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3-D breast anthropometry of plus-sized women in South Africa.

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Source

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Abstract

Exploratory retail studies in South Africa indicate that plus-sized women experience problems and dissatisfaction with poorly fitting bras. The lack of 3-D anthropometric studies for the plus-size women's bra market initiated this research. 3-D body torso measurements were collected from a convenience sample of 176 plus-sized women in South Africa. 3-D breast measurements extracted from the TC(2) NX12-3-D body scanner 'breast module' software were compared with traditional tape measurements. Regression equations show that the two methods of measurement were highly correlated although, on average, the bra cup size determining factor 'bust minus underbust' obtained from the 3-D method is approximately 11% smaller than that of the manual method. It was concluded that the total bust volume correlated with the quadrant volume ($r = 0.81$), cup length, bust length and bust prominence, should be selected as the overall measure of bust size and not the traditional bust girth and the underbust measurement. STATEMENT OF RELEVANCE: This study contributes new data and adds to the knowledge base of anthropometry and consumer ergonomics on bra fit and support, published in this, the *Ergonomics Journal*, by Chen et al. (2010) on bra fit and White et al. (2009) on breast support during overground running.