**Unité de Psychopathologie et Neuropsychologie Cognitive**

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

# 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).

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[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 | | T040 | 18.77 | |
| 28 | Thinness | T030 | 19.10 | |
| 29 | | T020 | 19.30 | |
| 30 | | T010 | 19.61 | Normal Range |
| 31 | Basic model proposed by the software | N000 | 19.79 | |
| 32 | Fatness | H010 | 21.55 | |
| 33 | | H020 | 23.35 | |
| 34 | | H030 | 25.37 | |
| 35 | Fatness | H040 | 27.37 | Overweight (Pre-obese) |
| 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 | | H100 | 41.76 | |
| 42 | | H110 | 44.55 | |
| 43 | | H120 | 47.37 | |
| 44 | | H130 | 50.23 | |
| 45 | | H140 | 53.21 | |
| 46 | | H150 | 56.26 | |
| 47 | Fatness | H160 | 59.31 | Obese Class III (Very Severely Obese) |
| 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)

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*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)

# References

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