

**MODELLING APPAREL SIZING SYSTEMS FOR CHILDREN'S WEAR
USING ANTHROPOMETRIC DATA**



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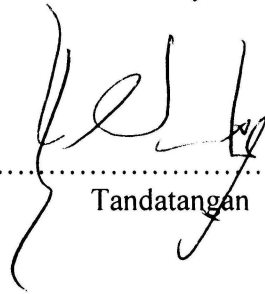
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ABSTRACT

The purpose of this quantitative research is to develop a standard sizing system for children's wear using the anthropometric data. 2035 children were measured from 29 primary and secondary schools in Selangor one of the state in Malaysia. Accurate sizing systems for children's clothing are important for both manufacturers and consumers: manufacturers wish to produce clothing in the fewest number of sizes that will cover the majority of potential customers, while customers obviously want clothing to deliver a good fit. Multivariate statistical techniques were used to analyze the data, including principal component analysis, k-means clustering, and decision tree technique. The result was a model of eight different sizing systems totaling to eight size charts covering upper and lower body based on the realities of the diverse population of children in Malaysia, with more than 90% coverage and good aggregate loss. The body sizing system is developed for female and male with different age groups; between 7 and 12 years old and between 13 and 17 years old to fit the upper and lower body. Even though 200 sizes might seem a large number, but when compared to sizing systems used for children in other countries such as Korea and Taiwan, this sizing system has lower total number of sizes. This study provides a sizing model for children's wear, which is recommended to be used for the benefits of both the customers and manufacturers.

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