

A Study on the Assessment of Body Awareness Ability in Normal Children: A Pilot Study

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Abstracts: Body awareness influences psychosocial development, and psychosocial factors are important in children's developmental processes. This study assessed the potential impact of body awareness in healthy children. Children, their guardians, and assessors were asked to complete a questionnaire consisting of items on body awareness. The questionnaire included items on body awareness, including body and posture awareness, body sensitivity, body anxiety, and bodily feelings. The responses of the children, their guardians, and the assessors were analyzed. There was a difference in body awareness between the child and guardian but there was no statistical difference. There was a difference in response to body awareness between the child and assessors, but there was no statistical difference. This study presents evidence of body awareness in normal children. Future research using a group design should be conducted to confirm and generalize the results of this study.

Keywords: Body Awareness, Children, Guardian.

1. INTRODUCTION

Body image is a dynamic process that constantly changes throughout life as it is formed through the process of growth and development; moreover, everyone has unique characteristics because it is derived from sensorimotor and emotional experiences [1]. Body image is a multidimensional construct that represents one's perception of and attitude toward one's body and/or appearance [2]. Specifically, body image refers to how satisfied, invested in, and valued one's body is and how one behaves toward it [3,4].

These concepts of the body may differ from the objective reality; specifically, while it is commonly assessed by body dissatisfaction (i.e., dissatisfaction with one's body shape, size, specific body parts, and/or global appearance), a negative body image comprises body preoccupation, body shame, drive for thinness, and drive for muscularity [2,5]. These concepts are subjective judgments about the physical appearance and appearance qualities or characteristics of oneself and others. The subjective concept of the body is the most important factor in developing a body idea. Therefore, there is a difference depending on the person's experience or work or the environment and background to which the individual belongs.

Body awareness refers to understanding one's physical characteristics, recognizing how one's body moves and feels, and obtaining body control [6]. These concepts are, therefore, highly affected by socio-environmental factors, namely, the internalization of appearance ideals perpetuated by the media, peers, and family members [7,8].

Recently, because children belong to an environment where the use of electronic devices has increased [9], there is a situation in which they lack opportunities to learn about the part of recognizing their own bodies. Making children recognize that the concept of space is a basic concept and a major measure of their cognitive development [10], body awareness is also related to this concept of space. Despite body awareness being a useful aspect that affects children's growth and development, there have been few basic studies on body awareness among children. Furthermore, no survey study has discussed the difference in the response of body awareness to psychosocial factors between children and guidance or assessors. Therefore, it is necessary to investigate the recognition of body awareness in healthy children and their guidance and assessors. This study aimed to assess the potential impact of body awareness on healthy children.

2. Materials and Methods

2.1 Participants

According to the Child Welfare Act of the Republic of Korea, this study recruited children 0–18 years old. Healthy children were enrolled using convenience sampling according to the above criteria. In this study, the recognition of body awareness investigated with healthy children, their guidance, and assessors. The participants in this study were healthy children. A total of 12 children, 12 guardians, and three assessors were recruited for this study.

2.2 Design and Procedure

This study used a survey design. The questionnaire constructed in this study was administered to the children, their guardians, and assessors. The assessors were asked to complete a questionnaire consisting of items on body awareness. The questionnaire included body awareness items: body and postural awareness, body sensitivity, body anxiety, and body feelings. The details of the questionnaire are as follows:

2.2.1. General Characteristics of Children

Information on age, sex, dominant hand, height, weight, chest circumference, and waist circumference, which are basic characteristics of the children, was collected.

2.2.2. Child's Body Awareness

To obtain information on the children's body awareness, information was collected on a 5-point scale on how well they were aware of their body and posture awareness, body sensitivity, body anxiety, and body feeling. The child's perceived score and the children, their guardians, and assessors' perceived scores were collected.

2.3 Data Analysis

General information and body awareness scores were obtained from a questionnaire. Statistical analyses were performed using SPSS (version 26.0) for Windows. Descriptive statistics, frequency analysis, and the independent t test were used to analyze the descriptive statistics. The statistical significance level was set at 0.05.

3. Results

3.1 General Characteristics of Participants

The participants in this study were healthy children. A total of 12 children was recruited for this study. The average age of children was 10.58 ± 1.73 years. There were 3 men (25.0%) and 9 women (75.0%). The average height was 141.00 ± 10.31 cm; the average weight was 35.83 ± 5.89 kg; the average chest circumference was 68.25 ± 7.30 cm, and the average waist circumference was 63.58 ± 6.84 cm.

Table 1. General Characteristics of Children (N=12)

Demographic information		n (%)	M ± SD
Gender	Men	3 (25.0)	
	Women	9 (75.0)	
Average height (cm)			141.00 ± 10.31
Average weight (kg)			35.83 ± 5.89
Average chest circumference (cm)			68.25 ± 7.30
Average waist circumference (cm)			63.58 ± 6.84
Average chronological age (years)			10.58 ± 1.73
Classification age	9 years old	5 (41.7)	
	10 years old	2 (16.7)	

11 years old	1 (8.3)
12 years old	1 (8.3)
13 years old	3 (25.0)

3.2 Contents of assessment of body awareness

Table 2 shows the contents of the survey of children and their guardians and assessors regarding their awareness of children’s bodies. The children responded to subareas in which they were aware of their own body and posture, body sensitivity, body anxiety, and body feeling. The guardians responded to the subareas in which their children were aware of their children’s body sensitivity, anxiety, and feelings. The assessor responded to the subareas in which the children were aware of their bodies and postures.

In the subarea, the total scores for body and posture awareness, body sensitivity, body anxiety, and body feeling were 40, 25, 20, and 15 points, respectively. The total score was 100 points, indicating body awareness.

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

Table 3 shows the results of the body awareness assessment targeting children, their guardians, and assessors in charge of the children. The children's response in the body and posture awareness subarea had an average of 33.91 ± 3.62 , while the assessor's response had an average of 34.00 ± 3.71 . There was no significant difference between the children's and the assessor's responses ($p > .05$). For the subarea of body sensitivity, the children's and guardians' responses averaged 18.91 ± 2.19 and 19.50 ± 2.23 , respectively. Again, there was no significant difference between the children's and their guardians' responses ($p > .05$). In the subarea of body anxiety, the children's and guardians' responses averaged 14.91 ± 2.81 and 14.58 ± 2.27 , respectively. No significant difference was observed between the children's and their guardians' responses ($p > .05$). Regarding the sub-area of body feeling, the children's and guardians' response averaged 12.00 ± 2.37 , and 11.91 ± 1.78 , respectively. There was no significant difference between the responses of the children and their guardians ($p > .05$). The total score for body awareness assessment was 79.75 ± 8.18 in children and 80.00 ± 7.63 in their guardians.

Table 2. Contents of assessment of body awareness

Subareas/ Items		Respondents		
		Children (n=12)	Guardians (n=12)	Assessor (n=3)
Body awareness	1. body and posture awareness	⊙		⊙
	2. body sensitivity	⊙	⊙	
	3. body anxiety	⊙	⊙	
	4. body feeling	⊙	⊙	
	Total	⊙	⊙	

Table 3. Comparison of body awareness between children and guardians or assessor

Variables		M ± SD		t	p
		Children	Guardians or Assessor		
Body awareness	1. body and posture awareness	33.91 ± 3.62	34.00 ± 3.71	-.056	.956
	2. body sensitivity	18.91 ± 2.19	19.50 ± 2.23	-.645	.526
	3. body anxiety	14.91 ± 2.81	14.58 ± 2.27	.319	.752
	4. body feeling	12.00 ± 2.37	11.91 ± 1.78	.097	.923
	Total	79.75 ± 8.18	80.00 ± 7.63	-.077	.939

4. Discussion

This study aimed to evaluate the potential impact of body awareness in healthy children. For the evaluation, the

children, caregivers, and assessors were asked to complete a questionnaire consisting of items on body awareness. The questionnaire included body awareness items: body and postural awareness, body sensitivity, body anxiety, and body feelings. The responses of the children, guardians, and assessors were analyzed. There was a difference in body awareness between the child and guardian but there was no statistical difference. There was a difference in response to body awareness between the child and assessors, but there was no statistical difference. This study presents evidence of body awareness in normal children.

Body awareness is the product of a reciprocal relationship between neurological and behavioral aspects that integrate somatosensory presence into the environment and is considered the basis of an individual's psychomotor structure. According to previous studies targeting sexual minorities [11], the elderly [12], and individuals with physical disabilities [13], negative body images are prevalent. In addition, studies have reported that a negative body image is related to low self-esteem and quality of life [14,15].

In this study, subjects corresponding to their childhood were recruited, and their body awareness was investigated. Childhood is an important period in the transition to adolescence [16]. When entering adolescence, it is important to develop the ability to adapt easily to the required social activities. This is when proper emotions and education are needed, when both socially and physically immature. Therefore, this study, which was conducted on children, is meaningful.

Recently, children have been in an environment where the use of electronic devices is increasing [17-19]; therefore, there is a lack of opportunities for children to learn about the part of recognizing their bodies. Body perception occurs when an individual experiences large and small changes by intentionally focusing on a series of reactions inside the body while moving each body part [20].

Therefore, it is necessary to study how healthy children respond to body awareness by measuring these psychosocial aspects. In this study, children's body awareness was measured by dividing it into four detailed factors, and the results were compared by measuring these four detailed factors with the children, their guardians, and evaluators. The results of this study provide a basis for content related to body awareness in healthy children.

This study had several limitations. Since the random sampling method was not applied in the recruitment process of the study subjects and only a small number of study subjects were recruited, there are limitations in generalizing the results of this study. Additional research should be conducted by applying random population sampling to compensate for these limitations. Future studies using a group design should be conducted to confirm and generalize the results of this study.

CONCLUSIONS

This study provides evidence of the potential impact of psychosocial aspects related to body awareness in healthy children. This study is meaningful in that it investigated areas in which children's body awareness could potentially have an impact.

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