

# **BREAKING THE MOULD: An analysis of the Standards Australia garment sizing system**

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This thesis compares the three-dimensional (3D) shapes of a sample of 18-30 year old Australian women to the 3D shapes assumed by the Standards Australia (SA) garment sizing system. I developed a new method for comparing two sets of dimensions defining 3D shapes. The degree of mismatch was expressed by a statistic called L (or lack-of-fit). Using the L-value, I compared 28 measurements, corresponding to the SA sizing system, derived from 3D scans on 294 young Australian women. Each participant was assigned to a best-fit size, which was the size yielding the lowest L-value (or the lowest degree of mismatch). The results showed that there is a significant mismatch between the real 3D shapes of young Australian women and the shapes assumed by the SA sizing system, and that there is a difference of more than two sizes when comparing reported dress sizes and best-fit clothing sizes. These results suggest that there is a need for the current system to be revised, or a new system to be developed. Revision of current clothing sizes, or development of new sizes would be optimised by using 3D body scanning technology. This will allow systematic updating of any sizing system developed, and also the construction of new templates based on alternative dimensions, as well as the application of new garment production technologies.