

Proceedings of the 3rd Annual World Conference
of the Society for Industrial and Systems Engineering,
San Antonio, Texas, USA
October 20-22, 2014

Do You Suffer from Discomfort Due to Your Job? How Can an Anthropometric Table Help Improve Workstation Design?

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Abstract: There is no anthropometric table in Ecuador to enable the correct design of workstations according to population measurements. Fourteen relevant anthropometric measurements were taken for the design of standing and sitting-position workstations, establishing a standard measuring method. Eight hundred and thirty seven people were measured; 452 men and 385 women. The sample was designed to be representative of Quito's economically active population ("PEA" in Spanish), subject to its ethnic and gender ratios. The data was collected at Ecuador's National Police institution, specifically at "La Delicia" police district and to the Environmental Police Unit (UPMA). The measurements obtained were statistically analyzed in order to generate adequate and applicable percentiles for workstation design. The purpose of this study is to show that due to the absence of anthropometric tables for the Ecuadorian population, workstation designs result in a poor fit for the intended population, which could result in a higher incidence of cumulative trauma disorders than otherwise expected. The resulting anthropometric table includes gender percentiles. A mixed-population analysis was also performed.

Keywords: Ergonomics, Anthropometrics, Workstation Design, Mixed Population Analysis