17605/OSF.IO/CF5AD](https://doi.org/10.17605/OSF.IO/CF5AD)

Publication date:
2020

Document Version
Peer reviewed version

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Jaeger, B. (2020). *Trait ratings for the Radboud Faces Database*. PsyArXiv Preprints.
<https://doi.org/10.17605/OSF.IO/CF5AD>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Trait Ratings for the Radboud Faces Database

Bastian Jaeger

Tilburg University

Draft version: 19 January 2020

Contact: bxjaeger@gmail.com

Please cite as:

Jaeger, B. (2020). *Trait ratings for the Radboud Faces Database*. Retrieved from <https://psyarxiv.com/cf5ad/>

Introduction

Since its publication, the Radboud Faces Database (RaFD; Langner et al., 2010) has become one of the most widely used face databases. At the time of writing, it has been cited more than 1,400 times. The database includes validation data such as rated genuineness, clarity, and intensity of the displayed facial expression. Ratings of models' attractiveness based on their neutral, frontal gaze image is also available and age data for most models can be found at <http://gijsbijlstra.nl/rafd-ratings/>. These ratings are useful for researchers who want to (a) select models who score particularly low or high on a certain characteristic (e.g., Deska, Lloyd, & Hugenberg, 2017; Ert, Fleischer, & Magen, 2016; Klapper, Dotsch, van Rooij, & Wigboldus, 2016), (b) ensure that different image sets do not significantly differ on certain characteristics (e.g., Jaeger, Wagemans, Evans, & van Beest, 2018), or (c) control for these characteristics in statistical analyses (e.g., Zloteanu, Harvey, Tuckett, & Livan, 2018). Here, additional trait ratings for all 39 models of the RaFD's Caucasian Adult Subset (neutral expression, frontal gaze) are presented. The models were rated on 19 dimensions (Oosterhof & Todorov, 2008; Sutherland et al., 2013; Sutherland, Oldmeadow, & Young, 2016): trustworthiness, dominance, attractiveness, competence, openness, conscientiousness, extraversion, agreeableness, emotional stability, aggressiveness, friendliness, health, intelligence, anger, disgust, fear, happiness, sadness, surprise.¹

Participants & Design

Sample 1

A total of 270 first-year psychology students from Tilburg University (79.26% female, 20.00% male, 0.37% other; $M_{\text{age}} = 19.81$, $SD_{\text{age}} = 2.70$) were recruited in October 2016 and completed the study in exchange for course credit. Participants rated all 39 faces from the Caucasian Adult Subset of the RaFD on trustworthiness, dominance, attractiveness, or competence on a scale from 1 (*not [trait] at all*) to 9 (*extremely [trait]*).

Sample 2

A total of 209 first-year psychology students from Tilburg University (77.51% female, 22.01% male, 0.48% other; $M_{\text{age}} = 20.06$, $SD_{\text{age}} = 2.84$) were recruited in April 2018 and completed the study in exchange for course credit. Participants rated all 39 faces from the

¹ Ratings on additional trait dimensions will be added in the future.

Caucasian Adult Subset of the RaFD on one of the Big Five personality traits (openness, conscientiousness, extraversion, agreeableness, emotional stability) on a scale from 1 (*not [trait] at all*) to 9 (*extremely [trait]*). A short description of each trait was provided prior to the rating task (cf. Gosling, Rentfrow, & Swann, 2003). Participants read that a person scoring high on openness (conscientiousness/ extraversion/ agreeableness/ emotional stability) is open to new experiences and complex (dependable and self-disciplined/ extraverted and enthusiastic/ sympathetic and warm/ calm and emotionally stable), whereas a person scoring low on is conventional and uncreative (disorganized and careless/ reserved and quiet/ critical and quarrelsome/ anxious and easily upset).

Sample 3

A total of 448 first-year psychology students from Tilburg University (83.04% female, 16.74% male, 0.22% other; $M_{\text{age}} = 20.11$, $SD_{\text{age}} = 2.86$) were recruited in January 2020 and completed the study in exchange for course credit. Participants rated all 39 faces from the Caucasian Adult Subset of the RaFD on aggressiveness, friendliness, health, intelligence, anger, disgust, fear, happiness, sadness, or surprise on a scale from 1 (*not [trait] at all*) to 9 (*extremely [trait]*).

Procedure & Data preparation

The faces were displayed in a random order and each participant only rated one trait. To increase the reliability of ratings (Martinez, Funk, & Todorov, 2020), each participant rated all 39 faces twice in two consecutive blocks and the average rating of each face across the two blocks was calculated. Thirteen participants who always indicated the same rating and 82 participants whose face ratings from block one showed a non-significant correlation with their face ratings from block two were excluded, leaving a final sample of 895 participants (81.42% female, 18.21% male, 0.22% other; $M_{\text{age}} = 19.92$, $SD_{\text{age}} = 2.64$). The average correlation between the two sets of ratings was $r = .651$ ($SD = .143$).

Table 1 shows summary statistics for each trait dimensions including the number of independent raters and the level of agreement in ratings (measured with the intraclass correlation coefficient). Figures 1 and 2 show zero-order and partial correlation matrices. Mean ratings for each of the 39 models on all 19 trait dimensions can be found in Tables 2 and 3. Data and analysis scripts are available at the Open Science Framework (<https://osf.io/z56th/>).

Results

Table 1

Summary statistics for the trait ratings

	<i>n</i>	<i>ICC</i>	<i>r₁₂</i>	<i>M</i>	<i>Md</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Trustworthiness	38	.299	.730	5.24	5.5	1.58	3.73	6.61
Dominance	40	.288	.724	4.68	4.5	1.90	2.80	6.21
Attractiveness	66	.498	.853	3.68	3.5	1.83	1.88	6.29
Competence	68	.322	.747	5.40	5.5	1.66	3.54	6.90
Openness	59	.235	.705	4.84	5.0	1.61	3.27	6.34
Conscientiousness	36	.223	.646	5.27	5.5	1.46	3.33	6.58
Extraversion	41	.345	.663	4.65	4.5	1.74	2.39	6.39
Agreeableness	38	.399	.729	4.80	5.0	1.55	3.21	6.39
Emotional stability	61	.292	.656	5.28	5.5	1.51	3.81	6.47
Intelligence	47	.264	.680	5.11	5.0	1.60	3.61	6.63
Aggressiveness	47	.345	.719	4.41	4.5	1.70	2.78	6.34
Friendliness	45	.321	.744	5.05	5.0	1.60	3.83	6.59
Health	47	.482	.763	5.61	6.0	1.52	3.67	7.18
Anger	44	.306	.693	3.98	4.0	1.84	1.93	5.89
Disgust	37	.178	.736	3.30	3.0	1.81	2.03	4.39
Fear	45	.271	.700	3.51	3.5	1.83	2.39	5.43
Happiness	44	.477	.751	4.61	4.5	1.57	3.20	6.72
Sadness	48	.397	.672	4.13	4.0	1.80	2.31	6.20
Surprise	44	.378	.768	2.77	2.5	1.72	1.69	4.94

Note: *n* = number of independent raters, *ICC* = intraclass correlation coefficient, *r₁₂* = correlation between participants' ratings in block one and block two, *M* = mean rating, *Md* = median rating, *SD* = standard deviation of ratings, *Min* = minimum average rating of a face, *Max* = maximum average rating of a face

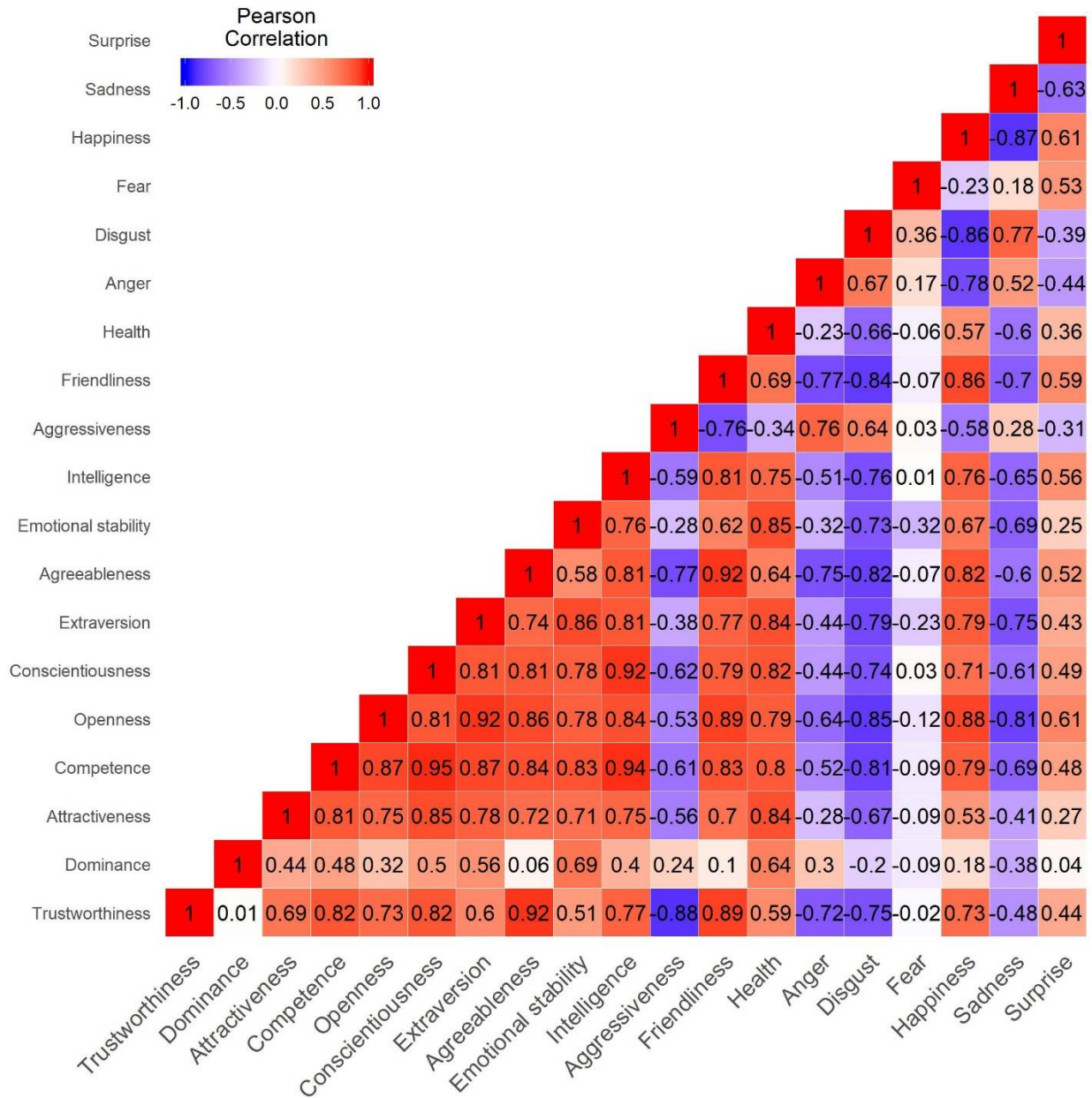


Figure 1. Zero-order correlations between all variables.

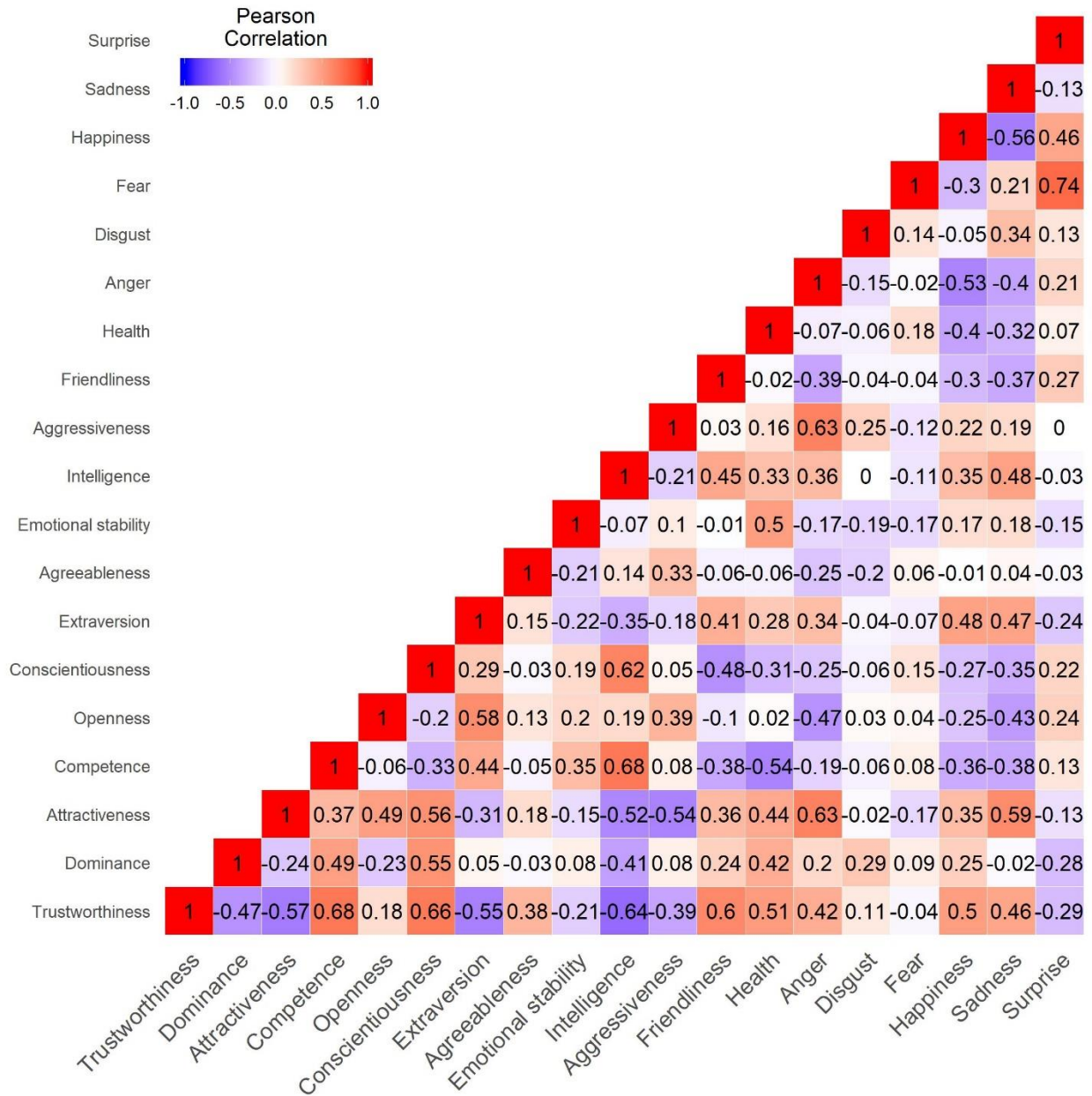


Figure 2. Partial correlations between all variables.

Table 2

Trait ratings for the Caucasian Adult Subset (neutral expression, frontal gaze) of the Radboud Faces Database

Model	Gender	TW	DOM	ATT	COM	OP	CON	EX	AG	ES
1	F	5.15	6.21	6.29	6.19	5.38	6.12	5.96	4.78	6.39
2	F	4.77	5.65	3.39	5.21	4.35	4.97	4.38	4.19	5.43
3	M	5.76	3.02	3.30	5.73	5.94	5.38	5.50	5.75	5.14
4	F	5.81	3.10	2.92	5.02	3.80	5.08	3.50	4.88	4.15
5	M	4.73	4.60	2.87	4.97	4.15	4.96	4.39	4.35	4.90
7	M	5.35	5.35	4.19	5.79	5.79	5.43	5.61	4.86	5.99
8	F	4.91	5.24	3.14	5.00	3.98	5.00	3.79	3.89	5.10
9	M	4.73	4.30	2.69	4.74	4.73	4.82	4.29	4.40	5.00
10	M	4.88	5.11	2.86	5.07	3.96	4.97	3.93	4.55	5.26
12	F	6.08	5.53	5.95	6.72	6.10	6.50	6.28	5.51	6.31
14	F	4.90	6.12	3.42	5.54	4.02	5.80	3.92	4.28	4.82
15	M	5.39	5.25	4.12	6.21	5.78	5.88	6.04	4.98	6.18
16	F	5.36	3.87	4.02	4.72	4.34	4.79	4.22	4.93	4.01
18	F	5.27	3.53	3.44	4.89	4.17	5.08	3.43	4.39	4.42
19	F	6.06	5.10	4.70	6.18	5.80	6.03	5.59	5.45	5.44
20	M	4.31	4.98	2.85	4.42	3.83	4.53	4.13	3.85	4.96
21	M	3.92	2.80	1.88	3.54	3.27	3.33	2.39	3.21	3.81

Note. TW = Trustworthiness, DOM = Dominance, ATT = Attractiveness, COM = Competence, OP = Openness, CON = Conscientiousness, EX = Extraversion, AG = Agreeableness, ES = Emotional Stability.

Table 2 (continued)

Model	Gender	TW	DOM	ATT	COM	OP	CON	EX	AG	ES
22	F	5.11	3.16	2.56	4.68	4.18	4.49	3.29	4.60	4.61
23	M	5.64	5.17	4.14	6.19	5.68	5.58	5.36	5.49	6.11
24	M	4.81	5.65	3.73	6.13	5.80	5.70	5.72	4.80	5.43
25	M	6.03	4.34	3.18	6.24	5.76	5.42	6.03	5.63	5.60
26	F	6.61	4.49	5.33	6.62	6.34	6.53	5.70	6.39	6.00
27	F	5.41	4.31	3.12	5.04	4.52	5.29	4.04	4.68	4.61
28	M	3.73	5.72	2.09	3.97	3.96	3.91	3.91	3.43	5.06
30	M	5.02	5.57	4.02	5.71	5.49	5.70	5.62	5.30	5.60
31	F	5.45	4.75	5.04	5.64	5.27	5.79	5.39	5.11	5.43
32	F	5.86	4.34	3.89	5.67	5.00	5.72	4.72	4.96	5.72
33	M	5.49	5.09	4.15	5.63	5.10	5.53	5.09	5.10	5.46
36	M	5.70	4.16	3.66	5.54	5.62	5.61	4.59	5.35	5.35
37	F	6.49	3.49	5.20	6.03	5.63	5.64	5.12	6.33	5.32
38	M	4.74	3.39	2.59	4.45	4.24	4.37	3.54	4.25	4.99
46	M	4.14	3.92	2.16	4.52	3.73	3.93	3.18	3.93	4.35
47	M	4.44	3.20	1.93	4.05	3.50	4.04	2.67	3.96	4.10
49	M	4.06	5.03	2.42	3.97	3.67	4.07	3.55	3.60	4.86

Note. TW = Trustworthiness, DOM = Dominance, ATT = Attractiveness, COM = Competence, OP = Openness, CON = Conscientiousness, EX = Extraversion, AG = Agreeableness, ES = Emotional Stability.

Table 2 (continued)

ID	Gender	TW	DOM	ATT	COM	OP	CON	EX	AG	ES
56	F	6.40	5.66	3.70	6.90	5.24	6.58	4.87	5.50	6.42
57	F	5.22	6.12	4.25	6.10	5.45	5.83	6.39	5.03	6.47
58	F	5.19	4.47	4.44	5.24	4.68	5.46	4.50	4.89	5.39
61	F	5.92	5.44	5.11	6.35	4.80	6.08	4.95	5.13	5.75
71	M	5.55	5.36	4.58	6.14	5.82	5.71	5.93	5.53	6.15

Note. TW = Trustworthiness, DOM = Dominance, ATT = Attractiveness, COM = Competence, OP = Openness, CON = Conscientiousness, EX = Extraversion, AG = Agreeableness, ES = Emotional Stability.

Table 3

Trait ratings for the Caucasian Adult Subset (neutral expression, frontal gaze) of the Radboud Faces Database

Model	Gender	INT	AGG	FRN	HL	ANG	DSG	FR	HAP	SAD	SRP
1	F	5.90	4.07	5.06	6.95	4.58	2.96	2.39	4.53	4.14	1.86
2	F	4.79	4.64	4.18	5.32	4.69	3.54	2.70	4.48	4.23	1.78
3	M	5.82	3.44	5.83	4.67	1.93	2.50	2.99	6.72	2.71	4.58
4	F	4.81	2.78	5.16	4.80	3.35	3.23	3.51	4.45	5.20	1.98
5	M	4.94	5.28	4.30	4.65	4.69	3.42	3.18	3.85	4.89	1.81
7	M	5.13	4.80	5.22	6.31	3.73	2.97	3.96	4.98	3.49	3.13
8	F	4.60	5.00	4.27	5.79	5.00	3.59	2.74	3.75	4.54	2.01
9	M	4.40	4.72	4.74	5.17	3.78	3.57	3.71	4.09	4.25	2.45
10	M	5.01	5.06	4.62	5.66	4.72	4.18	3.58	3.81	4.96	2.32
12	F	6.10	3.15	6.59	7.12	3.47	2.09	2.64	5.89	2.31	3.58
14	F	5.38	5.18	4.03	5.07	5.65	3.73	5.43	3.90	3.81	3.83
15	M	5.86	4.37	5.61	7.06	3.34	2.72	3.68	5.15	2.76	3.48
16	F	4.65	3.72	4.92	4.91	4.01	4.11	3.62	3.51	6.20	1.69
18	F	4.94	3.82	4.77	4.67	3.94	4.39	5.47	3.58	5.84	3.56
19	F	5.31	3.99	5.74	6.33	3.52	2.86	3.20	5.61	3.26	3.15
20	M	3.98	6.20	3.90	5.55	5.89	3.92	3.26	3.20	5.15	1.82
21	M	3.89	5.97	3.83	3.96	5.47	4.24	3.53	3.40	5.04	2.00

Note. INT = Intelligence, AGG = Aggressiveness, FRN = Friendliness, HL = Healthiness, ANG = Anger, DSG = Disgust, FR = Fear, HAP = Happiness, SAD = Sadness, SRP = Surprise.

Table 3 (continued)

ID	Gender	INT	AGG	FRN	HL	ANG	DSG	FR	HAP	SAD	SRP
22	F	4.45	3.79	4.96	4.35	3.40	3.11	3.63	4.25	4.32	3.00
23	M	5.93	4.02	5.81	6.47	3.73	2.78	2.71	4.97	3.51	2.76
24	M	6.05	5.26	5.39	6.03	4.58	3.61	5.04	5.05	3.16	4.94
25	M	5.69	3.63	6.09	5.39	2.68	2.43	2.46	5.88	2.51	2.91
26	F	6.63	2.93	6.59	7.18	2.64	2.03	3.60	6.03	2.70	3.76
27	F	4.79	3.65	5.34	5.65	3.72	3.70	5.36	4.73	4.02	4.10
28	M	3.61	6.34	4.19	5.03	5.24	3.78	2.94	3.91	3.91	2.05
30	M	5.51	5.50	4.93	6.49	4.58	3.24	3.77	4.92	3.27	3.20
31	F	5.29	3.59	5.29	6.15	3.64	3.04	3.04	4.82	4.08	2.26
32	F	5.35	3.51	5.19	6.18	3.89	3.19	3.78	4.53	4.31	2.86
33	M	5.52	4.73	5.57	6.40	3.61	3.05	4.04	4.83	4.43	3.45
36	M	5.49	4.11	5.78	6.07	2.85	3.07	3.96	5.47	3.06	3.72
37	F	5.04	3.15	6.07	6.10	3.22	2.84	3.64	5.30	3.59	3.36
38	M	4.61	4.36	4.38	4.47	3.42	3.50	3.03	4.16	4.88	1.90
46	M	4.10	5.05	3.86	3.87	4.33	3.80	3.27	3.44	5.51	1.80
47	M	3.64	5.54	4.00	3.67	4.02	4.26	2.90	3.57	5.49	2.00
49	M	4.04	5.97	4.04	4.73	4.85	4.34	3.70	3.74	4.76	2.27

Note. INT = Intelligence, AGG = Aggressiveness, FRN = Friendliness, HL = Healthiness, ANG = Anger, DSG = Disgust, FR = Fear, HAP = Happiness, SAD = Sadness, SRP = Surprise.

Table 3 (continued)

ID	Gender	INT	AGG	FRN	HL	ANG	DSG	FR	HAP	SAD	SRP
56	F	6.19	3.45	5.67	5.66	2.64	2.89	2.93	5.92	3.33	2.66
57	F	5.49	4.63	5.41	6.33	3.53	2.88	2.31	5.98	2.91	2.48
58	F	4.93	4.35	4.73	5.50	4.76	3.16	3.66	4.08	5.39	2.31
61	F	5.87	3.98	5.41	6.37	4.77	3.26	3.98	4.03	5.29	2.08
71	M	5.64	4.13	5.56	6.71	3.18	2.78	3.50	5.44	3.79	2.95

Note. INT = Intelligence, AGG = Aggressiveness, FRN = Friendliness, HL = Healthiness, ANG = Anger, DSG = Disgust, FR = Fear, HAP = Happiness, SAD = Sadness, SRP = Surprise.

References

- Deska, J. C., Lloyd, E. P., & Hugenberg, K. (2017). Facing humanness: Facial width-to-height ratio predicts ascriptions of humanity. *Journal of Personality and Social Psychology*, 1–74. <https://doi.org/10.1037/pspi0000110>
- Ert, E., Fleischer, A., & Magen, N. (2016). Trust and reputation in the sharing economy: The role of personal photos in Airbnb. *Tourism Management*, 55, 62–73. <https://doi.org/10.1016/j.tourman.2016.01.013>
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37(6), 504–528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)
- Jaeger, B., Wagemans, F. M. A., Evans, A. M., & van Beest, I. (2018). Effects of facial skin smoothness and blemishes on trait impressions. *Perception*, 47(6), 608–625. <https://doi.org/10.1177/0301006618767258>
- Klapper, A., Dotsch, R., van Rooij, I., & Wigboldus, D. H. J. (2016). Do we spontaneously form stable trustworthiness impressions from facial appearance? *Journal of Personality and Social Psychology*, 111(5), 655–664. <https://doi.org/10.1037/pspa0000062>
- Langner, O., Dotsch, R., Bijlstra, G., Wigboldus, D. H. J., Hawk, S. T., & van Knippenberg, A. (2010). Presentation and validation of the Radboud Faces Database. *Cognition & Emotion*, 24(8), 1377–1388. <https://doi.org/10.1080/02699930903485076>
- Martinez, J. E., Funk, F., & Todorov, A. (2020). Quantifying idiosyncratic and shared contributions to stimulus evaluations. *Behavior Research Methods*, 1–17. <https://doi.org/10.3758/s13428-019-01323-0>
- Oosterhof, N. N., & Todorov, A. (2008). The functional basis of face evaluation. *Proceedings of the National Academy of Sciences*, 105(32), 11087–11092. <https://doi.org/10.1073/pnas.0805664105>
- Sutherland, C. A. M., Oldmeadow, J. A., Santos, I. M., Towler, J., Michael Burt, D., & Young, A. W. (2013). Social inferences from faces: Ambient images generate a three-dimensional model. *Cognition*, 127(1), 105–118. <https://doi.org/10.1016/j.cognition.2012.12.001>
- Sutherland, C. A. M., Oldmeadow, J. A., & Young, A. W. (2016). Integrating social and facial models of person perception: Converging and diverging dimensions. *Cognition*, 157, 257–267. <https://doi.org/10.1016/j.cognition.2016.09.006>

Zloteanu, M., Harvey, N., Tuckett, D., & Livan, G. (2018). *Digital identity: The effect of trust and reputation information on user judgement in the sharing economy*. Retrieved from <https://arxiv.org/ftp/arxiv/papers/1803/1803.03029.pdf>