

# **A Study on the Body Measurements of Early Adolescent Boys**

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## **I . Introduction**

Today's improved living standard has people more fond of western foods and enhances their nutritive status. Adolescents enjoy an affluent life and have a growing chance to contact a variety of culture. And changing environments accelerates their physical and mental growth.

Adolescents who arrive at puberty undergo drastic physical and mental changes, and especially care about their looks and apparels. So their clothes should be designed to fit into their physical and mental traits.

When domestic apparel manufacturers design preteen's wear, however, they enlarge the sizes of children's or young-casual wear zones without sufficiently putting their energy into getting precise and scientific data on their bodies and body shapes.

The purpose of this study was to systematize accurate data about the body measurements of early adolescent boys, as there was a broad individual variance between their bodies, and it's additionally attempted to identify the unique physical characteristics of different age groups.

## **II . Research Method**

The subjects in this study were boys who were at the ages of 10 to 14 in the capital area. Their bodies were measured by anthropometric and photographic method, and data on 549 boys were analyzed.

The total of 100 items(47 anthropometric items, 10 indexed items and 43 photographic items) were selected to be measured.

The collected data were analyzed with SPSS Ver. 10 program. Statistical data on mean and standard deviation were obtained, and variance analysis and Duncan test were conducted to

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compare the body measurements of the different age groups and their characteristics.

### **III. Results and Conclusions**

In most of the selected items, their collective averages increased with age, which indicated they made a sustained growth. And the extent of their growth varied with age. Overall, the boys between ages 10 and 11 showed a slow growth, and the boys between ages 11 and 12 grew up rapidly. Those between ages 12 and 13 showed little growth, and there was again a big growth between ages 13 and 14.

As for the items related to height and length, the boys between ages 11 and 12 grew up drastically, and those between ages 12 and 13 showed a slow growth. The heights of their lower parts of the body increased a little slower than that of their upper parts, and their arms and legs grew up more rapidly with age than the other parts. This fact implied that the trunks of their bodies developed earlier than their limbs.

Concerning the circumference-related items, the boys between ages 11 and 12 made a significant change, and there was little change between ages 12 and 13. Those between ages 13 and 14 showed a drastic growth again. Those facts signified that the ages 11 and 12 featured both horizontal and vertical growth but horizontal growth was bigger than vertical one at the ages 13 and 14. But their waist circumference made a smaller growth with age, compared to the other items, which seemed to imply that their bodies became more masculine.

Regarding the width-related items, every boy made a relatively even growth with age, except those between ages 12 and 13, and they grew up significantly at the age of 13 and up.

In the event of the thickness-related items, their growth in those items was far greater than that in the width-related items, especially between ages 13 and 14. Such a growth of the boys was different from that of girls whose body shapes became flat with age, and this fact suggested that adolescent growth made a significant difference to the body shapes of boys and girls.

When the findings of the study were compared to those of a National Anthropometric Survey of Korea conducted in 1997, the bodies of the boys measured in the study were larger in general. Particularly, their weights and circumference-related items increased more remarkably. They made the biggest growth in every item at the age of 12, and their growth became very small at the age of 13.

The findings of the study illustrated that the early adolescent boys didn't make the same growth with age. An active growth was followed by a slow growth, and that phenomenon repeatedly occurred. Earlier studies established that an active physical growth took place at the age of 13, but the findings of the study suggested that the phenomenon now occurred at the age of 12, which proved that physical growth took place earlier than before.

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