

UNIVERSITAT DE BARCELONA

BIAS. Body Image Assessment Software
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BIAS 1.2

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More information:

Letosa, A., Ferrer, M. y Gutiérrez, J. A program for assessing body-image disturbance using adjustable partial image distortion. *Behavior Research Methods, Instruments, & Computers*. In press, 2005.

If you want to receive notifications on updates, or have any suggestion to improve BIAS, please email Dr. José Gutiérrez-Maldonado: jgutierrezm@ub.edu

Visit our web site:

Group for Research on Virtual Reality Applications in Clinical Psychology
<http://www.ub.es/personal/rv/rv1.htm>

Acknowledgment to Giuseppe Riva for his suggestions about BIAS 1.0. Some have been included in BIAS 1.2



Body-image disturbance has been one of the most widely studied areas in relation to eating disorders. Some of the tasks designed to assess it have estimated specific parts of the body, while others have made overall estimations of body size. The program we describe here (BIAS; Body-Image Assessment Software) evaluates body-image distortions and body dissatisfaction via the on-screen presentation of a scale image which can be modified by the patient in its different components. It can be run on any computer with Windows and Microsoft Access 2000 or Microsoft Access 2000 Runtime, which makes it particularly easy to use and means that the data recorded can be easily exported and analysed using applications such as SPSS.

BIAS displays side and frontal views of a scale female human figure which is the same size as the subject. It is possible to use a standard figure in its place. The image can be adjusted by independently modifying six body parts (head, arms, breast, waist, hip and legs) in the frontal view, and five body parts in the side view (head, breast, waist, hip and legs). The subject's scale body image is generated by entering its objective measurements in a data base; otherwise, you can use a standard figure. The program proposes two visual tasks. In the first, subjects are asked to modify several frontal and

side body parts in order to make a human figure as similar as possible to their real body image. In the second task subjects modify frontal and side body parts to make a human figure representing their ideal body image. The discrepancy between their real and perceived body size provides information about their degree of perceptual distortion. The discrepancy between subjects' perceived body size and their ideal body size (the size that the subject would like to have) provides information about their degree of body image dissatisfaction.

It is possible to obtain longitudinal data of each subject, performing repeated assessments of the perceived or desired body image. This should be useful not only for research purposes but in therapeutical contexts, in order, for example, to evaluate the effectiveness of a treatment program.

Recently we have analysed psychometrical properties of BIAS. The BIAS was administered to 197 psychology students at the University of Barcelona. Moreover, the students filled up the Eating Attitudes Test (EAT-26), the Body Shape Questionnaire (BSQ), the Body Dissatisfaction Scale of the Eating Disorders Inventory (EDI-2-BD) and a test of silhouettes (the Body Image Assessment-Revised, BIA-R).

Results obtained show good validity. The correlations among the level of body dissatisfaction measured with the BIAS and all other measures of body dissatisfaction: Body Shape Questionnaire ($r = 0,687$; $p < 0,001$), Body Dissatisfaction Scale of the Eating Disorder Inventory ($r = 0,641$; $p < 0,001$) and the Body Dissatisfaction Scale of the Body Image Assessment-Revised ($r = 0,721$; $p < 0,001$) are positive and significant. In the same way, the correlation between body image distortion measured with the BIAS and the Body Image Distortion Scale of the BIA-R is positive and significant ($r = 0,397$; $p < 0,001$). Moreover, the BIAS is able to discriminate between people who are in risk of having an ED (score obtained in the EAT-26 over 20) and people that are not in risk of having an ED (score obtained in the EAT-26 below 20). People who are in risk of having an ED show more body image distortion ($t = -2,239$; $p = 0,046$) and body image dissatisfaction ($t = -3,214$; $p = 0,008$). The BIAS has also shown a high reliability (Cronbach's Alpha = 0,8528).

These results show that BIAS has good psychometric properties and that it's a good instrument for body image distortion and body image dissatisfaction assessment.

Starting

First, the therapist registers the subject by entering her data. ("Add subjects' measurements").



Add subject's measurements (new records)

This can be done using centimeters or inches.

Units

Measurements

☒ Centimeters
 ☐ Inches

☒ Don't ask me again

Ok

These data are used to build a scale figure of the subject. The therapist has the choice to introduce real measures of a subject or use a standard subject. If you select a standard subject, you will be able to obtain only *dissatisfaction* indexes. If you select to introduce real measures, you will be able to obtain *distortion* and *dissatisfaction* indexes.

Subject's Data

Ok

Name

Surname

Date record

Age

Gender

Diagnosis

Weight

Height

BMI

05/30/2005

0

0 Kgs

0 cms

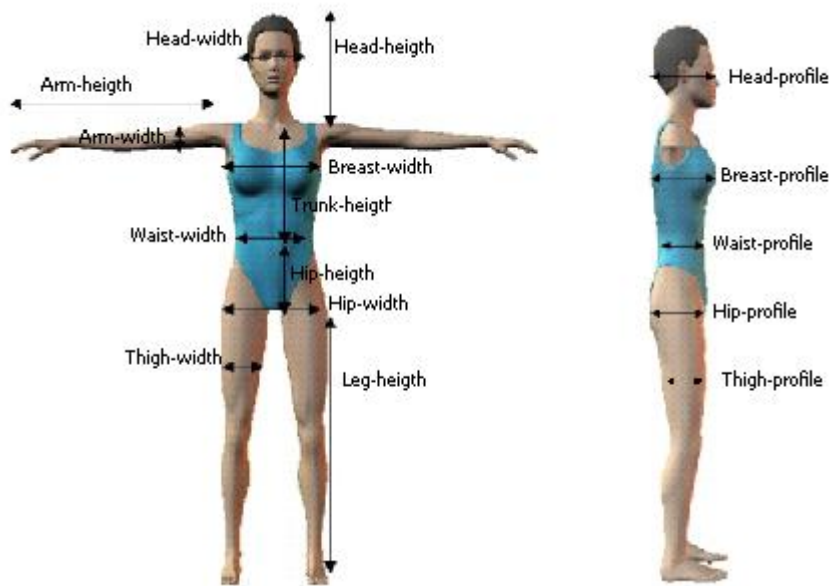
0

Real measurements

	Width	Height	Profile	
Head	0	0	0	cms
Arm	0	0		cms
Breast	0		0	cms
Trunk		0		cms
Waist	0		0	cms
Hip	0	0	0	cms
Thigh	0		0	cms
Leg		0		cms

Help Measurements

History assessments



All the fields should be completed. Clicking on “Help measurements” will show a help figure with indications about points to take the measures.

This screen is different if you select to use a standard subject, because real measures are not needed to build the figure:

Subject's Data

Ok

Name	
Surname	
Date record	05/30/2005
Age	0
Gender	
Diagnosis	
Weight	0 Kgs
Height	0 cms
BMI	0

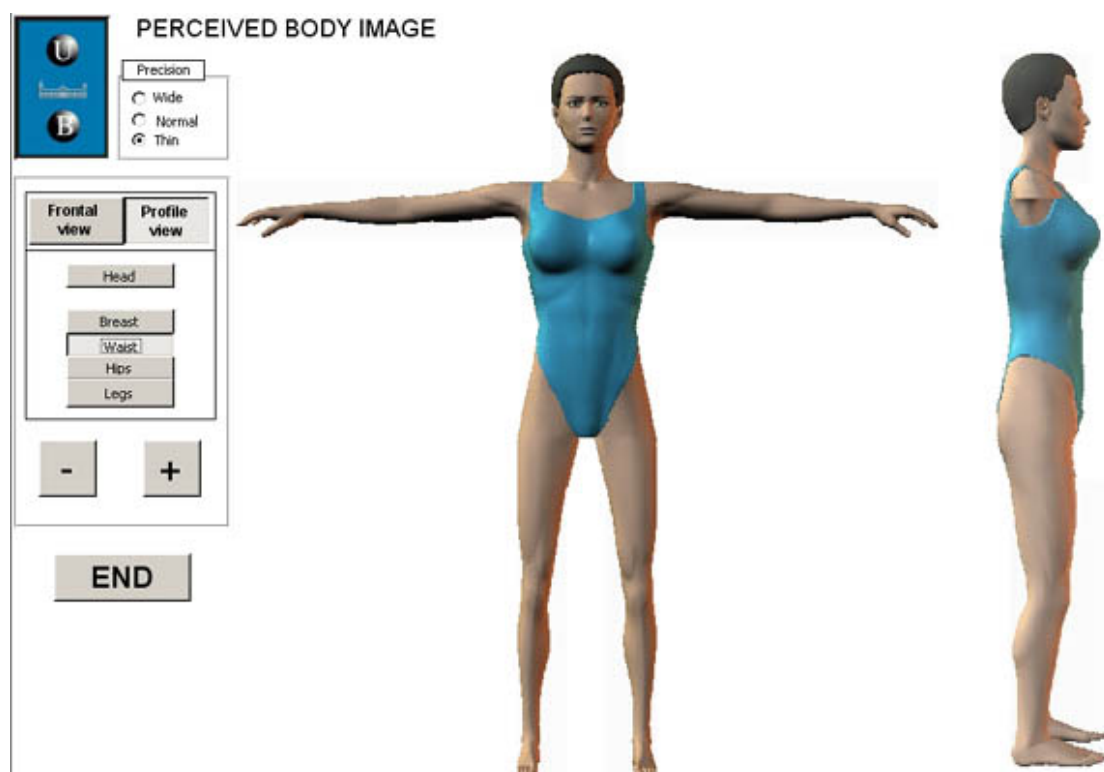
History assessments				
Assessment	Date	Total Frontal	Total Side	Total

Clicking on “History assessments” you’ll be able to view (and copy) the previous assessments of this subject (there will be no one when you add the subject, but you’ll find data when editing a subject with previous assessments).

To assess the perceived body image or the desired body image

Once the personal data and measurements have been entered (or a standard prototype has been selected), the subject may begin the perceived body image assessment and the desired body assessment.

The scale (or standard) image will appear on the screen. It can be modified by clicking on either “frontal view” or “profile”. Below are the segments that the subject can modify. For example, to modify the waist in the profile view, she clicks on “profile view” and “waist”. To increase or reduce the size of a particular area the subject clicks on “+ / -”.



The scale of the changes that the + / - keys make can also be changed. There are three scales: wide, normal and thin. To make large changes, choose “wide”. To make very small, detailed changes, choose “thin”. In this way the subject can model the image as she likes until achieving her perceived or desired body size.

On finishing the session, the subject clicks on “end” . The data will be automatically saved to a table.

Retrieving data for analysis

When the subject has finished the session, her data can be viewed and edited clicking on “Edit/View subjects measurements”.



Inside “Edit /View subject’s measurements”, clicking on “History assessments” you’ll be able to view (and copy) the previous assessments of this subject.

Help Measurements		History assessments			
Assessment	Date	Total Frontal	Total Side	Total	
PERCEIVED BODY IMAGE	05/26/2005	91,66666667	100	95,8333333	
DISTORTION	05/26/2005	-8,333333333	0	-4,1666667	
DESIRED BODY IMAGE	05/26/2005	100	110	105	
DISSATISFACTION	05/26/2005	8,333333333	10	9,1666667	

In this case, the total perceived frontal body image of 91.66 means that the perceived frontal image of this subject is 91.66% of her real mean frontal size. It can be expressed as a distortion index of -8.33 ($-8.33 = 91.66 - 100$). The perceived side (profile) image is 100, meaning that it is 100% of her real mean side size, so the distortion index is 0. The total perceived body image is 95.83% of her real body size, so the total distortion index is -4.16.

The desired body image is 105, meaning that she would like to be 5% bigger than she is actually. So the dissatisfaction index is 9.16, obtained subtracting the perceived body image (95.83) from the desired body image (105). In the same way, dissatisfaction indexes are obtained for frontal and side body parts.

Distortion and dissatisfaction indexes are calculated by BIAS when new perceived body image assessments or desired body image assessments are completed by the subject. Each index can be related with its assessment (perceived and desired body estimations) by the date field. If you complete a desired body estimation session, and there is no perceived assessment in that date, BIAS will tell you that you need to make one.

The entire data table (all subjects and assessments) can be opened by clicking on “View results”.



It is possible, as well, to export the entire data table to an Excel file by clicking on “Export data”. This action will save a file (BIASDATA.xls) in c:



BIASDATA.xls can be opened by SPSS in order to perform statistical analysis.

