

A study on the assessment of body image ability with adults

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Abstract: This study aimed to investigate body image in adults with normal development and to examine the differences between subjective and objective evaluations of body image. The study analyzed the results of evaluating the participants' body image at a single point in time by dividing it into subjective and objective body perception, according to the research purpose, and applied a cross-sectional study design. Statistical analysis was performed using SPSS for Windows (version 26.0). The statistical significance level was set at 0.05. The findings revealed differences in scores between the subjective body perception of the participants and the objective body perception evaluated by a third party, but there was no statistical difference. This study examined the differences between subjective and objective perspectives on body image in normal adults.

Keywords: *Body anxiety, Body feeling, Body perception, Body sensitivity.*

1. Introduction

Body image develops through the processes of human growth, development, and experiences in interpersonal relationships [1]. As it is shaped by the unique life experiences of each individual, body image is dynamic and continuously evolves throughout a person's life [2]. During childhood, body image begins to develop through sensory and motor activities. In adolescence, it becomes an important factor in forming self-concept and harmonious interpersonal relationships. In adulthood, individuals build and refine their body image. According to previous studies, body image can be analyzed by dividing it into two categories: perception and concept [3]. Body perception refers to how accurately individuals perceive their own bodies based on various sensory inputs, as well as any distortions in these perceptions [4]. The process of forming the concept of body perception begins with the formation of a body schema at the sensorimotor level, encompassing both internal and external bodily sensations. Body perception progresses through perceptual-motor, conceptual, and cognitive levels, while body image is ultimately formed at the cognitive level, rooted in body schemas and awareness [5]. Consequently, the concept of body image can only be fully established when internal and external body perceptions are well formed.

Body image is the mental image that an individual has their physical appearance, along with their feelings or evaluations of their body [6]. It encompasses perceptions and attitudes toward the body, including body size, weight, and other features such as appearance, clothing, and makeup. Body image is a subjective construct and can differ from objective reality [7, 8].

Body image is an important factor that changes throughout life, and subjective and objective judgments of one's body can differ. However, research on body image among adults is lacking. Therefore, this study aimed to investigate body image in adults who have undergone normal development and examine the differences between subjective and objective judgments of body awareness.

2. Materials and Methods

2.1. Participants

This study targeted adults who had undergone normal development, with the following selection criteria: (i) individuals aged ≥ 20 years; (ii) individuals with no history of disability or disease; (iii) individuals without current disability or disease; and (iv) individuals who agreed to participate in the study.

2.2. Design and Procedure

This study analyzed the results of evaluating participants' body image ability at a single point in time, dividing it into subjective and objective body awareness based on the research purpose and applied a cross-sectional study design. The study was conducted in three stages: subject recruitment, evaluation and data collection, and analysis of results. In the first stage, participants were recruited using a convenience sampling method. Individuals meeting the selection criteria were invited to participate. In the second stage, the general characteristics and body awareness abilities of the recruited participants were evaluated through interviews. The objective characteristics were evaluated by the researcher evaluating the body image ability by asking the same questions to the participants. In the third stage, the collected general characteristics, subjective body awareness reported by the research participants, and objective body awareness evaluated by the researcher were coded, and the results were analyzed.

2.2.1. General Characteristics

Information on the basic characteristics of the study participants was collected, including age, sex, dominant hand, height, weight, chest circumference, waist circumference, marital status, highest level of education, and occupation.

2.2.2. Body Image Assessment

To obtain information on the participants' body image, information was collected on a 5-point scale on how well they were aware of their body and posture awareness, body sensitivity, anxiety, and feeling. The total scores for these sub-domains were 40, 25, 20, and 15, respectively, with a total score of 100 representing overall body image. The scores assigned by the participants and evaluators were collected.

2.3. Data Analysis

Statistical analysis was performed using SPSS for Windows (version 26.0). The general information of the study subjects and the subjective and objective assessment results of body awareness were analyzed using descriptive statistics, frequency analysis, and independent *t*-test. The statistical significance level was set at 0.05.

3. Results

3.1. General Characteristics of Participants

The general characteristics of the study participants are shown in Table 1. The study participants were 35 normal adults, and the average age was 50.20 ± 10.02 years. Thirteen were male (37.1%) and 22 were female (62.9%). The average height was 162.54 ± 10.82 cm, the average weight was 58.20 ± 14.02 kg, the average chest circumference was 86.20 ± 10.57 , and the average waist circumference was 70.31 ± 17.99 . Regarding marital status, 8 were single (22.9%) and 27 were married (77.1%). The most common educational background was college graduates (20 subjects, 57.1%). The most common occupation was office workers (16 subjects, 45.7%).

Table 1.
General Characteristics of Participants ($N=35$).

Demographic information		n (%)	M \pm SD ¹
Gender	Men	13(37.1)	
	Women	22(62.9)	
Average chronological age (years)			50.20 \pm 10.02
Average height (cm)			162.54 \pm 10.82
Average weight (kg)			58.20 \pm 14.02
Average chest circumference (cm)			86.20 \pm 10.57
Average waist circumference (cm)			70.31 \pm 17.99
Marital status	Single	8(22.9)	
	Married	27(77.1)	
Education	Uneducated	1 (2.9)	
	Elementary school	2 (5.7)	
	Middle school	3 (8.6)	
	High school	8(22.9)	
	University	20(57.1)	
Occupation	Graduate school	1 (2.9)	
	Housewife	8(22.9)	
	Company employee	16(45.7)	
	Personal business	10(28.6)	
	Civil servant	1 (2.9)	

Note: ¹ Mean \pm Standard deviation.

3.2. Comparison of body awareness between children and guardian or assessor

Table 2 shows the results of the evaluation of the subjective and objective body awareness of normal adults. Normal adults responded to four sub-areas of their own subjective body awareness: their own body and posture awareness, body sensitivity, body anxiety, and body feeling. The average score for body and posture awareness was 28.11 ± 5.59 out of 40 points, the average score for body sensitivity was 15.51 ± 2.95 out of 25 points, the average score for body anxiety was 16.77 ± 2.93 out of 20 points, and the average score for body feeling was 11.20 ± 2.20 out of 15 points. The researcher evaluated the sub-areas of the research subjects' perception of their own body and posture awareness, body sensitivity, body anxiety, and body feeling through objective observation by a third party. The average score for body and posture awareness was 29.77 ± 6.50 out of 40 points, which was 1.66 points higher than the subjective perception. Body sensitivity was 14.91 ± 3.58 out of 25 points, which was 0.6 points lower than the subjective perception. Body anxiety was 16.28 ± 3.79 out of 20 points, which was 0.49 points higher than the subjective perception. Body feeling was 11.40 ± 2.03 out of 15 points, which was 0.20 points higher than the subjective perception. In normal adults, there was a difference in the average scores between the subjective body perception perceived by oneself and the objective body perception observed by others, but there was no statistically significant difference ($p < 0.05$).

Table 2.
Comparison of Subjective and Objective Evaluations of Body Awareness

Variables		Subjective body awareness	Objective body awareness	<i>t</i>	<i>p</i>
Body image	1. body and posture awareness	28.11 \pm 5.59	29.77 \pm 6.50	-1.142	.257
	2. body sensitivity	15.51 \pm 2.95	14.91 \pm 3.58	-.764	.447
	3. body anxiety	16.77 \pm 2.93	16.28 \pm 3.79	.599	.551
	4. body feeling	11.20 \pm 2.20	11.40 \pm 2.03	-.394	.695
Total		60.43 \pm 11.43	62.00 \pm 12.43	-.550	.584

4. Discussion

This study aimed to investigate the body image of normally developed adults and examine the differences between subjective and objective judgments of body awareness. To evaluate the subjective

view of body awareness, normal adults were asked to respond to their own body image; to evaluate the objective view, the researcher interviewed and evaluated the participants about their body image. There are four evaluation domains of body image: body and posture awareness, body sensitivity, body anxiety, and body feelings. The results of this study showed a difference in scores between the subjective body awareness of the research participants and objective body awareness evaluated by a third party, but there was no statistical difference.

According to previous studies, humans understand their own physical characteristics through body image, recognize how their bodies move, and gain control over them [4]. The concept of the body is greatly influenced by socio-environmental factors, so it can differ depending on the physical and social environment to which each individual belongs. An individual can also change through the process of growth and development over time, so it is an area that needs to be evaluated at all ages.

In this study, there was no significant difference between subjective and objective body awareness, but it was confirmed that there was a difference in scores. According to previous studies, humans understand their physical characteristics through body image, recognize how their bodies move, and gain body control [4, 9]. Since the concept of the body is greatly influenced by socio-environmental factors, it can differ depending on the physical and social environment to which each individual belongs [10, 11]. As an individual can also change over time in the process of growth and development, it is an area that requires evaluation at all ages. Nevertheless, there is still a lack of research reporting individuals' subjective viewpoints and others' objective viewpoints on body image.

Accordingly, this study suggests the importance of subjective and objective viewpoints in evaluating body awareness among normal adults. It also emphasized the need to assess body image throughout human growth and development. However, the lack of randomization in the sampling process and the small sample size limits the generalizability of the results. Therefore, it is necessary to conduct an expanded study in the future with a larger sample size.

5. Conclusions

This study examined the differences between subjective and objective perspectives on body image in healthy adults, providing meaningful evidence of the potential influence of psychosocial aspects.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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