NC STATE UNIVERSITY
College of Textiles NC STATE UNIVERSITY
JTATM Journal of Textile and Apparel, Technology and Management
Volume 6, Issue 4, Fall 2010

Fabric Retailing: What Properties do Fabric-Store Customers use to Perceive Aesthetic Differences in Selected Polyester Knit Fabrics?

Richard T. Cary
The University of Iowa
rtcary@earthlink.net

ABSTRACT

It has been reported there are more than 30-million sewing enthusiasts in the USA. When these sewing enthusiasts go to fabric stores, what properties do these fabric-store customers use to perceive aesthetic differences in selected polyester knit fabrics? Polyester knit fabrics were chosen for this study because manufactures, fabric stores, and other groups could benefit from additional information about the aesthetics of these fabrics. The information from this study and additional studies about the aesthetics of polyester knit fabrics may increase the number of polyester knit fabrics with good aesthetics.

The selected polyester knit fabrics were similar in fiber type and length, yarn type, and fabric color. The fabrics were different in thickness, stretch, and other properties. A total of 200 customers were surveyed at fabric stores in the USA. The results of this exploratory study indicated the fabric-store customers used 12 properties to perceive aesthetic differences in the fabrics: appeal, brightness, dressiness, firmness, luster, richness, smoothness, stiffness, stretch, tenseness, thickness, and unusualness.

Keywords: Aesthetics, customer behavior, fabric properties, fabric retailing, fabric stores, knit fabrics, polyester, shopping

INTRODUCTION

The objective of this study was to determine the properties fabric-store customers use to perceive aesthetic differences in selected polyester knit fabrics. This information is important for three reasons. First, polyester knit fabrics are useful to fabric-store customers because these fabrics are relatively inexpensive, easy care, and durable. Second the fabric-store market is a significant market. The size of the fabric-store market in the USA was indicated by Schoolcraft (2005): the largest fabric retailer in the USA has 849 stores and there are more than 30-million sewing enthusiasts in the USA. Third, according to Baugh (2008) the ability to recycle various products into polyester fibers makes polyester fabrics useful for environmental sustainability.

Polyester knit fabrics were chosen for this study because manufactures, fabric stores, and other groups could benefit from additional information about the aesthetics of these fabrics. The information from this study and additional studies about the aesthetics of polyester knit fabrics may increase the number of polyester knit fabrics with good aesthetics.

In this study, a fabric with good aesthetics was defined as a fabric with properties that are pleasing to fabric-store customers' tactile and visual senses. A fabric store was defined as a for-profit enterprise that has 50% or more of its display space devoted to fabrics. In a fabric store, the fabrics are displayed so customers can lift, unwrap, and examine the fabrics. The customers can place several fabrics next to each other and compare the aesthetic properties of the fabrics.

The polyester knit fabrics were selected on the basis that they met five criteria. First, the fabrics or similar fabrics were available at many fabric stores in the USA. Second, the fabrics could be used for clothing end uses such as shirts, blouses, and dresses. Third, the fabrics were made with 100% polyester filament fibers of regular diameter (i.e., fiber > 1 denier) and textured yarns. Fourth, the fabrics were weft-knits with two layers of loops (i.e., interlock and double knit). And fifth, the fabrics were white in color. The number of fabrics was limited to four fabrics due to the limited amount of time that each participating fabric-store customer could spend examining the aesthetic properties of the fabrics. Because of the limited number of fabrics, this was an exploratory study.

BACKGROUND

Overview of fabric aesthetics

There are many properties that can be used to determine the aesthetics of a fabric. Gioello (1981) used more than 70 properties in describing the aesthetics of the fabrics in her book. An example of a tactile aesthetic property is fabric stretch, an example of a visual aesthetic property is fabric luster, and an example of an aesthetic property that is both tactile and visual is fabric thickness.

In addition to the many properties available to determine fabric aesthetics, the concept of fabric aesthetics is made even more complex by the many methodologies researchers use to measure fabric aesthetics: (a) objective measures of fabric properties (e.g., Kim and Slaten, 1999), (b) subjective measures of fabric properties (e.g., Sasaki et al., 2004), and (c) a combination of both objective and subjective measures of fabric properties (e.g., Sular and Okur, 2007). There are three types of participants that can be used in subjective and combination studies of fabric aesthetics. The first type is the participant with expert-level skills in textiles and clothing. Most of the participants with expert-level skills are highly trained and continually tested for maintaining their expertise in determining fabric aesthetics. The second type of participant has intermediate-level skills in textiles and clothing. Most fabric-store customers have intermediate-level skills in textiles and clothing because they have a minimum of several years of formal or informal training in textiles and clothing. This training gives these participants intermediate-level knowledge about fabric aesthetics. The third type of participant has novice-level skills in textiles and clothing. Most of the participants with novice-level skills have little formal or informal training that provides knowledge about fabric aesthetics.

Additional information on fabric aesthetics

In a study of fabric aesthetics, Brand (1964) discussed both physical and psychological properties of fabrics. Physical properties of fabrics can be determined by both laboratory-test methods and people. Examples of physical properties of fabrics are thickness and stretch. Psychological properties of fabrics can only be determined by people. Examples of psychological properties of fabrics are richness and dressiness. For the remainder of this paper, psychological properties are called evaluative properties. The word evaluative is used because Osgood and Suci (1969) identified the evaluative factor and the following properties are related to the evaluative factor: appeal, goodness, niceness, tastefulness, beauty, worthlessness, dressiness, flawlessness, expensiveness, unusualness, becoming,

simpleness, and richness. Most studies that use the semantic differential, use the term evaluative rather than the term psychological.

In a study by the American Association of Textile Chemists and Colorists (1966), each participant was shown clothing fabrics; however, these fabrics were not tied to one single end use. These fabrics could be used for several clothing end uses. "This set the frame of reference for judgment but did not restrict or lead him to base his judgment on any specific factor" (p. 30). For example, if a fabric can only be used for inexpensive underwear, this may lead some participants to base their judgment on the tactile properties of the fabrics and not both the tactile and the visual properties of the fabrics.

In a discussion of the role of aesthetics, Sproles (1981) indicated "…color will often be the most important aesthetic component in the consumer's decision to accept or reject the style" (p. 122). The importance of fabric color is why in many studies of fabric aesthetics the researchers do not allow the participants to see the fabrics. Unless the color of a set of fabrics is experimentally controlled by hiding the fabrics behind a screen, blindfolding the participants, or using fabrics of the same color, the participants may be reacting to the different colors of the fabrics rather than other aesthetic properties.

Most studies of fabric aesthetics examined woven fabrics; however, Kim and Piromthamsiri (1984) investigated the tactile qualities of seven knit fabrics. This was a combination study that included 38 home-economics college students majoring in textiles and clothing as participants and several objective laboratory-test methods. Kim and Piromthamsiri found the participants "…associated stiff fabrics with bulky, thick, and warm sensory characteristics" (p. 66).

Kean and Levin (1989) studied female home sewers and divided the participants into five clusters. The cluster with the largest number of home sewers was named Utilitarian. Approximately 62 % of the home sewers in the Utilitarian cluster described "…their sewing skills as at the intermediate level" (p. 30). The Utilitarian cluster and two other clusters perceived home sewing as a way to save money.

In a study by Burns *et al*. (1995), each participant was told to sort a set of fabrics into as many piles as the participant desired based on the premise that the fabrics in each pile had similar aesthetic qualities. The 120 participants were divided into two groups. Participants in the first group were able to see and touch the fabrics while participants in the second group were only able to touch the fabrics. After sorting the fabrics, each participant described the reasons why she sorted the fabrics into the piles she chose. After coders classified the reasons for sorting the fabrics, it was found that the first group used 174 descriptive terms or phrases to describe the reasons for sorting the fabrics; however, the second group used only 109 descriptive terms or phrases to describe the reasons for sorting the fabrics. The researchers concluded that studies allowing only the touching of the fabrics "…may not accurately assess the way in which … [customers] … perceive and identify fabrics in nonlaboratory settings" (p. 122).

Sasaki et al. (2004) conducted a study that simulated buying fabrics from conventional and online stores. The participants of the study were 31 university students. The participants examined white fabrics in four ways: (a) looking at images of the fabrics on a computer display, (b) looking at the actual fabrics, (c) touching the actual fabrics, and (d) looking at and touching the actual fabrics. The results indicated the participants rated the images of fabrics on a computer display differently than they rated the same fabrics using the other ways of examining fabrics. For example, the participants rated the thickness of polyester taffeta fabric differently on all four ways of examining fabrics.

According to Stone (2009), in 2009 there was a trend toward sewing your own clothing. This was true in the USA and in

other countries such as Germany, Switzerland, France, and England. Also, there were cafes that rented sewing machines by the hour and craft fairs for buyers and sellers of products related to sewing. "Sewing circles are popping up as a way to spark interest and teach the craft, as well as providing a creative outlet and a social network of a more traditional kind" (p. 26).

METHODOLOGY

Fabrics

The four fabrics selected for this study were weft knits purchased from conventional (i.e., not online) fabric stores. The four fabrics were white in color. All the fabrics had 100% polyester filament fibers of regular diameter (fiber > 1 denier) and textured yarns to control the type of fiber and yarn. The four fabrics had two layers of loops with one fabric being an interlock knit and the other three fabrics being Ponte di Roma double knits. Only four fabrics were selected because the in-store participants had to evaluate each fabric on numerous properties. In order to entice the customers to volunteer, the task of evaluation could not be a burden. For each participant to evaluate the fabrics, the time for evaluation had to be less than ten minutes.

Table 1 shows eight physical properties of the fabrics as determined in a laboratory. Properties 5–8 were determined with ASTM D 3776 (ASTM, 2007a), ASTM D 1777 (ASTM, 2007b), ASTM D 1388: Cantilever Option (ASTM, 2007c), and an unpublished test method for determining fabric stretch. The procedure for determining fabric stretch followed six steps. First, specimens of fabric A were cut parallel to the length and the width of the fabric. Second, the specimens were conditioned for four hours at 21°C and 65% relative humidity. Third, for one minute a 300-gram force was applied parallel to the length of each specimen. Fourth, with the force still applied the increase in the length of each specimen was determined. Fifth, the average fabric stretch was calculated in percent. And sixth, the same procedure was followed for fabrics B, C, and D. The statistical analysis included univariate analysis of variance and protected LSD (Kendall, 1999).

Table 1. The physical properties of the white-polyester weft-knit fabrics as determined in a laboratory

Properties		Fabrics			
		A	**B**	**C**	**D**
1.	Fiber type	Polyester	Polyester	Polyester	Polyester
2.	Fiber length	Filament	Filament	Filament	Filament
3.	Yarn type	Textured	Textured	Textured	Textured
4.	Fabric type	Interlock knit	Double knit	Double knit	Double knit
5.	Heaviness (mass per unit area) (g/m^2)**	125^a	216^b	266^c	256^c
6.	Thickness (mm)**	0.5^a	0.9^b	0.8^c	1.3^d
7.	Stiffness (cm)**	1.0^a	1.7^b	1.5^c	2.1^d
8.	Stretch (%)**	54^a	22^b	11^c	28^d

**ANOVA *F* was significant at the 0.01error level; ^{NS}Not significant at 0.01.
^{abcd}In a given row, means followed by the same letter, were found to be not significantly different using LSD at 0.01 error level.

The following information is included in the Methodology section to provide an objective description of the four fabrics. For properties 5–7 in Table 1, fabric A was not as heavy, thick, or stiff as the other fabrics. For property 8, fabric A was more stretchable than the other fabrics. For properties 5–8, fabric B had moderate physical properties because fabric B never had the lowest or the highest test results. For property 5, fabrics C and D were heavier than fabrics A and B. For property 8, fabric C was less stretchable than the other fabrics. For properties 6 and 7, fabric D was thicker and stiffer than the other fabrics.

Questionnaire

A questionnaire was developed to determine the properties fabric-store customers use to perceive aesthetic differences in the fabrics in Table 1. The cover of the questionnaire explained how to interpret and mark the seven-point semantic-differential scales and that participation was voluntary. The questionnaire contained four pages of properties with one page of properties for each fabric. The last page of the questionnaire had demographic questions.

A pretest of the questionnaire was conducted. The purpose of the pretest was to use statistical analysis to identify which of the 30 pretest properties was used by the pretest participants to distinguish the aesthetics of the fabrics in Table 1. The distinguishing properties would later be used in the survey at the stores. The 30 properties on the pretest questionnaire were evenness, niceness, goodness, heaviness, creasable, flawlessness, appeal, firmness, worthlessness, penetrability, unusualness, becoming, hardness, strongness, richness, luster, smoothness, beauty, ruggedness, simpleness, tenseness, dressiness, stiffness, expensiveness, absorbency, thickness, tastefulness, brightness, stretch, and highness.

Because many fabric stores have policies that prohibit surveys in or near their stores, a substitute group was used to pretest the questionnaire. Researchers using this substitute-group approach do not "wear out their welcome" at the stores that allow surveys. The substitute group was 82 home-economics college students majoring in textiles and clothing. It is important to state that most of these students were fabric-store customers because during high school and college most of the students purchased fabrics for their sewing projects from fabric stores.

Using the 30 properties on the pretest questionnaire, the pretest participants rated the aesthetics of the fabrics in Table 1. The pretest participants were able to see and touch the 45 by 45-centimeter clothing fabrics. The approach was similar to that used by the American Association of Textile Chemists and Colorists (1966); these fabrics were not tied to one single end use of clothing. These fabrics could be used for several clothing end uses such as shirts, blouses, and dresses. The results indicated the pretest participants were able to perceive significant aesthetic differences in the fabrics with 16 of the 30 properties. These 16 properties are shown in Tables 2 and 3.

Stores

In the USA, four conventional (i.e., not online) fabric stores were selected for conducting the survey. All four fabric stores were in a large metropolitan area. Each store was adjacent to a single-level shopping mall so the participants were making single-purpose and multiple-purpose (e.g., socializing in the shopping mall and then buying fabrics at a fabric store) shopping trips. All four stores were chain stores; however, the stores differed in their size and in their range of fabrics carried. One store was small and specialized in knit fabrics. The other stores were large and carried a full range of fabrics.

At each store, the procedure was (a) obtain the store manager's permission to conduct the survey, (b) set up a table and chairs in the store, (c) ask the customers to volunteer, (d) allow each participant to see and touch the 45 by 45-centimeter clothing fabrics shown in Table 1, and (e) have each participant rate the aesthetics of the fabrics

by placing marks on the seven-point scales on the questionnaire. A total of 200 questionnaires were used in the statistical analysis. Univariate analysis of variance, protected LSD (Kendall, 1999), and Pearson correlation were used in the statistical analysis of the data.

RESULTS

Most of the 200 in-store participants were female (94%); however, the participants were diverse in age and educational level. The participants' ages were 23% under 25 years of age, 48% between 25 and 49 years of age, and 29% over 49 years of age. The participants' educational levels were 35% high school, 48% one to four years of college, and 17% more than four years of college. The participants were familiar with knit fabrics because 87% of the participants indicated that they had sewn a project using a knit fabric.

In Tables 2 and 3, the order of the properties was chosen to facilitate the discussion of the results; the participants did not rate the fabrics with the properties in this order. Also, the participants did not always rate the fabrics with the more desirable adjective as the first adjective in a row.

For the physical properties in Table 2, an analysis of the correlation of the properties was conducted. No correlation equaled or exceeded $r = \pm 0.70$ ($p < 0.01$). Based on this analysis, none of the properties in Table 2 were redundant.

In Table 2, properties 1–3 are thickness, firmness, and smoothness. The participants rated fabric A as not as thick as the other fabrics and fabric D was rated as thicker than the other fabrics. The participants rated fabric A as not as firm as the other fabrics and fabric D was rated as firmer than fabrics A and B. The participants rated fabric A as smoother than the other fabrics and fabric D was rated as not as smooth as the other fabrics.

In Table 2, properties 4 and 5 do not have the same meaning. Luster is "the appearance characteristic of a surface that reflects more in some directions than it does in other directions, but not of such gloss as to form clear mirror images" (ASTM E 284, 1994, p. 225). Brightness is colors ". . . perceived as saturated, vivid, deep, or clean" (ASTM E 284, 1994, p. 218). For the property luster the range from the mean of fabric A, which was rated as more lustrous than the other fabrics, to the means of fabrics B and D was approximately 2 scale units. For the property brightness the range from the mean of fabric A, which was rated as brighter than fabrics B and D, to the means of fabrics B and D was 0.5 scale unit. Therefore, the participants saw a larger difference in the fabrics on the property of luster than the participants saw in the fabrics on the property of brightness. This finding was reasonable since all of the fabrics were white and thus had minor differences in the brightness of their color. However, the differences in the smoothness of the surface of the fabrics resulted in the differences in the luster of the fabrics.

Table 2. Subjective evaluation of physical properties for white-polyester weft-knit fabrics as determined by the 200 in-store participants

Properties		Fabrics				
		Adjectives	**A**	**B**	**C**	**D**	**Adjectives**
1.	Thickness**	Thin	2.1[a]	4.9[b]	5.0[b]	5.9[c]	Thick
2.	Firmness**	Flimsy	1.3[a]	4.2[b]	4.4[bc]	4.7[c]	Firm
3.	Smoothness**	Smooth	1.7[a]	4.5[b]	3.7[c]	5.0[d]	Rough
4.	Luster**	Lustrous	1.9[a]	3.7[b]	3.1[c]	3.9[b]	Dull
5.	Brightness**	Bright	2.1[a]	2.6[b]	2.4[ab]	2.6[b]	Dark
6.	Stiffness**	Drapable	1.4[a]	4.0[b]	4.0[b]	4.7[c]	Stiff
7.	Tenseness**	Relaxed	2.0[a]	3.9[b]	4.2[b]	4.2[b]	Tense
8.	Stretch**	Stretchable	2.1[a]	3.2[b]	4.6[c]	2.3[a]	Unstretchable

A seven-point scale was used with 1.0 indicating good correspondence between the first adjective in a row and the characteristics of a fabric.
**ANOVA *F* was significant at the 0.01 level. [NS]Not significant.
[abcd]In any row, means followed by the same letter were not significantly different using LSD at the 0.01 level.

In Table 2, properties 6–8 are stiffness, tenseness, and stretch. The participants rated fabric A as not as stiff as the other fabrics and the participants rated fabric D as stiffer than the other fabrics. The participants rated fabric A as not as tense as the other fabrics. Fabrics A and D were rated by the participants as more stretchable than the other fabrics and fabric C was rated as not as stretchable as the other fabrics.

For the evaluative properties in Table 3, an analysis of the correlation of the properties was conducted. Properties 1–4 equaled or exceeded $r = \pm 0.70$ ($p < 0.01$) with each other. Based on the analysis of the correlation of properties 1–4, three of the properties were unnecessary due to redundancy. Any of the properties appeal, goodness, niceness or tastefulness could have been chosen to substitute for the other three properties. The property appeal was chosen because it best communicated the common concept of the participants' appreciation for a fabric. For properties 1–4, only the property appeal needed to be included in the final set of properties that the fabric-store customers used to perceive aesthetic differences in the selected polyester weft-knit fabrics. In Table 3, for properties 5–8 no correlation equaled or exceeded $r = \pm 0.70$ ($p < 0.01$).

Table 3. Subjective description of white-polyester weft-knit fabrics as determined by the 200 in-store participants

Properties		Fabrics					
		Adjectives	**A**	**B**	**C**	**D**	**Adjectives**
1.	Appeal**	Appealing	2.5[a]	3.9[bc]	3.6[b]	4.1[c]	Unappealing
2.	Goodness**	Good	2.6[a]	3.4[b]	3.2[b]	3.6[b]	Bad
3.	Niceness**	Nice	2.4[a]	3.5[b]	3.3[b]	3.7[b]	Awful
4.	Tastefulness**	Tasty	2.7[a]	3.7[b]	3.5[b]	3.9[b]	Distasteful
5.	Richness**	Rich	2.8[a]	3.9[b]	3.7[b]	4.0[b]	Poor
6.	Dressiness**	Dressy	2.5[a]	4.8[bc]	4.6[b]	5.2[c]	Casual
7.	Unusualness**	Unusual	4.7[a]	5.5[b]	5.2[b]	5.2[b]	Ordinary
8.	Flawlessness[NS]	Flawless	2.8	3.0	2.9	3.2	Defective

A seven-point scale was used with 1.0 indicating good correspondence between the first adjective in a row and the characteristics of a fabric.
**ANOVA *F* was significant at the 0.01 level. [NS]Not significant.
[abcd]In any row, means followed by the same letter were not significantly different using LSD at the 0.01 level.

As shown in Table 3, the participants rated fabric A as more appealing, rich, dressy, and unusual than the other fabrics. Also, the participants rated fabric C as more appealing and dressy than fabric D. However, fabric B was not significantly different from fabrics C and D on these properties.

For property 8 in Table 3, the univariant *F* was not significant at the 0.01 level. Therefore, no LSD analysis was performed. The property flawlessness was not included in the set of properties that the fabric-store customers used to perceive aesthetic differences in the selected polyester weft-knit fabrics.

As shown in Tables 2 and 3, there were 15 properties that were significant at the 0.01 level. However, the properties appeal, goodness, niceness, and tastefulness were highly correlated and thus three of these properties were redundant. After three of the redundant properties were removed, a set of 12 discriminating and non-redundant properties was identified. The 12 properties were appeal, brightness, dressiness, firmness, luster, richness, smoothness, stiffness, stretch, tenseness, thickness, and unusualness.

CONCLUSIONS AND RECOMMENDATIONS

For this exploratory study, the conclusion was the fabric-store customers used 12 properties to perceive aesthetic differences in the selected polyester knit fabrics: appeal, brightness, dressiness, firmness, luster, richness, smoothness, stiffness, stretch, tenseness, thickness, and unusualness. The recommendation is researchers should determine the properties customers use to perceive aesthetic differences in other knit and woven fabrics sold by fabric stores. Future research should include fabrics sold by both conventional and online fabric stores.

ACKNOWLEDGEMENTS

I gratefully thank three former graduate students for their assistance in this study: Charlene Brandom, Larry Dostal, and Cathy Stagg.

REFERENCES

American Association of Textile Chemists and Colorists. (1966, January 3). An assessment of the relationships between softener level and people's appreciation of fabric hand. *American Dyestuff Reporter*, 30–39.

ASTM. (1994). ASTM E 284: Standard terminology of appearance. In *ASTM standards on color and appearance measurement* (4th ed., pp. 216–232). West Conshohocken, PA: ASTM.

ASTM. (2007a). ASTM D 3776: Standard test method for mass per unit area (weight) of fabric. *Annual book of ASTM standards*, *7.01*, 859–863.

ASTM. (2007b). ASTM D 1777: Standard test method for thickness of textile materials. *Annual book of ASTM standards*, *7.01*, 417–421.

ASTM. (2007c). ASTM D 1388: Standard test method for stiffness of fabrics. *Annual book of ASTM standards*, *7.01*, 294–299.

Baugh, G. (2008, July). Social responsibility: polyester vs. cotton–which is better for the environment? *Fiber*. Retrieved August 31, 2009 from http://www.udel.edu/fiber/issue2/responsibility/

Brand, R. (1964). Measurement of fabric aesthetics: analysis of aesthetic components. *Textile Research Journal*, *34*, 791–804.

Burns, L., Brown, D., Cameron, B., Chandler, J., Dallas, M., & Kaiser, S. (1995). Sensory interaction and descriptions of fabric hand. *Perceptual and Motor Skills*, *81*, 120–122.

Gioello, D. (1981). *Profiling fabrics: Properties, performance & construction techniques*. New York: Fairchild.

Kean, R., & Levin, C. (1989). Orientations toward home sewing. *Clothing and Textiles Research Journal*, *8*, 28–34.

Kendall, M. (1999). In A. Stuart, J. Ord, & S. Arnold (Eds.), *Kendall's advanced theory of statistics* (6th ed., *Vol. 2A, p. 602*). New York: Oxford.

Kim, C., & Piromthamsiri, K. (1984). Sensory and physical hand properties of inherently flame-retardant sleepwear fabrics. *Textile Research Journal*, *54*, 61–68.

Kim, J., & Slaten, L. (1999). Objective evaluation of fabric hand: part 1: relationships of fabric hand by the extraction method and related physical and surface properties. *Textile Research Journal*, *69*, 59–67.

Stone, S. (2009). Sew happy: rediscovering the pleasures of needle and thread. *Woman's Wear Daily: WWDFAST, 197*, 26.

Sular, V., & Okur, A. (2007). New application of a surface roughness tester on fabrics. *AATCC Review*, *7*, (9), 39–43.

Osgood, C., & Suci, G. (1969). Factor analysis of meaning. In J. Snider, & C. Osgood (Eds.), *Semantic differential technique (*pp. 42–55). Chicago: Aldine.

Sasaki, K., Ikeda, N., & Shimizu, H. (2004). Handling evaluated by visual information to consider web-consumers. *International Journal of Clothing Science and Technology*, *16*, 153–160.

Schoolcraft, L. (2005, August 22). Craft stores sew up expansion plans. *Atlanta Business Chronicle*. Retrieved July 4, 2009, from http://www.atlanta.bizjournals.com/atlanta/stories/2005/08/22/story7.html

Sproles, G. (1981). The role of aesthetics in fashion-oriented consumer behavior. In G. Sproles (Ed.), *Perspectives of fashion (*pp. 120–127). Minneapolis, MN: Burgess.