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Debra McLendon  
North Carolina State University

Cynthia Istook  
North Carolina State University, [cistook@ncsu.edu](mailto:cistook@ncsu.edu)

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## An Investigation of Sizing and Fit of Commercial Sewing Patterns

Debra McLendon, M.S., Cynthia Istook, Ph.D.

North Carolina State University, USA

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The development and marketing of patterns for the home sewer in the United States is a highly concentrated market. A few large firms dominate the pattern-making industry today, which began more than 150 years ago. Prior to the availability of mass-produced ready-to-wear (RTW) apparel, commercial sewing patterns were first created as a way to assist people in sewing their own clothing at home. Currently, more than 35 million Americans participate in home sewing activities (Hamilton & Hylton, 2006). To service this vast market of sewing hobbyists, pattern companies offer over 20,000 designs for clothing, craft, and home décor items (Palmer & Alto, 2006).

Fit is the single most critical aspect of home sewn garments and is one of the main reasons why people sew their own clothing. Other reasons to engage in home sewing is as a means of relaxation, creative expression, and to achieve better proportions than can be found in RTW clothing (Ashdown, Lyman-Clarke, & Palmer, 2007). Since pattern companies invest an average of \$40,000 to create and market a single pattern, the industry could experience declining sales by failing to meet customer expectations if home sewers are dissatisfied with the fit of apparel made from patterns (LaBat, Salusso, & Rhee, 2007; Palmer & Alto, 2006).

One area in which pattern companies should invest time and resources in research and development is the fit of commercially available commercial sewing patterns for the missy size market. Much research has been conducted in the area of consumer dissatisfaction with the fit of RTW apparel; however, few studies (LaBat et al., 2007; Palmer & Alto, 2006) have focused on the fit of commercial sewing patterns. Unlike RTW apparel, which can be tried on to select the size that fits best, patterns must first be made up into garments to ascertain fit (Ashdown et al., 2007).

The purpose of this study was to evaluate current commercial sewing pattern industry sizing and fit practices and propose ways to improve sizing and fit. Sizing standards for U.S. commercial sewing patterns in the Missy 6 – 22 size range are based on outdated anthropometric studies conducted over 71 years ago. U.S. pattern companies have not changed their sizing standards since 1972. Data from more recent sizing surveys, such as SizeUSA (2004), shows the body shapes and measurements of the population of U.S. women have changed. U.S. pattern sizing is based on the hourglass figure, which represents only 8% of the U.S. population of women. Much confusion surrounds pattern size selection, since consumers typically need to purchase a pattern several sizes larger than their average ready-made clothing size.

Basic fit patterns (fitting shells) and semi-fitted sheath dress patterns were purchased from the five major brands under study (Burda, Butterick, McCall's, New Look, Vogue). Sizes 10 and 18 were selected to cut and construct sample garments for fit-testing on fitting mannequins. Quantitative methods were used to measure key body areas of the bust, waist, and hip of tissue patterns and compare them to finished garment measurements provided by pattern companies. Amounts of ease and finished pattern measures were used to determine if these measures conformed to the ease specifications for each fit category and matched printed pattern measures. The fit of five different brands of sample garments on fitting mannequins was compared using qualitative visual analysis. Fit was assessed to identify any fitting issues that might be related to the patterns. Patterns were measured to verify if the circumference grades for the bust, waist, and hip were in accordance with pattern companies' standardized body measurements.

The results clearly indicated that current pattern sizing does not conform to the body profiles of today's consumers and that the fit needs of a significant part of the population are unmet with current pattern offerings. The study also found that current pattern sizing is not aligned with sizing indicated by the most recent sizing survey. Results showed that the majority of brands studied failed to contain the ideal amount of ease and that some of the printed measures on all brands were different from physical measures. Results indicated a significant difference in the fit of different brands.

This research provides useful information to the commercial sewing pattern industry on ways to improve patterns for the target consumer. Amateur and professional sewers could also benefit from the insight on pattern sizing and fit provided in this study.

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