

**Biomedical Communication**

# On the Body Image and Standard Score Scale for Ideal Body of Women in Ho Chi Minh, Vietnam

Huynh Trong Khai,<sup>1</sup> Chau Vinh Huy<sup>1</sup> and Dao Chanh Thuc<sup>2\*</sup>

<sup>1</sup>Ho Chi Minh University of Physical Education and Sport, Ho Chi Minh City, Vietnam

<sup>2</sup>An Giang University, Vietnam National University, Ho Chi Minh City, Vietnam

## ABSTRACT

Developing the shape of human bodies is both one of the important tasks of the sports industry in each country in the world and the need of each individual, especially women. So, what body image is considered standard? We have researched and initially built a rating scale for each of the basic body standards indicators of women including 7/9 body standards indicators. At the same time, it also developed a standard to evaluate the body image of women's body shape through the ratio between waist measurement and indicators such as standing height, bust measurement, and hips measurement. During this study, we used common methods such as reference methods related to research objectives; expert interviews; anthropometric; Statistical mathematics. The study has developed a scale to evaluate the indicators of body beautiful image for each criterion of ideal body standards. This is the basis for them to be able to calculate the measurements of each fitness criterion to exercise in proportion to their height so that they have an ideal body standard, as well as a source of reference for other athletes, trainers, body image trainers, physical education teachers, or researchers on women's health in Vietnam. From there, it helps the practitioner know the correct rings needed have to work out based on his height. This is the basis for them to be able to calculate the measurements of each fitness criterion to exercise in proportion to their height so that they have an ideal body standard.

**KEY WORDS:** BODY IMAGE; BUST, HIPS MEASUREMENT, HEIGHT, WAIST.

## INTRODUCTION

The measurement of body standards in humans, especially the ideal body standards of women today, we need the field of anthropometry, it is the science of measuring the human body, from which it can be compared, and determine the size and body image characteristics in different poses. Size and body image are important in many applications, such as clothing design, machinery design, transportation sector, medical/healthcare sector, aircraft cockpit design, spacesuit design for astronauts, safety, biometrics, criminology, interface design for household/industrial products, etc. (Godil and Ressler 2008). Along with health promotion, balanced and harmonious development is both the goal and the main motivation of women and men when participating in physical training and sports, (Pirkko 1995; Hartmann et al. 2018).

So each person needs to train their body to have an ideal body standard. In addition to healthy eating during sports

and activities that require low body fat or low body weight to improve performance body standards are the goals participants want to achieve, so participants in physical training need to understand and control their weight (Goldfield 2009). The majority of the population in Western countries would benefit from regular exercise as part of a healthier lifestyle, but a small percentage of individuals engage in regular physical activities, obsessions and that can be harmful physiologically, psychologically, and socially. The thinness scale of unhealthy eating, and the desire to be a lean and toned body, with men expressing their opinion in recent years (Garner 1991; Thompson et al. 1999; Homan 2010; Hartmann et al. 2018).

According to researchers, some people develop muscular disorders, consider themselves too skinny, and may feel pressure to gain muscle size and/or strength even though they have The body does not have beautiful muscles (Tod and Lavalley 2010). Manifestations of muscular disorders include disfigurement/dissatisfaction with body image, inappropriate diet, pharmacological support, supplements old body dependence, concealment of stature, and low self-esteem (Muscle Dysmorphia Inventory) (Rhea, Lantz and Cornelius 2004; Hartmann et al. 2018). These components,

**Article Information:**\*Corresponding Author: [thuchus@gmail.com](mailto:thuchus@gmail.com)

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exercise dependence, have been defined as “a craving for leisure time, a focus on physical fitness that leads to uncontrollable excessive exercise behavior and manifests in physiological symptoms (eg, tolerance, withdrawal) and/or psychological symptoms (eg, anxiety, depression)” (Hausenblas and Downs 2002). It has also been measured using the Vibration Scale (EDS) (Downs, Hausenblas and Nigg 2004; Hartmann et al. 2018).

The above studies show that having a beautiful body image is desirable for both men and women across the globe. However, ideal body standards for men and women are different. The ideal body standards have become slim in Western societies, although body standards vary considerably by gender and country (Peter 1997). Several national groups emerged where, depending on their location, such as Slovakia, Bulgaria, and France, body slimness was valued more in women than in men. This group mainly includes European countries, along with Israel and the Philippines. France takes the number one spot: while men don't appreciate body slimness (37%), women (53%) do so much more. It is the country with the largest relative disparity between men's and women's ideals, a finding that may be related to the large gender disparity in body standards, (Robineau et al. 2013; Hartmann et al. 2018).

Countries (Austria, Mexico, and Uruguay) have the opposite situation, where more respondents say body slimness is ideal for men than women. In contrast to the countries in the first group, the respondents here rated body slimness more highly in men than in women, and the body beautiful

image of women as larger. On the one hand, countries like Ireland, where body beautiful images are preferred for both men and women, and on the other hand, countries like South Korea, where body slimness is appreciated for both sexes (Robineau et al. 2013; Hartmann et al. 2018). In Vietnam, how body image is considered a body standard, this issue has also been studied by many domestic and foreign authors and made their assessment. In the scope of this research, we want to understand the ideal body standards of women through the height index, to determine the value of bust, waist, hips measurement of women so that it is reasonably balanced.

## MATERIAL AND METHODS

During this study, we used common methods such as reference methods related to research objectives; expert interviews; anthropometric; Statistical mathematics, we use Microsoft Excel and SPSS 20.0 software to analyze research data. Research object: 70 women 25 to 35 years old who are participating in regular aerobic exercises at gym clubs in Ho Chi Minh City (HCMC), Vietnam.

## RESULTS AND DISCUSSION

The reality of body image of 25-35-year-old female HCMC: To select tests to evaluate the reality of body image of 25-35-year-old females, we conducted interviews with 72 female trainers and trainees participating in exercise at gym clubs aerobics in Ho Chi Minh City, Vietnam. About the body standards that women were interested in practicing to improve. The results are presented in Table 1.

**Table 1. Body standards improve when exercising**

level of concern	height		weight		Bust measurement		Waist measurement		Hips measurement		belly fat layer		subcutaneous fat of arm		subcutaneous fat of back	
	S	%	S	%	SL	%	SL	%	SL	%	S	%	SL	%	SL	%
Concern	8	11.11	4	66.67	40	55.56	60	83.33	40	55.56	3	44.44	24	33.33	40	55.56
Less interested	3	44.44	2	33.33	16	22.22	12	16.67	24	33.33	2	33.33	40	55.56	24	33.33
Do not care	3	44.44	0	-	16	22.22	0	-	8	11.11	1	22.22	8	11.11	8	11.11

Thus, according to the interview results in Table 1, most of the interviewed women were interested in waist measurement (reaching 83.33%). This was also a result consistent with the ideal body standards needs of women from the past to the present. Along with this interview result, we added BMI into 9 basic indicators used to assess body image, including height, weight, BMI, bust, waist, hips measurement, belly fat layer, subcutaneous fat of

arm, subcutaneous fat of back. With these 9 indicators, we tested 70 women, 25-35 years old who were participating in aerobic exercises at gym clubs in Ho Chi Minh City, Vietnam, obtained the results as shown in Table 2:

The results in Table 2, we saw that: The body image indicators of HCMC women developed unevenly in such indicators as weight, BMI and belly fat layer, subcutaneous

fat of arm, subcutaneous fat of back. Bust, waist, hips measurements were relatively uniform ( $v\% < 10\%$ ). However, most of the body standards are reliable ( $p < 0.05$ ), except for the weight and belly fat layer, subcutaneous fat of arm, subcutaneous fat of back criteria. Women 25-35 years old in HCMC, all have a beautiful body image: BMI is in the range of 18 to 24.99 – in the normal range. (WHO published index for Asians, 2020).

**Developing standards for assessing women's body standards in HCMC:** In this study, we only build a scale for 7/9 of the body image indicators that have been shown (Table 3). Because normally researchers do not build a 10-point scale for BMI and weight. In this scale, there were waist measurement and belly fat layer, subcutaneous fat of arm, subcutaneous fat of back inverse scale.

**Table 2. The reality of body image of 25-35-year-old female HCMC.**

No.	Tests	M	SD	V%	p
1	Height (cm)	153.8	5.76	3.74	0.01
2	Weight (kg)	49.3	7.71	15.6	0.06
3	BMI	20.7	2.48	11.9	0.04
4	bust measurement (cm)	81.1	4.94	6.1	0.02
5	waist measurement (cm)	68.1	4.78	7.03	0.03
6	hips measurement (cm)	89.6	6.2	6.92	0.03
7	belly fat layer (mm)	27.9	6.46	23.1	0.09
8	subcutaneous fat of arm (mm)	16.6	3.11	18.7	0.07
9	subcutaneous fat of back (mm)	21.03	4.15	19.7	0.07

**Table 3. The rating scale for body beautiful image indicators of women**

Standard score	Height (cm)	Bust measurement (cm)	Waist measurement (cm)	Hips measurement (cm)	belly fat layer (mm)	subcutaneous fat of arm (mm)	subcutaneous fat of back (mm)	Values
	153.80	81.10	68.10	89.60	27.90	16.60	21.03	Means
	5.76	4.94	4.78	6.20	6.46	3.11	4.15	Standard deviation
1	142.28	71.22	77.66	77.20	40.82	22.82	29.33	
2	145.16	73.69	75.27	80.30	37.59	21.27	27.26	
3	148.04	76.16	72.88	83.40	34.36	19.71	25.18	
4	150.92	78.63	70.49	86.50	31.13	18.16	23.11	
5	153.80	81.10	68.10	89.60	27.90	16.60	21.03	
6	156.68	83.57	65.71	92.70	24.67	15.05	18.96	
7	159.56	86.04	63.32	95.80	21.44	13.49	16.88	
8	162.44	88.51	60.93	98.90	18.21	11.94	14.81	
9	165.32	90.98	58.54	102.00	14.98	10.38	12.73	
10	168.20	93.45	56.15	105.10	11.75	8.83	10.66	

Our grandfather once had the sentence in Vietnam, "The best body image, the second skin", reflects Asian views on the beauty of women and asserts in "The body image" that waist measurement makes sense extremely important, reflected in the Vietnamese folk song "Those who wear the bottom of the bee's waist, both skillfully pamper their husbands, and raise children well". Therefore, to supplement the scale according to each body image criterion, we build a scale according to the ratio between waist measurement/height and Bust, hips measurement, see table 4:

With the results of Table 4, when a woman with a height of 160 cm wants to score 10 body beautiful image, her waist measurement is:  $Waist\ measurement = height \times 39.13/100$   
 $\Rightarrow Waist\ measurement = 160 \times 39.13/100 = 62.61\ cm$

From there, we can find bust measurement and hips measurement of women with waist measurement of 62.61 cm who want to score 10, that is:  $Bust\ measurement = Waist \times 100/75.40 = 62.61 \times 100/75.40 = 83.04\ cm$ ,  $Hips\ measurement = Waist \times 100/69.13 = 62.61 \times 100/69.13 = 90.57\ cm$

Body beautiful image rating scale is based on the ratio between waist measurement and indicators such as Height, bust measurement, and hips measurement. From there to help women physical exercise know the standards bust, waist, hips measurement required to exercise based on their height. It should also be added: The lucky waist measurement is one of the few indicators that its owner has both health and beauty but even so is not without risk.

Many people who rapidly reduce their waist measurement through unhealthy diets have caused serious physical harm. To improve waist measurement, regular and proper physical exercise is a method that brings many real benefits instead of the rush, non-scientific, which is both unmaintained, expensive, and harmful to health (Hartmann et al. 2018).

Overall, with bodybuilders having spent more years, they possess ideal body standards, time in the gym, and work out harder than body image practitioners. This finding is similar to the differences in exercise frequency reported

between bodybuilders and Gymers (Hale et al. 2010). But Hausenblas and Symons (2002) reported exercise behavior alone, and history is not an adequate predictor. But these studies have not provided standard indicators of body beautiful image in women. Besides gymer's finding when typical bodybuilder training is moderate-high versus light-moderate intensity. It is similar to the recent finding by Cook, Hausenblas and Rossi (2013), who reported that Gymers who wanted to gain weight had significantly higher amounts of strenuous exercise than women who wanted to lose weight supported (Cook, Hausenblas and Rossi 2013; Hartmann et al. 2018).

**Table 4. Rating scale according to the proportion of body standards of women**

Standard score	Percentage			Values
	Waist measurement / Height	Waist / Bust measurement	Waist / Hips measurement	
	44.28	83.97	76.00	Mean
	2.06	3.43	2.75	Standard deviation
1	48.40	90.83	81.50	
2	47.37	89.12	80.13	
3	46.34	87.40	78.75	
4	45.31	85.69	77.38	
5	44.28	83.97	76.00	
6	43.25	82.26	74.63	
7	42.22	80.54	73.25	
8	41.19	78.83	71.88	
9	40.16	77.11	70.50	
10	39.13	75.40	69.13	

Therefore, it is necessary to have standard indicators for women to have an ideal body standard, based on which they can exercise easily, and control their weight. The current study has proven it with women in HCMC, Vietnam. For USA teenagers, for every 10,000 teenagers living across the United States, 8% of girls and 12% of boys said they use products to improve appearance, muscle mass, or strength. Girls and boys reported frequently thinking about wanting to improve their body shape (Field et al. 2005; Cook, Hausenblas and Rossi 2013; Hartmann et al. 2018). Previous research results have not found any specific standards of ideal body standards for a person, especially focusing on body beautiful image for Vietnamese women, as well as men. Therefore, this study has found the standard indicators of ideal body standards of women in HCMC, Vietnam. From there, build a standard scale, for HCMC women to practice a beautiful body image for them based on that.

### CONCLUSION

The findings of the present study has developed a scale to evaluate the indicators of body beautiful image for each criterion of ideal body standards. On that basis, the authors have built a rating scale according to the ratio between the body standards indicators of women in Ho Chi Minh City and Vietnam. This is the basis for them to be able to calculate

the measurements of each fitness criterion to exercise in proportion to their height so that they have an ideal body standard, as well as a source of reference for other athletes, trainers, body image trainers, physical education teachers, or researchers on women's health in Vietnam.

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