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Database of Body-Only Computer-Generated Pictures of Women for Body-Image Studies

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Development of Stimuli

Using the 3-D modeling software DAZ Studio 4.0 (DAZ Productions, 2011), 61 photorealistic women's bodies were created. The basic female model offered by the software ("Genesis", female value = 1.00) was manipulated, with a sensitivity of 0.10, on the dimension of thinness/fatness (the standard "thin" or "heavy" slider was increased in steps of 0.10 from 0.00 to 3.00) to obtain a continuum of bodies from extreme emaciation (30 bodies gradually manipulated for thinness) to morbid obesity (30 bodies gradually manipulated for fatness). The volumes of the 3-D female models were assessed using Voxelizer (Morris, 2013). The following formula was applied to estimate their BMIs: BMI = [(volume*0.85/1,000)/height^2], where 0.85 is a density correction coefficient based on calibration tests,[1] and 1,000 is a divisor that converts the assessed volume to an estimated weight by adjusting the measurement units. The height of the 3-D models was defined as 1.65 m (i.e., close to the average height of European women; Cavelaars et al., 2000). Their estimated BMIs ranged from 13.19 (*very severe underweight*; estimated weight = 35.90 kg) to 120.29 (*very severe obesity*; estimated weight = 327.50 kg; World Health Organization [WHO], 1995, 2000, 2004).[2] The models were dressed in white panties and undershirts. After export to a 2-D format, their heads were removed, using Adobe Photoshop CS5 (Adobe Systems, 2010), to focus attention on their body features (e.g., the thinness/fatness of the body shapes) and to avoid any impact of facial features (as was recommended by Gardner & Brown, 2010; Gardner, Jappe, & Gardner, 2009).

[1] A first phase of calibration tests of Voxelizer was performed with geometric figures (whose volumes were known). It revealed that the software slightly overestimated the actual volumes (by adding voxels to the circumference of the figure). A second phase consisted in a pilot study (N = 15; ten women, five men). The participants were instructed to estimate the BMIs of five female models (the basic model provided by DAZ Studio, two models manipulated for thinness, and two models manipulated for fatness) with the help of a standard figure-rating scale, with BMIs ranging from 17.5 to 40.00. The difference between the participants' mean estimations and those obtained with Voxelizer indicated an average correction coefficient of 0.85, close to the one obtained in the first phase of calibration tests with geometric figures.

[2] The estimated weights and BMIs for the two extreme endpoint models could seem extreme, but they were designed so that the database could be used with different populations: samples from the community, but also clinical samples (e.g., individuals with anorexia nervosa or obese people). Therefore, the continuum of bodies contained in the database needed to be wide enough (i.e., to contain extreme and rare BMIs) in order to avoid ceiling or floor effects in clinical samples.

Description of Stimuli

Number	Manipulation	Name[1]	BMI[2]	WHO's categories[3]
1		T300	13.19	
2		T290	13.38	
3		T280	13.47	
4		T270	13.77	
5		T260	13.86	
6		T250	14.10	
7		T240	14.28	
8	Thinness	T230	14.46	Severe Underweight
9		T220	14.65	
10		T210	14.87	
11		T200	15.06	
12		T190	15.24	
13		T180	15.49	
14		T170	15.67	
15		T160	15.74	
16		T150	16.12	
17	Thinness	T140	16.40	Moderate Underweight
18		T130	16.64	
19		T120	16.81	
20		T110	17.08	
21		T100	17.28	
22	Thinness	T090	17.56	Mild Underweight
23		T080	17.77	
24		T070	18.01	
25		T060	18.26	
26	Thinness	T050	18.50	Normal Range

Number	Manipulation	Name[1]	BMI[2]	WHO's categories[3]
27	Thinness	T040	18.77	Normal Range
28		T030	19.10	
29		T020	19.30	
30		T010	19.61	
31	Basic model proposed by the software	N000	19.79	
32	Fatness	H010	21.55	
33		H020	23.35	
34	Fatness	H030	25.37	Overweight (Pre-obese)
35		H040	27.37	
36		H050	29.57	
37	Fatness	H060	31.84	Obese Class I (Moderately Obese)
38		H070	34.13	
39	Fatness	H080	36.58	Obese Class II (Severely Obese)
40		H090	39.10	
41	Fatness	H100	41.76	Obese Class III (Very Severely Obese)
42		H110	44.55	
43		H120	47.37	
44		H130	50.23	
45		H140	53.21	
46		H150	56.26	
47		H160	59.31	
48		H170	62.64	
49		H180	66.04	
50		H190	69.56	
51		H200	73.30	
52		H210	76.95	
53		H220	80.98	
54		H230	85.49	

Number	Manipulation	Name[1]	BMI[2]	WHO's categories[3]
55		H240	89.89	
56		H250	94.40	
57		H260	99.27	
58	Fatness	H270	104.40	Obese Class III (Very Severely Obese)
59		H280	109.45	
60		H290	114.82	
61		H300	120.29	

Note. [1] In the stimulus name, "T" corresponds to a manipulation on the thinness dimension (i.e., slider "thin") and "H" corresponds to a manipulation on the fatness dimension (i.e., slider "heavy"). [2] BMI = body mass index. [3] This column refers to the BMI categories proposed by the World Health Organization (1995, 2000, 2004).

Supplementary Stimuli

Number	Manipulation	Name[1]	BMI[2]	WHO's categories[3]
1	Thinness	T360	12.19	Severe Underweight
2		T330	12.69	
		H040[4]	27.37	
3	Fatness	H045	28.42	Overweight (Pre-obese)
4		H046	28.70	
5		H047	28.90	
6		H048	29.19	
7		H049	29.42	
		H050[4]	29.57	
8	Fatness	H051	29.80	Overweight (Pre-obese)
9	Fatness	H052	30.02	Obese Class I (Moderately Obese)
10		H053	30.23	
11		H054	30.50	
12		H055	30.63	
13		H056	30.88	
14		H057	31.11	
15		H058	31.42	
16		H059	31.51	
		H060[4]	31.84	
17	Fatness	H061	32.10	Obese Class I (Moderately Obese)
18		H062	32.31	
19		H063	32.60	
20		H064	32.77	
		H070[4]	34.13	

Note. These supplementary stimuli were created to complement the original database (Moussally, Rochat, Posada, & Van der Linden, 2017). They therefore are not part of the 61 original stimuli. [1] In the stimulus name, "T" corresponds to a manipulation on the thinness dimension (i.e., slider "thin") and "H" corresponds to a manipulation on the fatness dimension (i.e., slider "heavy"). [2] BMI = body mass index. [3] This column refers to the BMI categories proposed by the World Health Organization (1995, 2000, 2004). [4] Stimuli from the original database – described in the previous table.

Details of Stimuli

Low Resolution

Resolution: 200

Stimuli Size:

	Width		Height
Pixels	961	*	1783
Centimeters	12.21	*	22.64

Example of use: Software that does not enable enlargement of stimuli (e.g., Word, PowerPoint)

High Resolution

Resolution: 1200

Stimuli Size:

	Width		Height
Pixels	240	*	445
Centimeters	.51	*	.94

Example of use: Software for designing experiments and presenting stimuli (e.g., E-Prime, Cogent)

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