**Registered Report: Social face evaluation: Ethnicity-specific differences in the judgement of trustworthiness of faces and facial parts**

**Online Supplement**

**Sample characteristics**



**Main Analyses**



**Cross-level interactions**

*Table S1.* Rater characteristics.

| | | Final sample *n* = 3,371 | Asian *n* = 743 | Black *n* = 908 | Latino *n* = 731 | White *n* = 891 | Mixed *n* = 93 |
|---|---|---|---|---|---|---|---|
| | | | | Categorical variables [%] | | | |
| Sex | Female | 63.1 | 61.9 | 72.5 | 58.0 | 58.7 | 62.4 |
| | Male | 36.0 | 37.3 | 27.1 | 40.6 | 40.4 | 35.5 |
| | Other | 0.7 | 0.7 | 0.2 | 1.1 | 0.7 | 2.2 |
| Eye color | Blue | 9.9 | 0.1 | 0.6 | 1.8 | 35.5 | 0.0 |
| | Green | 7.8 | 0.7 | 0.2 | 6.6 | 22.1 | 11.8 |
| | Brown | 80.7 | 97.3 | 98.3 | 91.5 | 39.4 | 88.2 |
| | Grey | 1.4 | 1.6 | 0.7 | 0.1 | 3.0 | 0.0 |
| Hair color | Blonde | 4.7 | 0.0 | 0.2 | 1.2 | 16.5 | 1.1 |
| | Brown | 41.5 | 15.5 | 19.1 | 59.5 | 69.0 | 62.4 |
| | Black | 52.2 | 84.1 | 80.4 | 38.6 | 9.5 | 35.5 |
| | Red | 1.1 | 0.0 | 0.2 | 0.1 | 3.7 | 0.0 |
| | Other | 0.6 | 0.4 | 0.1 | 0.5 | 1.2 | 1.1 |
| Dominant ambient ethnicity | Asian | 11.9 | 52.9 | 0.2 | 0.1 | 0.2 | 3.2 |
| | Black | 24.7 | 1.6 | 87.7 | 0.3 | 0.8 | 15.1 |
| | Latino | 17.4 | 0.4 | 0.1 | 75.8 | 2.0 | 10.8 |
| | White | 33.3 | 24.2 | 2.5 | 12.6 | 90.0 | 25.8 |
| | Mixed | 12.6 | 20.9 | 9.4 | 10.9 | 7.0 | 45.2 |
| Language version | English | 86.7 | 99.3 | 100.0 | 59.0 | 85.0 | 90.3 |
| | German | 0.8 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 |
| | Spanish | 12.4 | 0.0 | 0.0 | 41.0 | 12.1 | 9.7 |
| | Japanese | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Mandarin | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | Metric variables [years] | | | |
| Age | Mean (SD) | 30.5 (11.1) | 29.6 (9.8) | 27.1 (5.5) | 26.4 (8.0) | 38.4 (14.1) | 28.1 (10.3) |

| Education | Mean (SD) | 14.61 (4.7) | 15.7 (4.0) | 11.9 (5.7) | 15.5 (3.6) | 15. (3.7) | 13.9 (4.8) |
|---|---|---|---|---|---|---|---|
| | | Matching ethnicity of participant and participants' social environment [%] | | | | | |
| Ident Ethnicity rate | | 76.7 | 52.9 | 87.7 | 75.8 | 90.0 | 45.2 |

*Table S2.* Difficulty ratings by stimulus type and ethnicity.

| | Mean Difficulty Full faces (SD) | Mean Difficulty Eyes (SD) | Mean Difficulty Mid-face (SD) | Mean Difficulty Mouth (SD) |
|---|---|---|---|---|
| Overall sample | 3.1 (2.1) | 4.5 (2.1) | 7.2 (1.9) | 6.4 (2.1) |
| Asian | 3.2 (2.1) | 4.5 (2.1) | 7.0 (2.0) | 6.4 (2.1) |
| Black | 2.9 (2.1) | 5.1 (2.2) | 7.2 (2.0) | 6.7 (2.2) |
| Latino | 2.9 (2.1) | 3.7 (1.9) | 7.0 (2.0) | 6.1 (2.1) |
| White | 3.3 (2.0) | 4.5 (1.9) | 7.3 (1.8) | 6.4 (1.8) |
| Mixed | 3.0 (2.0) | 4.2 (2.1) | 7.0 (2.1) | 6.1 (2.0) |

*Table S3.* Ethnicity check question: Correct identification rates in %.

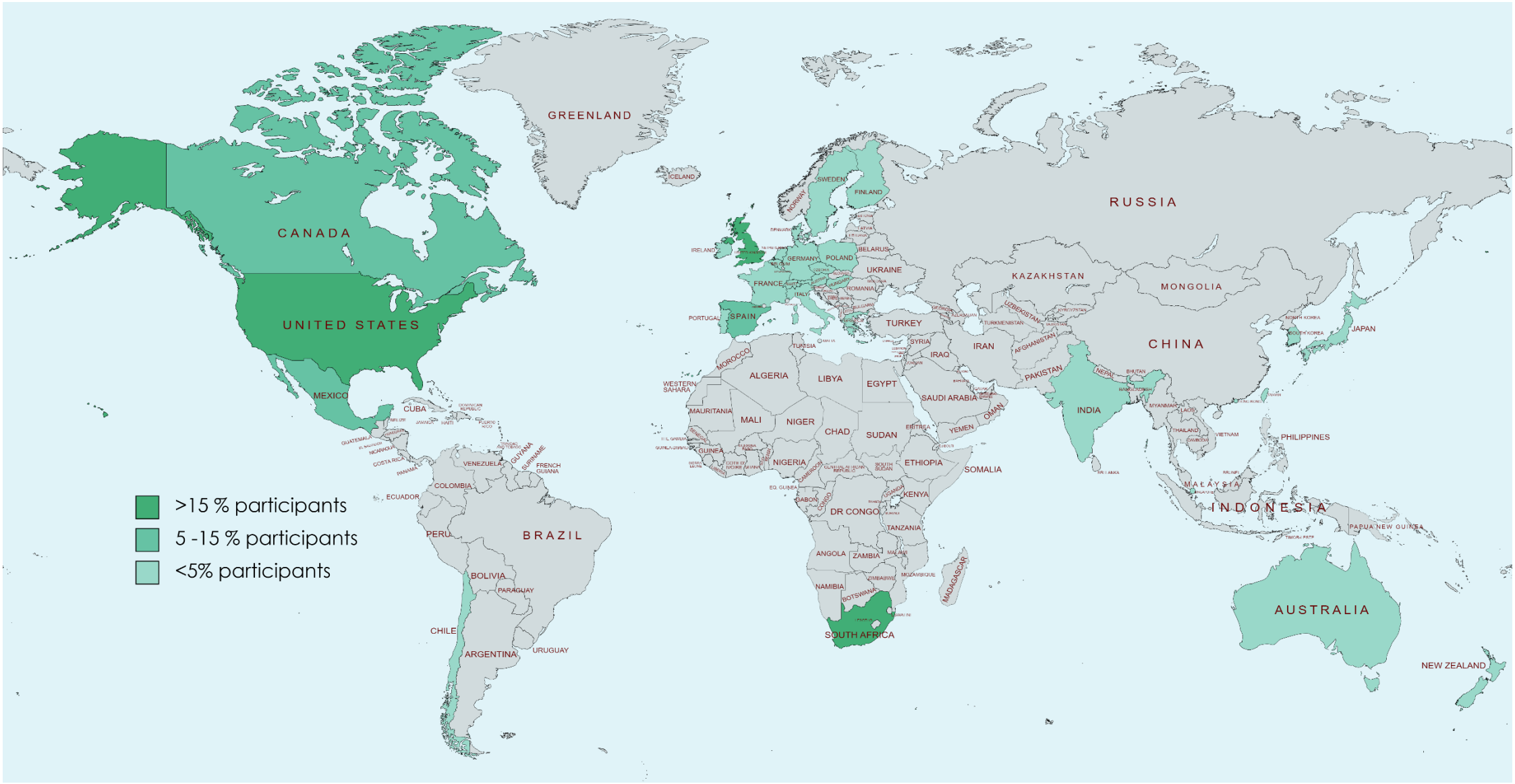
| | Mean Overall ethnicity identification rate (SD) | Mean Full faces ethnicity identification rate (SD) | Mean Eyes ethnicity identification rate (SD) | Mean Mid-face ethnicity identification rate (SD) | Mean Mouth ethnicity identification rate (SD) |
|---|---|---|---|---|---|
| All stimuli | 79.9 (21.6) | 90.2 (12.2) | 86.0 (16.5) | 66.7 (26.1) | 76.7 (21.6) |
| Asian targets | 79.7 (20.6) | 95.5 (3.7) | 97.7 (0.7) | 63.0 (11.7) | 62.7 (20.6) |
| Black targets | 89.1 (19.5) | 96.7 (6.5) | 90.0 (13.6) | 76.8 (31.6) | 93.1 (14.2) |
| Latino targets | 59.5 (17.4) | 74.8 (9.0) | 63.6 (7.1) | 39.9 (16.6) | 59.8 (14.2) |
| White targets | 91.2 (12.5) | 94.0 (12.8) | 92.6 (13.3) | 87.0 (13.2) | 91.2 (12.0) |

*Table S4*. Pearson correlations of trustworthiness ratings between full face and facial parts stimuli.

| | 1. | 2. | 3. |
|---|---|---|---|
| 1. Full face | | | |
| 2. Eyes part | .69 | | |
| 3. Nose part | .56 | .66 | |
| 4. Mouth part | .66 | .68 | .73 |

*Note*. All correlations $p$ <.001.

*Figure S1.* Geographic distribution of study sample.




*Note.* Figure S1 was created by the authors with the open-source software mapchart.net (https://www.mapchart.net/world.html; created on February, 17th, 2022)

*Figure S2.* Mean trustworthiness by stimulus type and target sex.

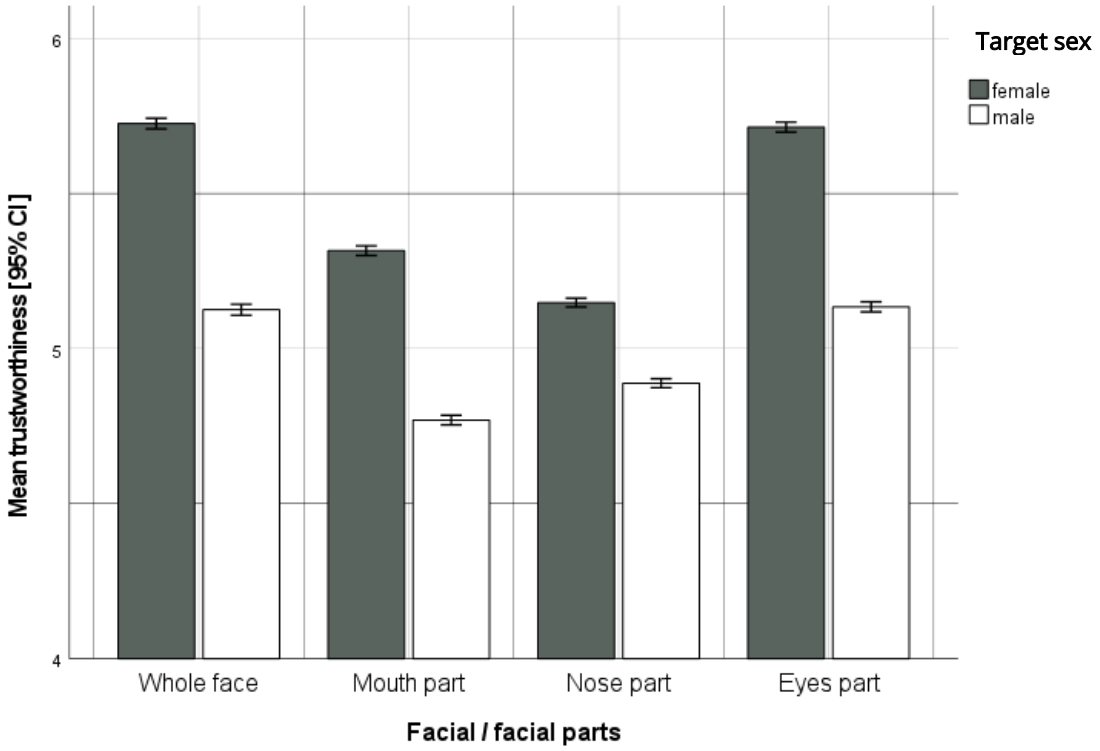



*Figure S3.* Mean trustworthiness by stimulus type and rater-target sex match.

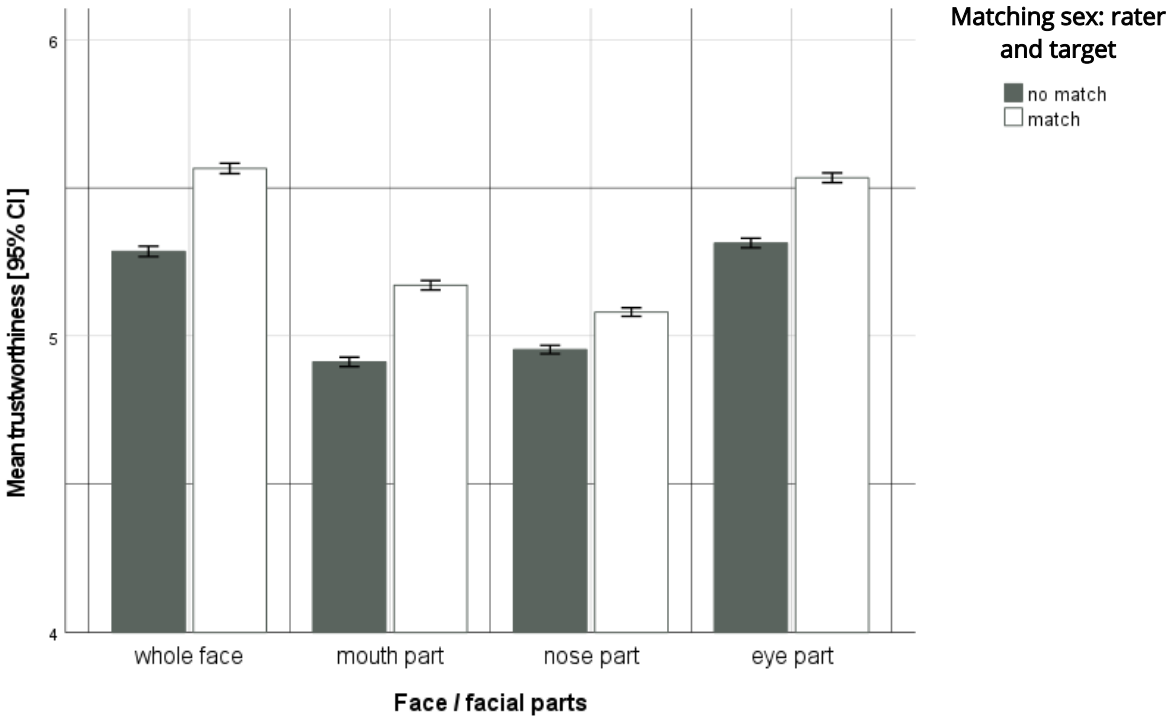
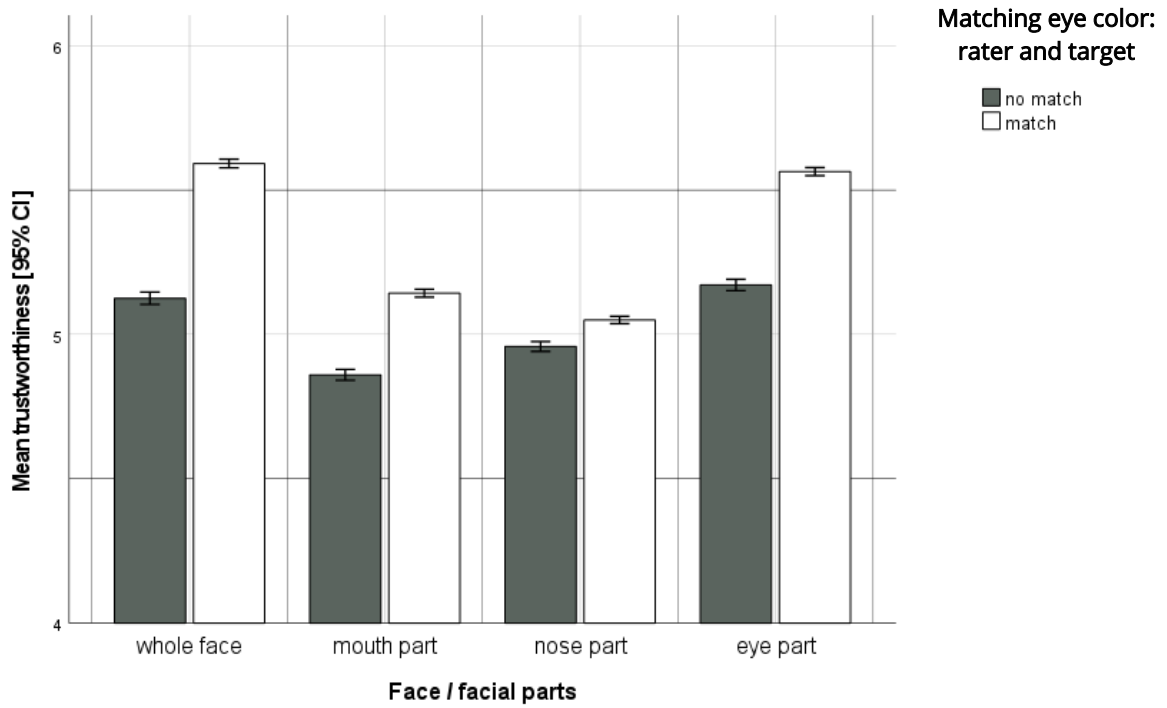


*Figure S4.* Mean trustworthiness by stimulus type and rater-target eye color match.




## Cross-level interactions

The results of the cross-level interactions are shown in Table S4. In general, even though the cross-level interaction model included more predictors than the model fitted to test RQ1, the amount of explained variance did not change substantially ($R^2_{conditional}$ 33% for both models, $R^2_{marginal}$ was 0.4% higher for cross-level interaction model), as Level 2 variables had low impact with small effect sizes.

The eyes part differed lightly from the full-face ratings, but this effect can be considered extremely small ($B$ = 0.09, $p$ < .001). To this effect may have contributed that especially White participants judged the eyes part as even more trustworthy than the full-face stimuli (see Figure S3 above). Moreover, Asians and participants of mixed ethnicity perceived the targets as significantly less trustworthy compared to the White subsample. However, caution is warranted when drawing such inferences due to the small size of the mixed ethnicity subsample (2.8% of all participants; $n$ = 93) which resulted in large confidence intervals.

Regarding the interactions of participant ethnicity and stimulus type, analyses revealed that interactions were non-significant or of very small effect size except for Black participants rating the mid-face and eyes stimuli (see Figure S3 above). More specifically, if a Black participant rated mid-face ($B$ = -0.34, $p$ < .001) or eyes stimuli ($B$ = -0.20, $p$ < .001), the effect of rater ethnicity on trustworthiness ratings got stronger (i.e., in this case more negative), indicating that the trustworthiness ratings of these stimulus types deviate more strongly from the full-face ratings.

*Table S4.* Trustworthiness assessments of whole face (reference) and different facial parts depending on participants' ethnicity (RQ1 – cross-level interaction).

| | Fixed | | | | | Random | |
|---|---|---|---|---|---|---|---|
| | Coeff. | *B* | *CI* | *SE* | *t* | Coeff. | *SD* |
| Intercept (Reference) | $\beta_{00}$ | 5.51 | 5.44 – 5.58 | 0.04 | 153.0*** | $r_{0i}$ | 1.04 |
| Within-person (reference whole face) | | | | | | | |
| Mouth part | $\beta_{10}$ | -0.34 | -0.39 – -0.30 | 0.02 | -14.3*** | $r_{1i}$ | 0.60 |
| Nose part | $\beta_{20}$ | -0.27 | -0.33 – -0.22 | 0.03 | -10.2*** | $r_{2i}$ | 0.70 |
| Eyes part | $\beta_{30}$ | 0.09 | 0.05 – 0.12 | 0.02 | 4.3*** | $r_{3i}$ | 0.45 |
| Between-person (reference White) | | | | | | | |
| Ethnicity Asian | $\beta_{01}$ | -0.22 | -0.32 – -0.11 | 0.05 | -4.1*** | | |
| Ethnicity Latino | $\beta_{02}$ | -0.07 | -0.18 – 0.03 | 0.05 | -1.4 | | |
| Ethnicity Black | $\beta_{03}$ | -0.04 | -0.14 – 0.06 | 0.05 | -0.8 | | |
| Ethnicity Mixed | $\beta_{04}$ | -0.25 | -0.48 – -0.02 | 0.12 | -2.1* | | |
| Interaction | | | | | | | |
| Mouth:Asian | $\beta_{11}$ | -0.03 | -0.10 – 0.04 | 0.04 | -0.82 | | |
| Mouth:Latino | $\beta_{12}$ | 0.04 | -0.14 – -0.00 | 0.04 | -1.99* | | |
| Mouth:Black | $\beta_{13}$ | 0.03 | -0.12 – 0.01 | 0.03 | -1.65 | | |
| Mouth:Mixed | $\beta_{14}$ | 0.08 | -0.18 – 0.13 | 0.08 | -0.33 | | |
| Nose:Asian | $\beta_{21}$ | -0.07 | -0.15 – 0.00 | 0.04 | -1.87 | | |
| Nose:Latino | $\beta_{22}$ | -0.11 | -0.19 – -0.03 | 0.04 | -2.78** | | |
| Nose:Black | $\beta_{23}$ | -0.34 | -0.42 – -0.27 | 0.04 | -9.10*** | | |
| Nose:Mixed | $\beta_{24}$ | -0.02 | -0.20 – 0.15 | 0.09 | -0.28 | | |
| Eyes:Asian | $\beta_{31}$ | -0.09 | -0.15 – -0.03 | 0.03 | -3.03** | | |
| Eyes:Latino | $\beta_{32}$ | -0.07 | -0.12 – -0.01 | 0.03 | -2.21* | | |
| Eyes:Black | $\beta_{33}$ | -0.20 | -0.26 – -0.15 | 0.03 | -7.17*** | | |
| Eyes:Mixed | $\beta_{34}$ | 0.08 | -0.05 – 0.21 | 0.07 | 1.25 | | |
| $R^2_{conditional}$ = 33%, $R^2_{marginal}$ = 1.4%, AIC = 1631865, BIC = 1632205, $\Omega^2$ = 34% | | | | | | | |

*Note*. Reference category was the trust ratings of the whole face. *$p$ < .05, **$p$ < .01, ***$p$ < .001. $\Omega^2$ is another effect size measure that can be interpreted as the share variance accounted for by the overall model.

*Figure S5.* Illustration of RQ1 + effects by rater ethnicity.