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Hand Anthropometric Dimensions and Occupation

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Abstract : The present study aimed at distinguishing the effects of work type on hand dimensions and investigating the relationship between anthropometric dimensions and occupation. The anthropometric data used in study were collected on 12 hand anthropometric dimensions. The participants included 91 males in two groups, namely manual labor job and office workers. All the data were analyzed using SPSS version 16. All measurements were significantly greater than those of office jobs except for the grip diameter obtained from the manual workers. The hand perimeter was the greatest value among the 12 measured dimensions, while the thickness of the side little finger was the smallest one. In four dimensions, namely width of four fingers together from the central hinge; diameter of thumb to face; diameter of index finger to face; hand thickness from index finger revealed the availability of a significant difference between manual labor jobs and office workers. Moreover, no significant relation was observed between weight and stature with hand dimension, which represents the correlation between occupation and the four dimensions. The results of this study showed that the difference between the two occupational groups was significant in terms of the four dimensions. Therefore, it is suggested that tool designers should consider this finding in their designing process.

Keywords : hand dimensions, occupation, tool design, anthropometry
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