International Journal of Education, Information Technology and Others (IJEIT), Jaanuaary 2024, 7 (1), 7-10
DOI: https://doi.org/10.5281/zenodo.10461875
p-ISSN: 2654-2528 e-ISSN: 2623-2324
Accredited by Directorate General of Strengthening for Research and Development
Available online at https://jurnal.peneliti.net/index.php/IJEIT

Analysis of Comfortable Clog Size for Adult Men

Harun Indra Kusuma[1*], Yulizan Rizki[2]

[1,2]Department of Industrial Engineering, Universitas Teknologi Nusantara, Jl. Raya Pemda Pangkalan II No.66, Kedung Halang, Kec. Bogor Utara, Kota Bogor, Indonesia

Received: 15 November 2023
Revised: 30 November 2023
Accepted: 13 Desember 2023

Abstract

Take in water at the mosque, wudhu often clogs is useful to protect the footwear, to keep in touch directly with the surface. Unfortunately while using clogs has not based on the size of a man, In this study we take the size of an adult male feet. take size anthropology human foot. Among other sections leg length, foot width, the distance between the heel of the foot is wide, wide heel, foot circumference (widest size), circumference of the shell. Then practice process data to obtain an average, standard deviation, percentiles 0.05 0.50 0.95. Then Practice provide percentile. Percentile is information that gives the average size in each range, percentiles 0.05 gives small size, 0.50 percentile provide medium and 0.95 percentiles provide large size. appropriate that clogs that are used to reach all adult male foot size and comfortable during use. Among them is the use of percentiles 0.95 feet long, wide leg using the percentile 0.95, the distance between the heel with 0.50 feet wide, the width of the heel, foot circumference (widest size) using 0.05 percentile, using the shell circumference 0.50 percentile. Our last repeated desing the form of clogs according to size percentile which has on set.

Keywords: Clog, anthropology, percentles

(*) Corresponding Author: harunindrakusuma6@gmail.com

How to Cite: Kusuma, H., & Rizki, Y. (2024). Analysis of Comfortable Clog Size for Adult Men. *International Journal of Education, Information Technology, and Others*, *7*(1), 7-10. https://doi.org/10.5281/zenodo.10461875

INTRODUCTION

In carrying out daily activities, humans require footwear that can protect their feet from dirt, dust, and the heat of the sun. Additionally, they need comfortable, safe, and lightweight footwear for use. Therefore, observers collect data using human foot anthropology, then use percentiles to determine suitable sizes for each part of the footwear. Finally, the observer redesigns it.

The term "ergonomics" comes from the Latin words "ergon" (work) and "nomos" (natural law) and can be defined as the study of human aspects in the environment, examined in terms of anatomy, physiology, psychology, engineering, management, and design (Nurmianto, 2008). Ergonomics is a systematic branch of science that utilizes information about human characteristics, abilities, and limitations to design a good working system so that goals can be achieved effectively, efficiently, safely, and comfortably (Sutalaksana, 1979).

A part of ergonomic science concerning human aspects is the science that measures human body dimensions. The measurement of human body

dimensions is conducted to obtain data that can be used in facility design to ensure comfortable use. Anthropometry is one discipline used in ergonomics that specifically studies body measurements, including linear dimensions, content, and also covers areas of size, strength, speed, and other aspects of body movement (Wijaya et al., 2016). Anthropometry can be referred to as the study and technique of measuring the human body (Rinaldo and Russo, 2015).

RESEARCH METHOD

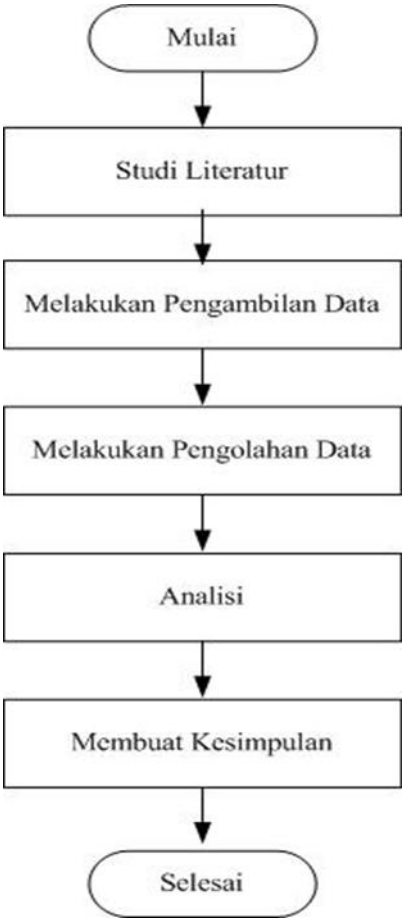

Figure 1. Research Flowchart

RESULTS AND DISCUSSION

1. Data Collection

In this research, we collected anthropometric measurements of human feet, including the length of the foot, width of the foot, distance between the heel and the broadest part of the foot, heel width, circumference of the foot (at its widest point), and circumference of the ankle.

2. Data Processing

Table 1. Observation Data

No.	Data Antropometri	X_1(cm)	X_2(cm)	X_3(cm)	Rata-rata (cm)	Standar Deviasi	Persentil		
							5	50	95
1.	Panjang kaki	25	26	26,3	25,76666667	0,680689929	25,1	26	26,27
2.	Lebar kaki	10	10,3	9	9,766666667	0,680689929	9,1	10	10,27
3.	Jarak antara tumit dengan telapak kaki yang lebar	19,5	19,2	20,3	19,66666667	0,56863407	19,23	19,5	20,22
4.	Lebar tumit	5	5,5	5,6	5,366666667	0,321459025	5,05	5,5	5,59
5.	Ungkar telapak kaki (ukur yang terlebar)	10	10,3	9	9,766666667	0,680689929	9,1	10	10,27
6.	Ungkar tempurung	10,5	11,5	10,3	10,76666667	0,642910051	10,32	10,5	11,4

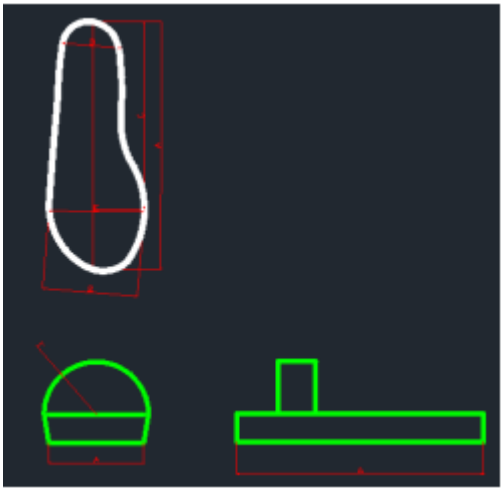

Figure 2. Classification Scheme of "Rice Wash" Sandals

According to the above diagram, the sandal size can be adjusted based on the percentiles we have established. Percentile 0.05 is for small sizes, percentile 0.50 for medium sizes, and percentile 0.95 for large sizes. In part A, which represents the length of the foot, we use percentile 0.50 so that all foot sizes can comfortably wear the sandals. In part B, the width of the foot, we use percentile 0.50 to cover all foot sizes for comfortable use. In part C, the distance from the heel to the ball of the foot is measured using percentile 0.50 to accommodate all foot sizes. Part D represents the width of the heel, using percentile 0.50 so that individuals with large, medium, or small heel widths can wear the sandals. Part E, the circumference of the foot, is measured using percentile 0.50 so that individuals with large, medium, and small foot circumferences can comfortably wear the sandals. Part F represents the circumference of the instep, measured using percentile 0.95 so that individuals with large, medium, and small instep circumferences can wear the sandals comfortably.

CONCLUSION

From the research with the theme of anthropometry, it can be concluded that in determining the dimensions of footwear, percentiles can be used as size constants. For the Length of the foot, a percentile of 0.50 is utilized; for the

Width of the foot, a percentile of 0.50 is employed; for the Distance between the heel and the broadest part of the foot, a percentile of 0.50 is applied; for the Width of the heel, a percentile of 0.50 is used; for the Circumference of the sole, a percentile of 0.50 is adopted, and for the Circumference of the instep, a percentile of 0.95 is employed.

BIBLIOGRAPHY

Kasiram, M. (2008). Metodologi Penelitian Kualitatif Kuantitatif. Malang: UINMalang Pers.

Freivalds, A., & Niebel, B. W. (2009). Methods, Standards, and Work Design. New York: McGraw-Hill Companies, Inc.

Nurmianto, E. (2008). Ergonomi: Konsep Dasar dan Aplikasinya. Surabaya: Teknik Industri-ITS.

Rinaldo, N., Russo, E., & Gualdi. (2015). Anthropometric Techniques. Annali Online dell"universita di Ferrara, 10(9), 275-289.

Sedarmayanti. (2001). Sumber Daya Manusia dan Produktivitas Kerja. Bandung: Mandar Maju.

Sutalaksana, I. Z. (1979). Teknik Tata Cara Kerja. Bandung: MTI-ITB, Institut Teknologi Bandung.

Wijaya, M. A., Siboro, B. A., H. Purbasari, & Anissa. (2016). Analisa Perbandingan Antropometri Bentuk Tubuh Mahasiswa Pekerja Galangan.