Results from Male Body Image Validation Study

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Validation

We replicated the validation procedure from Moussally and colleagues (2017). We asked 80 young men from the USA and Canada to rate 61 computer-generated male bodies on four dimensions: thinness, harmony, beauty, and attractiveness. All ratings were on sliding scales ranging from 0 to 100. Each body was presented once at random, and the four sliding scales were always presented in a randomly generated order.

Source code for the task can be found here.

Stimuli were created using the Daz3d software suite. In accordance with Moussally et al. (2017), we used the Genesis 8.1 package and increased the heaviness and thinness of the default male model in increments of 0.1, from 0.0 (neutral), to 3.0 (obese) and in the opposite direction to -3.0 (emaciated). Male models were adorned in white boxer shorts, and their heads were cropped out of the image. Each image was 400 pixels in width by 630 pixels in height, with a resolution of 72 pixels per inch.

Demographics

The young men were recruited using Prolific, and were compensated £2.50 for approximately 20 minutes of their time. Participants took an average of 16.39 minutes to complete the task. Males were 22.5 years of age on average, and had an average body mass index of 24.3, within the normal range for young men. Example stimuli are presented below.

Figure 1.

Example stimuli used in the task. Stimuli on the left represent bodies manipulated for thinness, and bodies on the right were manipulated for heaviness.

Figure 2.

Map of where male participants were responding from.

Participants were mostly from the Eastern USA, with 64 American participants, and 16 Canadians.

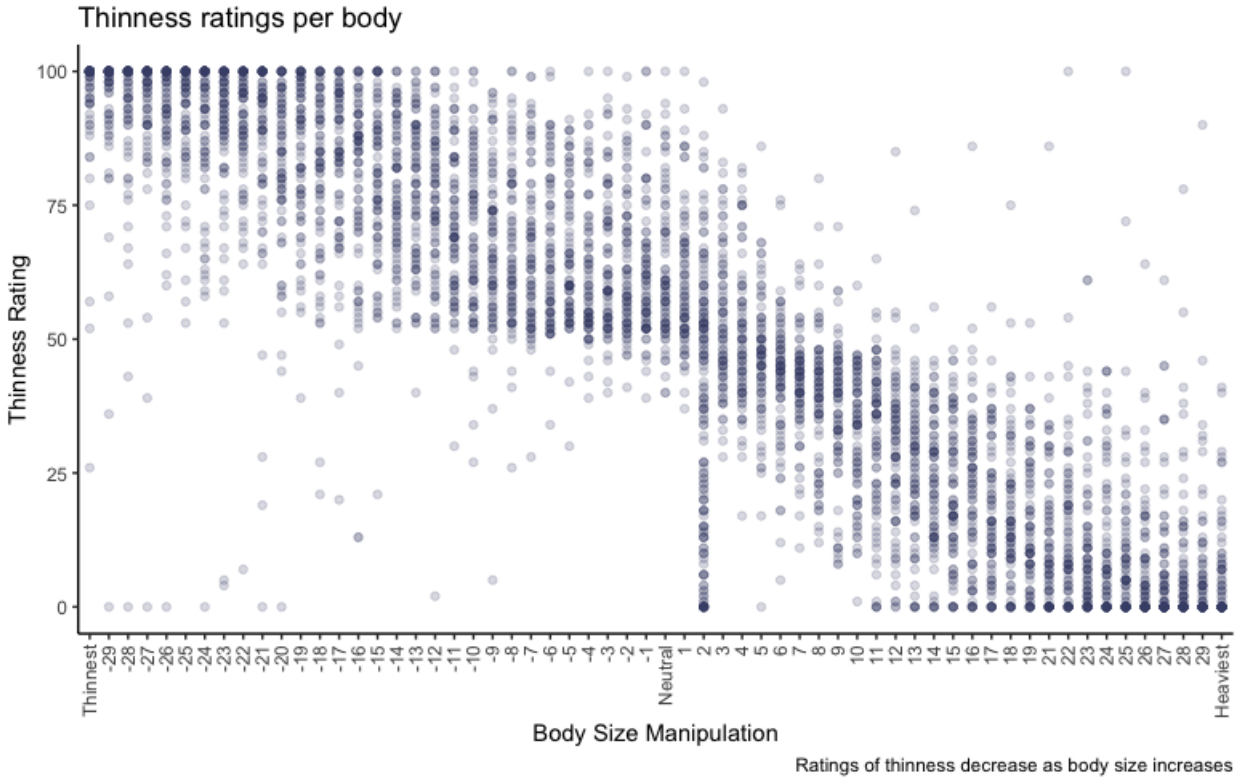
Research Questions

Ratings.

1. Are our heavy and thin bodies truly rated as such by young men?

This looks to be the case. As the thinness of bodies decreases, so too does the rating of thinness assigned to each body.

Figure 3.

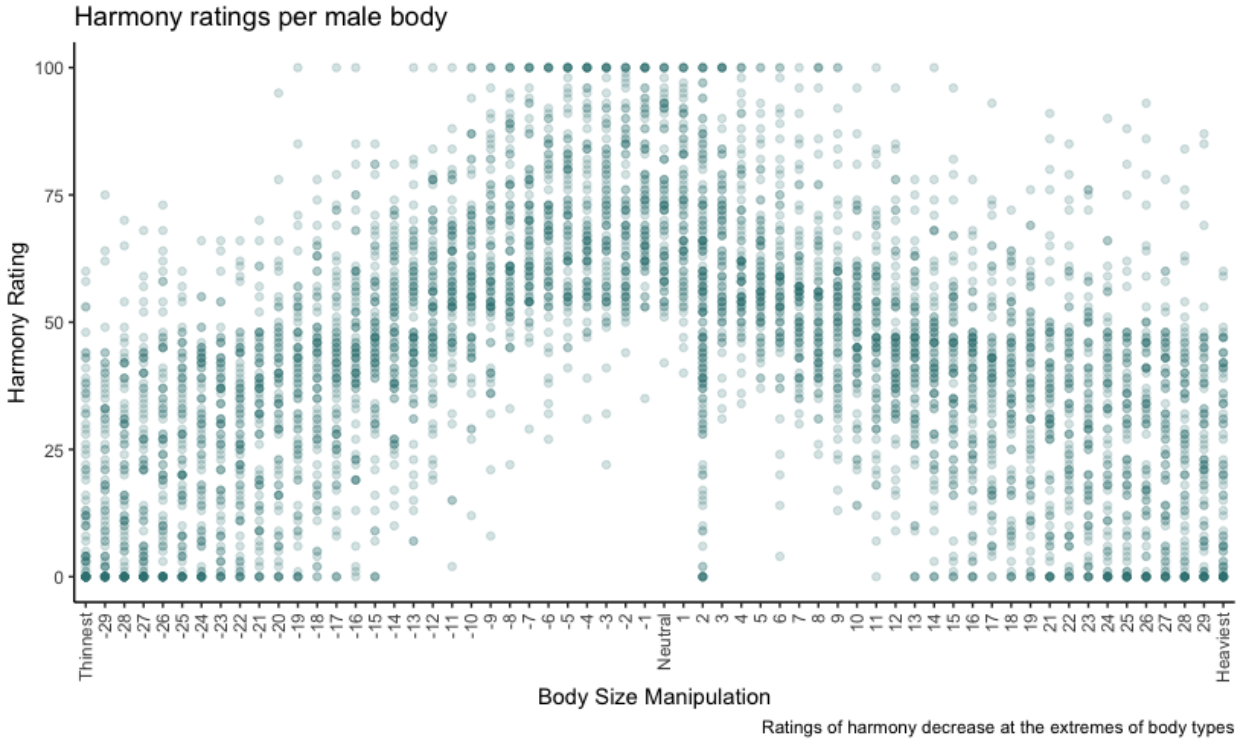


Weight ratings are on the y-axis, ranging from 0 (very heavy) to 100 (very thin) and the strength of the manipulation per body is labeled on the x-axis.

Participants were also asked to rate the bodies based on how harmonious, attractive, and beautiful they appear. While the thinness ratings follow a linear pattern, these ratings follow an inverted "U" curve. That is, the bodies are rated as less harmonious, less attractive, and less beautiful at the extreme ends of the body size manipulation.

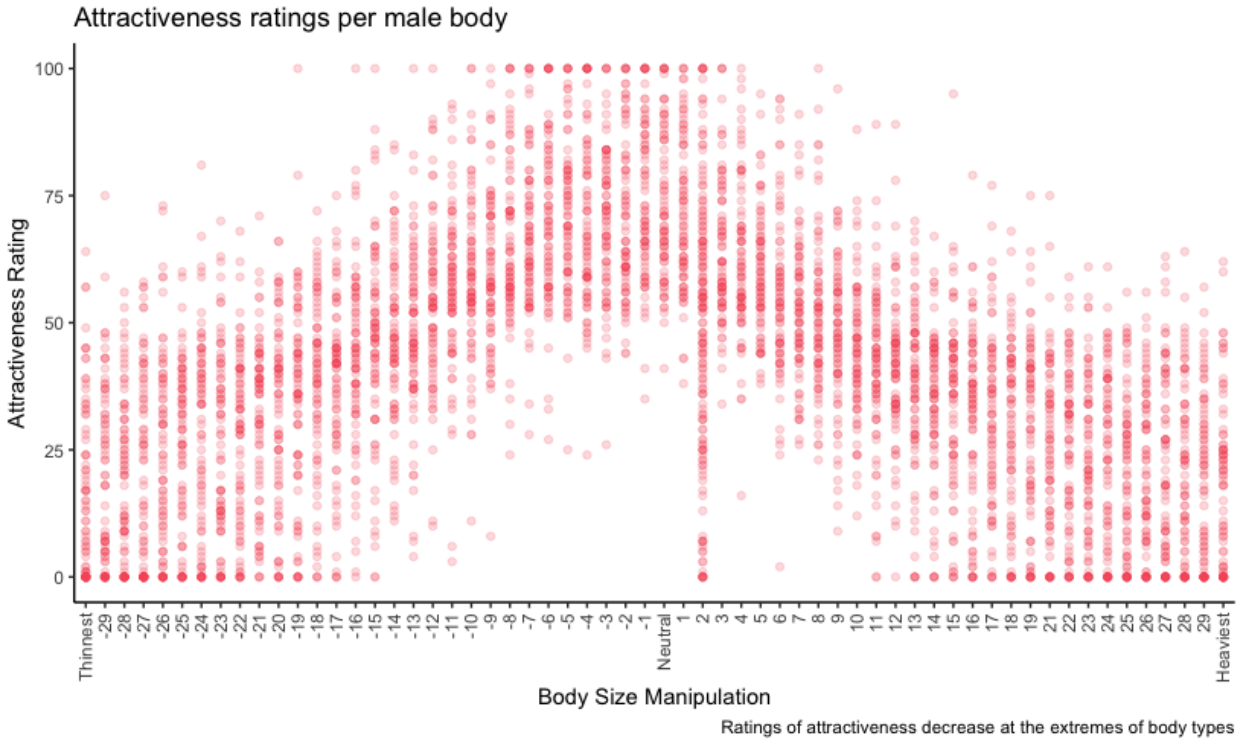
It also appears that the body manipulated to 0.2 appears to not have received much of a consensus from many participants. The judgments for that body appear to be quite noisy.

Figure 4.



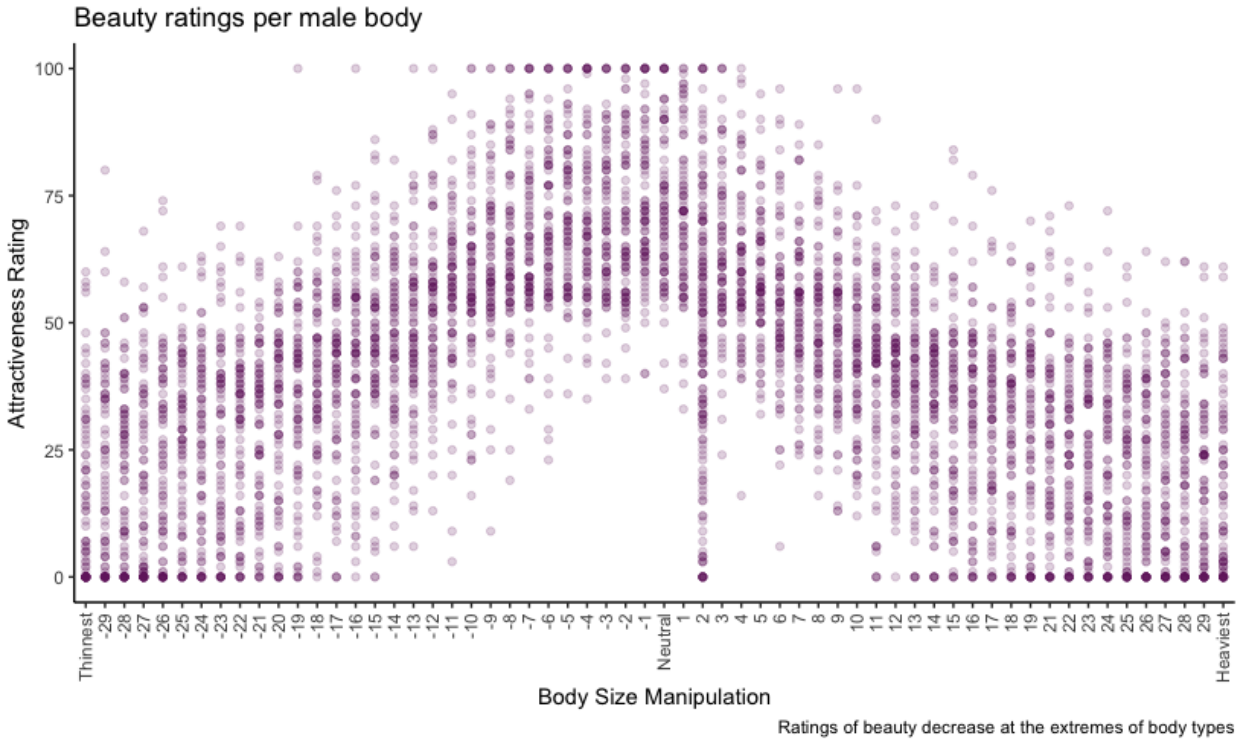
Harmony ratings are on the y-axis, ranging from 0 (very heavy) to 100 (very thin) and the strength of the manipulation per body is labeled on the x-axis.

Figure 5.



Attractiveness ratings are on the y-axis, ranging from 0 (very heavy) to 100 (very thin) and the strength of the manipulation per body is labeled on the x-axis.

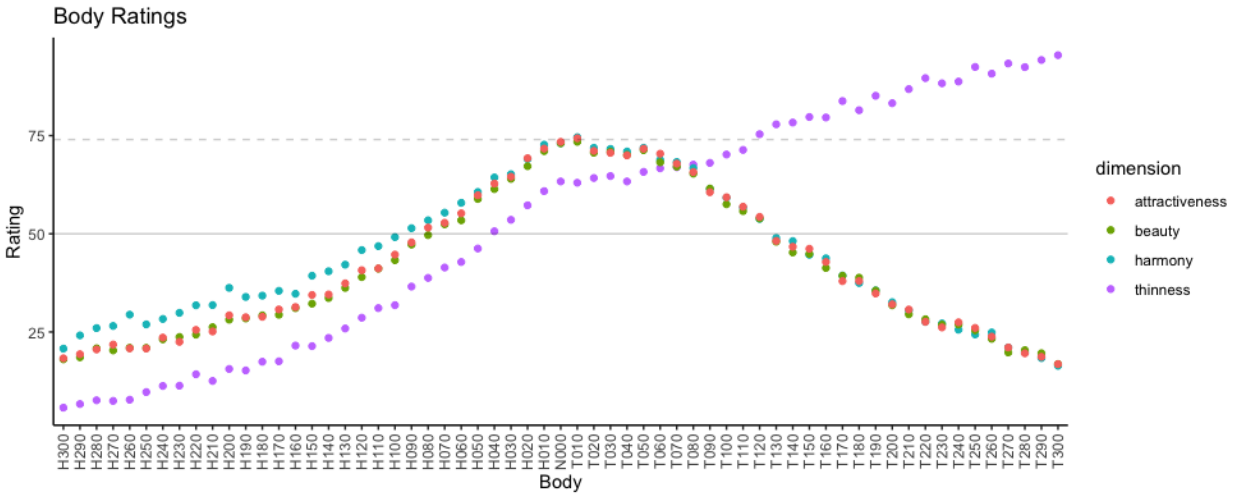
Figure 6.



Beauty ratings are on the y-axis, ranging from 0 (very heavy) to 100 (very thin) and the strength of the manipulation per body is labeled on the x-axis.

Figure 7.

Mean judgments for each body on each of the four dimensions.



The solid y-intercept is the 50 mark (the middle rating of each dimension) and the dashed line represents the y-intercept for 74, the highest overall mean rating of beauty, harmony and attractiveness. Body T010 was rated the most attractive, the most beautiful, and the most harmonious overall. Body H040 was the body with the closest mean rating to 50 on the heaviness dimension.

BMI.

2. Are men's own BMIs related to their judgements of other men's bodies?

No. I ran four linear models to see if there was an interaction between the participant's bmi and their model judgments. No F-values were above 1.0.

I used this model:

```
fm2 = lmer(rating ~ body*bmi + (1 + body*bmi | subject), data = bmi_fm1)
anova(fm2)
```

But, there were statistically significant correlations between ratings and participants' bmis, except when it came to making decisions about thinness. I think this effect might be mediated by age. Age does not correlate with judgements about thinness.

Ratings	Body Mass Index	Correlation Coefficient (Pearson)	P Value
attractiveness	bmi	-0.034000	0.018900***
beauty	bmi	-0.036000	0.014200***
harmony	bmi	-0.049000	0.000648***
thinness	bmi	0.012000	0.398000
age	bmi	0.260000	0.000000***

Participants do not seem to make decisions rating male bodies in relation to their own body mass index (BMI).

Table 1.

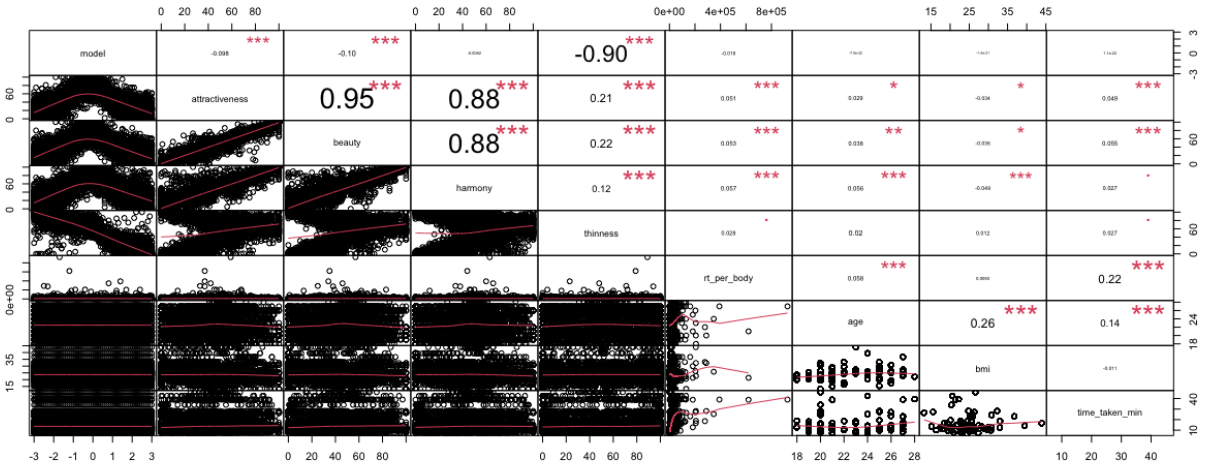
Mean ratings and SD for each body. Note that body H020 doesn't have a particularly high SD or mean compared to the other measures, so it seems like the noisy judgments on this body appear to be genuine.

Model	Mean Thinness Rating	SD	Mean Harmony Rating	SD	Mean Beauty Rating	SD	Mean Attractiveness Rating	SD
H300	5.74	9.25	20.76	18.16	18.04	17.39	18.31	16.29
H290	6.66	13.20	24.14	19.54	18.55	16.47	19.35	16.12
H280	7.61	13.43	25.99	20.35	20.84	16.85	20.55	16.64
H270	7.45	12.27	26.54	18.87	20.31	16.49	21.80	18.05
H260	7.75	11.58	29.41	21.71	20.99	16.23	20.83	15.46
H250	9.70	15.55	26.94	20.41	20.96	16.56	20.79	15.64
H240	11.26	13.24	28.31	20.56	23.13	17.29	23.58	16.78
H230	11.33	13.63	29.88	19.80	23.73	16.27	22.49	15.80
H220	14.24	15.32	31.80	20.41	24.34	17.17	25.53	16.08
H210	12.54	14.03	31.85	20.98	26.23	17.95	25.14	16.45
H200	15.59	13.47	36.24	20.97	28.14	18.86	29.25	18.06
H190	15.21	12.28	33.93	18.53	28.45	18.60	28.75	18.03
H180	17.43	13.68	34.25	18.19	29.24	17.23	28.86	17.18
H170	17.54	12.93	35.48	18.90	29.39	16.94	30.74	16.98
H160	21.54	14.97	34.73	17.42	31.08	17.75	31.35	17.60
H150	21.40	13.00	39.33	19.25	32.21	18.78	34.43	17.36
H140	23.49	12.70	40.46	18.07	33.65	15.96	34.55	14.73
H130	25.89	13.56	42.14	16.07	36.23	16.47	37.38	16.02
H120	28.64	14.25	45.85	16.60	38.98	14.56	40.73	14.28
H110	31.09	14.37	46.86	17.77	41.13	17.71	41.19	15.76
H100	31.83	11.68	49.15	15.19	43.28	15.45	44.70	13.25
H090	36.56	12.62	51.43	16.69	47.25	14.97	47.81	14.73

Model	Mean Thinness Rating	SD	Mean Harmony Rating	SD	Mean Beauty Rating	SD	Mean Attractiveness Rating	SD
H080	38.76	12.61	53.44	16.02	49.68	14.52	51.58	15.08
H070	41.41	9.36	55.38	14.42	52.41	13.95	52.80	13.45
H060	42.83	11.60	57.89	17.62	53.44	15.77	55.21	16.44
H050	46.25	12.27	60.65	13.76	58.88	13.03	59.81	11.73
H040	50.65	13.29	64.35	15.49	61.39	15.33	62.79	15.32
H030	53.56	13.25	65.18	16.10	63.99	15.48	64.54	13.96
H020	57.25	12.63	69.01	15.75	67.21	15.68	69.25	15.10
H010	60.86	12.66	72.71	15.06	71.04	15.39	71.70	14.81
N000	63.33	13.51	73.05	14.97	73.05	14.83	73.41	14.75
T010	63.00	12.75	74.60	14.32	73.41	14.36	74.33	15.14
T020	64.20	12.78	71.90	15.43	70.64	15.67	71.11	15.69
T030	64.70	13.43	71.60	16.72	70.89	14.42	70.61	14.48
T040	63.33	13.04	70.95	16.58	70.09	15.61	69.98	16.68
T050	65.76	12.58	71.90	15.67	71.30	14.61	71.66	15.00
T060	66.68	13.98	68.83	16.69	68.20	16.85	70.39	16.10
T070	66.95	14.42	68.29	14.90	67.10	15.54	67.86	15.06
T080	67.61	14.57	66.74	16.32	65.31	15.99	65.74	16.08
T090	68.05	14.89	61.44	17.74	61.51	15.56	60.59	15.50
T100	70.19	15.03	59.15	15.88	57.53	16.52	59.30	15.75
T110	71.35	13.35	56.70	15.56	55.79	15.42	56.90	15.80
T120	75.36	15.27	53.80	15.57	53.91	16.38	54.31	16.60
T130	77.88	13.60	48.93	16.73	47.99	16.01	48.20	16.54
T140	78.33	12.89	48.15	15.19	45.25	15.71	46.70	16.28
T150	79.74	14.86	44.65	18.23	44.90	18.11	46.19	19.38
T160	79.61	17.61	43.75	18.46	41.30	18.35	42.83	17.99
T170	83.80	15.00	39.36	18.28	39.31	17.08	37.95	16.72
T180	81.46	16.21	37.46	18.58	38.83	16.80	37.96	17.48
T190	85.14	13.57	35.59	19.46	35.54	18.80	34.80	19.60
T200	83.25	16.28	32.59	19.33	31.80	17.17	32.05	18.08
T210	86.84	18.07	30.45	17.27	29.50	16.57	30.71	16.21
T220	89.64	13.28	27.60	16.56	28.24	16.95	27.59	16.75
T230	88.31	17.09	27.18	17.08	26.86	18.81	26.16	18.32
T240	88.76	15.69	25.59	17.18	26.89	17.53	27.46	19.37
T250	92.48	10.49	24.38	17.03	25.43	16.15	26.04	16.07
T260	90.78	14.06	24.89	19.75	23.26	18.92	23.83	18.72
T270	93.36	14.30	21.05	18.52	19.79	18.60	21.05	18.84
T280	92.44	15.20	19.84	17.59	20.38	16.13	19.56	15.90
T290	94.25	14.58	18.35	17.89	19.60	18.85	18.69	17.68
T300	95.48	11.48	16.38	17.44	16.84	17.34	16.81	17.12

Figure 8.

Correlations of various body judgements, age, bmi and time taken at various parts in the task.



Here is a matrix of each coefficient and the associated p-value.

Variable One	Variable Two	Correlation Coefficient (Pearson)	P Value
attractiveness	model	-0.098000	0.000000
beauty	model	-0.100000	0.000000
harmony	model	-0.008200	0.565000
thinness	model	-0.900000	0.000000
rt_per_body	model	-0.018000	0.213000
age	model	0.000000	1.000000
bmi	model	0.000000	1.000000
time_taken_min	model	0.000000	1.000000
attractiveness	attractiveness	1.000000	0.000000
beauty	attractiveness	0.950000	0.000000
harmony	attractiveness	0.880000	0.000000
thinness	attractiveness	0.210000	0.000000
rt_per_body	attractiveness	0.051000	0.000341
age	attractiveness	0.029000	0.042500
bmi	attractiveness	-0.034000	0.018900
time_taken_min	attractiveness	0.049000	0.000892
model	beauty	-0.100000	0.000000
attractiveness	beauty	0.950000	0.000000
harmony	beauty	0.880000	0.000000
thinness	beauty	0.220000	0.000000
rt_per_body	beauty	0.053000	0.000212
age	beauty	0.038000	0.007800
bmi	beauty	-0.036000	0.014200
time_taken_min	beauty	0.055000	0.000179
model	harmony	-0.008200	0.565000
attractiveness	harmony	0.880000	0.000000
beauty	harmony	0.880000	0.000000
thinness	harmony	0.120000	0.000000
rt_per_body	harmony	0.057000	0.000070
age	harmony	0.056000	0.000100
bmi	harmony	-0.049000	0.000648
time_taken_min	harmony	0.027000	0.061300
model	thinness	-0.900000	0.000000
attractiveness	thinness	0.210000	0.000000

Variable One	Variable Two	Correlation Coefficient (Pearson)	P Value
beauty	thinness	0.220000	0.000000
harmony	thinness	0.120000	0.000000
rt_per_body	thinness	0.028000	0.053900
age	thinness	0.020000	0.165000
bmi	thinness	0.012000	0.398000
time_taken_min	thinness	0.027000	0.070400
model	rt_per_body	-0.018000	0.213000
attractiveness	rt_per_body	0.051000	0.000341
beauty	rt_per_body	0.053000	0.000212
harmony	rt_per_body	0.057000	0.000070
thinness	rt_per_body	0.028000	0.053900
age	rt_per_body	0.058000	0.000051
bmi	rt_per_body	0.009300	0.523000
time_taken_min	rt_per_body	0.220000	0.000000
model	age	0.000000	1.000000
attractiveness	age	0.029000	0.042500
beauty	age	0.038000	0.007800
harmony	age	0.056000	0.000100
thinness	age	0.020000	0.165000
rt_per_body	age	0.058000	0.000051
bmi	age	0.260000	0.000000
time_taken_min	age	0.140000	0.000000
model	bmi	0.000000	1.000000
attractiveness	bmi	-0.034000	0.018900
beauty	bmi	-0.036000	0.014200
harmony	bmi	-0.049000	0.000648
thinness	bmi	0.012000	0.398000
rt_per_body	bmi	0.009300	0.523000
age	bmi	0.260000	0.000000
time_taken_min	bmi	-0.011000	0.472000
model	time_taken_min	0.000000	1.000000
attractiveness	time_taken_min	0.049000	0.000892
beauty	time_taken_min	0.055000	0.000179
harmony	time_taken_min	0.027000	0.061300
thinness	time_taken_min	0.027000	0.070400
rt_per_body	time_taken_min	0.220000	0.000000
age	time_taken_min	0.140000	0.000000
bmi	time_taken_min	-0.011000	0.472000