

A COMPARATIVE STUDY OF APPAREL QUALITY AND PRICES BETWEEN MANUFACTURERS' OUTLET AND RETAIL STORES

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Overview

One of the newest marketing channels for apparel is the factory outlet mall. The stores owned by apparel manufacturers were originally designed to sell their own seconds, overruns, pack-aways, and other surplus products not sold to retail stores during the normal wholesale marketing cycle. Since their creation, outlet malls have become an important source of sales for many apparel manufacturers. The number of outlet malls is projected to triple between 1988 and 1999 with sales of more than \$11.5 billion, of which more than 75% are apparel products. In order to supply these stores with inventory, apparel manufacturers have had to produce special product lines to supply the growing demand created for their products in outlet mall stores. The purpose of this study was to compare the textile quality of several high-end apparel products purchased from clothing manufacturers' outlet mall stores to identical products purchased from retail stores. The findings indicate conclusions different from those reached about product quality and recently reported in the popular press. In addition, the study was to examine pricing among identical apparel

products. Using 100% cotton garments designed for both men and women, it was determined that few quality differences existed between the products with the same brand name sold in outlet malls and retail stores. However, there were differences in pricing. These results would indicate that among the apparel products purchased for this study, there were few differences in fabric quality and construction procedures between products purchased at outlet malls and departments stores among the high-end apparel items tested.

■ Background

In the mid-1980s, a new marketing channel was created by some of the world's leading apparel manufacturers. This new marketing channel was the development of the manufacturers' outlet store. The stores were owned and operated by apparel manufacturers such as Nike, Liz Claiborne, Tommy Hilfiger and Jones of New York. The stores were generally placed in regional fashion outlet malls located at least 20 to 50 miles from retail stores selling similar apparel brands. Additionally, the goal of the manufacturers' outlet store was to sell their seconds, overruns, and remainder items from the previous fashion season.

The growth in factory outlet malls and manufacturers' outlet stores has been phenomenal. Since 1988, the number of outlet malls has tripled from slightly more than 100 to more than 325 in 1997. Due to growth of factory outlet operations, it appears that apparel manufacturers' outlet stores may be selling their own product lines manufactured to specifications designed for outlet sales (Boston Globe, 1998). This change in strategy of producing a line specifically for sale in outlet stores was certainly a marked departure from the original purpose of this marketing channel.

In the 1990s, American consumers have become extremely price conscious. They are traveling to manufacturers' outlet stores by the busload (Stovall, 1995) in order to shop almost solely on price. It is estimated that 55 million American shoppers traveled at least 200 miles, round trip, or more than 11 billion miles, to spend their money at factory outlet malls (*Consumer Reports*, 1998). The changes in channel marketing strategy and pricing behaviors by clothing manufacturers have become of immense concern to retail store management. Numerous operations located in traditional local retail centers have noticed a decrease in their overall sales and a lessening of their annual growth rate in sales. Numerous local retail stores, which have been the anchors in malls, have closed or consolidated their operations in order to survive this downturn in sales and profits.

This study is designed to examine three research goals. The first is

to determine if clothing manufacturers' outlet stores are selling special product lines in their retail outlet stores. The evaluation of this research question was accomplished by conducting textile and construction quality tests on pairs of shirts and blouses purchased at retail stores and manufacturers' factory outlet stores. The second goal is to evaluate, if possible, the pricing methods used by manufacturers' outlet stores on the items purchased for this study. The third goal is to evaluate the relationship between the quality and pricing of the apparel. This goal was accomplished by examining the price differential between the goods purchased at retail stores and those purchased from the manufacturers' outlet stores.

■ Literature Review

Research based literature in academic journals on manufacturers' factory outlet stores is practically nonexistent. However, there are numerous articles in the trade press that are based on anecdotal information. Hazel (1995) indicated that while construction in traditional shopping centers was slowing, there continued to be an expansion in the development of factory outlet malls. In 1995, a number of factory outlet mall projects from 5,000 to larger than 1,000,000 square feet were under construction. Hazel (1997) also suggested that many of the newly developed outlet malls were advertising that they were value centers. Outlet mall developers were adding more amenities to their operations. These amenities and services are not only value-priced but are also designed to provide entertainment, food, and other services that draw consumers to the mall (ICSC, 1996).

The book *Value Retailing in the 1990s* (Packaged Facts, 1995) uses data gathered in 1992. Essentially, this book outlines the factors and trends that led to the development of factory outlet stores located in rural areas and in regional shopping malls. More recent editions of the book have been published by a division of Find/SVP (1996) and are available for purchase on the Internet at www.findsvp.com.

Research has been conducted on the relationship between the consumer's perception of value and the quality of apparel. Oesterreicher (1993) indicated that value means more than simply the price of the apparel product. It includes product relevance, fashionability, quality, service, and convenience. Pashigian and Bowen (1991) found that price differences in men's dress shirts were best explained by the uncertainty hypothesis rather than the peak load hypothesis. The researchers found that as fashion becomes more important, this change appeared to explain more of the greater seasonal variation in retail prices in recent years. More recently, Allenby, Jen and Leone (1996) contended that consumer atti-

tudes about the future and the state of the economy determined pricing. This was especially the case whether or not those who purchased fashion-related products paid a premium for early purchases of fashion apparel. If consumers were optimistic about the economy, they tended to be less price-sensitive and to purchase higher price fashionable apparel early in the selling season.

The popular press occasionally examines the differences between quality and price of apparel products purchased at outlet malls and retail stores. *Consumer Reports*, (1998) published a significant article examining these issues from the perspective of the consumer. In preparing for this extensive article, the magazine surveyed their readership and purchased thousands of dollars worth of merchandise. In order to compare prices of similar items in outlet stores and retail stores, they called more than 2,600 different stores and asked the current selling prices of specific items.

They found conclusive evidence that branded clothing apparel manufacturers are making products exclusively for their own outlet stores. The article states that Ann Taylor, Brooks Brothers, Donna Karen, the Gap, and Levi Strauss are examples of companies producing different product lines for their factory outlet stores. Many of the apparel items have the same name and even occasionally the same model number as the same product sold in full-priced retail stores. The *Consumer Reports'* reporters posing as ordinary shoppers asked questions of sales staff about quality and price. The reporters were informed that the lower prices were the result of less expensive or lighter weight fabrics and the use of plastic rather than leather buttons. However, the salesperson normally assured the reporters "that quality has not been compromised" (*Consumer Reports*, 1998).

Consumer Reports also purchased several apparel products, comparing them only by observation and finding that the quality of the items had been reduced. For example, a well-known jeans company uses different colored tabs on their products to designate different manufacturing standards. Those that have red or orange tabs are normally sold in retail stores while those that have white tabs are manufactured exclusively for outlet stores. The big difference, according to the magazine, is that the material of the white-tab jeans is noticeably lighter than either the red or orange-tab products and will not last as long. Similar reductions in material quality and construction were found in cotton oxford cloth shirts, leather belts, tee-shirts and pantyhose (*Consumer Reports*, 1998).

Consumer Reports found that made-for-outlet merchandise occasionally had "factory store" labels or hang tags. Their reporter concluded that, despite some specification differences in the apparel products, the overall quality was good. More than 70% of their readership surveyed (n=700+) agreed that they were completely or very satisfied with the quality of the apparel merchandise purchased at outlet mall stores.

Their research on prices found that prices at outlet stores were consistently lower. They found that overall prices of products at outlet stores were between 5 and 50% lower than for the same product at mainstream competitors. The average discount per apparel item was about 25%. However, they conclude that, on average, when one factors in sales and coupon bonuses at retail stores, the price difference lowers to between 10 and 20%.

The article in *Consumer Reports* (1998) made a valuable contribution to the information about differences and similarities between product quality and prices of apparel sold at outlet malls and retail stores. However, their methodology lacked scientific rigor and therefore, cannot be replicated precisely. The goals of the current research project were similar to those of *Consumer Reports*. This study used more extensive technical quality research techniques for which standards have been developed. The study can also be replicated in the future to determine if quality and cost of materials used in the study have changed over time.

■ Methodology and Analysis

The first research goal was to compare the textile quality of several high-end apparel products purchased from clothing manufacturers' outlet mall stores and from retail stores. Men's and women's top-of-the-line white 100% cotton shirts were selected as the items for analysis. There were three reasons for this selection. First, these shirts are classic clothing items found in the standard wardrobe of middle and upper level professionals of both genders. In addition, discount retailers, such as Wal-Mart and Target, do not normally sell these shirts. Finally, these items are made by a variety of brand name manufacturers who also own and operate in fashion outlet malls. Six different types of men's and women's 100% cotton shirts were purchased from both factory outlet malls and retail stores. Five units of each brand of shirt were purchased for a total of 60 units of which 30 were men's shirts and 30 were women's shirts.

The shirts were subjected to a series of tests conducted at the University of Arkansas Textiles Testing Center. These tests were conducted using standard testing methods established by the American Association of Textile Chemists and Colorists (AATCC, 1975) and by the American Society of Testing and Materials (ASTM, 1997). These tests included a number of non-destructive as well as destructive tests. Examples of non-destructive tests included durable press appearance, seam appearance, warp/filling dimensional stability, yarn count, and textile thickness. Examples of destructive tests were fabric weight, pilling resistance, abrasion, and seam strength analysis.

Textile Testing Results

Although numerous scientific tests were conducted on the fabric and construction of these shirts, only a select number of tests will be reported in depth in this article. This decision was reached for three fundamental reasons. The first is based on the interests of the individuals who tend to read this journal. Readership is generally retail industry executives and staff as well as a group of marketing or retail academics who are not textile scientists by training or profession. Secondly, those tests that are reported in depth are those tests that are likely to be used by professional buyers of apparel merchandise to determine if they would purchase these items for their retail operations. Finally, the decision was reached because all of the test results indicated the same conclusions. Readers who are interested in additional test results can request them by writing or e-mailing the first author.

Seam Appearance

This test is designed to evaluate the smoothness and appearance of seams in apparel after repeated laundering. The tests were conducted according to guidelines contained in AATCC 88B-1996 (1999). The standards were followed very precisely in regard to washing, drying, and mounting for evaluation. The textile scientist and her associates followed all of the process guidelines as required in the testing standards.

Three representative fabric samples were cut from each of the shirts and blouses. Three trained textile technicians evaluated each of the fabrics prior to the first washing, after one wash, and after five. Each of the technicians recorded their ratings using a five-point evaluation scale after examining the fabric. A grade of 5 was given to the sample if the seam was very smooth and a grade of 1 if the seam had a very poor level of appearance. Table 1 contains the results of t-tests conducted on the mean scores of the combined evaluations of the three evaluators and the evaluations of each of the five shirts and blouses by brand. That is, the 15 individual items were averaged together to create the reported mean score. T-tests were then conducted using *Microsoft Excel* to determine if there were any significant statistical differences between the retail store product mean and the outlet mall product mean score. Three different t-tests were conducted on each name brand using the number of times the apparel was laundered in order to evaluate the effects of the laundering process on the seam appearance.

The evaluation of the seam appearances of the women's blouses found few statistically significant differences between those purchased at an outlet mall and those purchased from a retail store. The seam appearances prior to washing of the brand labeled "T" had the highest rating of 4.33 for the retail product and 4.20 of the outlet product. The brand labeled "R" had the lowest rating of the three products with a poor

TABLE 1. RESULTS OF T-TESTS OF SEAM APPEARANCE EVALUATION BY OUTLET VS. RETAIL PRODUCTS

Number of Launderings	Mean Scores of Outlet Products ^a	Mean Scores of Retail Products ^a
	Women's "G" Brand	Women's "G" Brand
0	3.47	3.40
1	1.13	1.20
5	1.07	1.07
	Women's "T" Brand	Women's "T" Brand
0	4.33	4.20
1	1.33	1.73*
5	1.07	1.20
	Women's "R" Brand	Women's "R" Brand
0	2.06	2.66***
1	1.93	1.20***
5	1.20	1.13
	Men's "G" Brand	Men's "G" Brand
0	2.06	1.73
1	1.00	1.00
5	1.00	1.00
	Men's "T" Brand	Men's "T" Brand
0	1.80	3.46***
1	1.00	2.00***
5	1.00	1.85***
	Men's "R" Brand	Men's "R" Brand
0	3.66	3.93
1	1.06	1.06
5	1.00	1.00

Levels of significance: * $p > 0.05$, *** $p > 0.001$

^aRating scale: 1 = very poor seam appearance; 5 = excellent seam appearance.

appearance of seams even prior to the first washing. The only statistical differences are those that occurred in the analysis of brand "R." The retail purchased product was rated significantly higher than the outlet purchased product. After five washings, all three of the "R" brand women's blouses had very poor seam appearance.

The evaluation of the seam appearances of the men's shirts also found few statistically significant differences. Only in the shirt brand labeled "T" were any differences found and in each case the retail purchased shirt was rated higher than the shirt purchased from the outlet mall. At the conclusion of the five washings, all of the seam appearances for all of the brands of men's shirts were rated poor or very poor, no matter where the location of purchase.

Durable Press Evaluation

Durable press is the ability of a fabric to substantially retain its initial shape, flat seams, pressed creases, and unwrinkled appearance during normal use and after laundering. Each of these expensive 100% cotton shirts would have been expected by textile experts to have a relatively high rating for durable press despite the label warning that the shirts and blouses "might" need some touch up with a warm iron after being removed from a dryer. Each of the 60 articles of apparel was evaluated using guidelines contained in AATCC Test Method 124-1996 (1999). Again, all the test procedures were followed rigorously.

Three technicians evaluated each product sample. They used a five point scale with a score of 5 representing a very smooth, pressed, finished appearance while a score of 1 indicated a crumpled, creased, and severely wrinkled appearance. Table 2 contains the mean scores and the results of the t-test conducted by location of purchase.

The durable press evaluation of the women's blouses found only significant statistical differences in the brand labeled "T," purchased through the retail channel. Differences were found in "T" after washing one and five times. After five washings, all three brands of the blouses, regardless of where they were purchased, were rated very poor in durable press evaluation. All were so severely wrinkled and crumpled in appearance as to render them practically unusable without extensive ironing.

The evaluation of the durable press appearance of the men's shirts also found few statistically significant differences. Again, only in the shirt brand labeled "T" were statistical differences found, and in each case the retail purchased shirt was rated higher than the shirt purchased from the outlet mall. At the conclusion of the five washings, all of the men's shirts were rated as poor to very poor in durable press appearance. Considering the fact that most of these shirts cost more than \$50 each, these results were unexpected.

Dimensional Stability or Changes in the Warp and Filling

The purpose of these tests is to determine the change in dimensions of a fabric when subject to standard laundering procedure. Testing procedures as contained in AATCC Test Method 96-1997 (1998) were used. Prior to laundering, fabric samples were carefully marked to establish benchmark measurements. After each laundering, the fabric pieces were remeasured using the benchmarks as guides. The textile technician recorded the change in dimensions by width or warp and length or filling as a percentage of the distance between the benchmarks. If the final measurement was smaller than the original measurement, the percentage of the distance between benchmarks was recorded as shrinkage in the fabric. If the final measurement was larger than the original measurement, it was recorded as growth or negative shrinkage. The recording in growth was designated

TABLE 2. RESULTS OF T-TESTS OF DURABLE PRESS EVALUATION BY OUTLET VS. RETAIL PRODUCTS

Number of Launderings	Mean Scores of Outlet Products ^a	Mean Scores of Retail Products ^a
	Women's "G" Brand	Women's "G" Brand
0	1.66	1.73
1	1.00	1.00
5	1.00	1.33
	Women's "T" Brand	Women's "T" Brand
0	3.00	3.06
1	1.06	1.80***
5	1.53	1.93*
	Women's "R" Brand	Women's "R" Brand
0	2.00	2.20
1	1.33	1.06
5	1.26	1.33
	Men's "G" Brand	Men's "G" Brand
0	1.66	1.53
1	1.13	1.06
5	1.00	1.07
	Men's "T" Brand	Men's "T" Brand
0	1.93	3.20***
1	1.00	2.00***
5	1.00	1.93***
	Men's "R" Brand	Men's "R" Brand
0	2.53	2.80
1	1.00	1.27**
5	1.00	1.00

Levels of significance: *p > 0.05, **p > 0.01, ***p > 0.001

^aRating scale: 1 = very poor durable press, severely wrinkled and crumpled; 5 = very little or no wrinkling or crumpling.

by a plus sign in front of the percentage recorded. It is not unusual for shrinkage and growth to be recorded on the same piece of fabric in its warp and filling due to the differences in the yarn used in construction.

The results of the dimensional tests on both men's and women's garments indicated a higher than expected percentage of shrinkage. These results are presented in Table 3. On some of the blouses in the study the overall shrinkage after 5 washing was greater than 10%. For many consumers this would mean the garment would have been unusable after only a few wearings. Overall, the women's blouses purchased at retail stores had higher than average percentages of shrinkage in both the warp and fill. Significant differences in the percentage of shrinkage in warp was found in both the warp and fill for product "G" with the outlet product

TABLE 3. RESULTS OF T-TESTS OF DIMENSIONAL STABILITY TESTS BY OUTLET VS. RETAIL PRODUCTS: COMPARED PRIOR TO LAUNDERING AND AT THE CONCLUSION OF FIVE LAUNDERINGS

Mean Scores of Percentage of Change in Outlet Product in Warp	Mean Scores of Percentage of Change in Retail Product in Warp	Mean Scores of Percentage of Change in Outlet Product in Filling	Mean Scores of Percentage of Change in Retail Product in Filling
Women's Brand "G" 1.75***	2.50	Women's Brand "G" 1.90***	1.40
Women's Brand "T" 3.65	4.15	Women's Brand "T" 1.65**	0.75
Women's Brand "R" 2.85	3.25	Women's Brand "R" -0.10 ^a	0.05
Men's Brand "G" 1.80*	1.30	Men's Brand "G" -0.30 ^a	-0.50 ^a
Men's Brand "T" 1.75	2.35	Men's Brand "T" -0.20 ^a	-0.95 ^a
Men's Brand "R" 2.60**	3.85	Men's Brand "R" 0.95	1.00

Levels of significance: * $p > 0.05$, ** $p > 0.01$, *** $p > 0.001$

^aNegative sign (-) indicates negative shrinking or expansion of the fabric.

shrinking less in the warp, but statistically more in the fill. The men's shirts had less shrinkage on average than the women's blouses. In the product "G" the average percentage of change in the men's shirt was greater in the outlet product and the opposite was the case in product "R," with greater dimensional change in products purchased from the retail store. No statistical differences were found in changes in the fill, but it should be noted that in both shirts "G" and "T" there was greater expansion than shrinkage in this dimension of the product.

Pilling Resistance

The pilling resistance test is designed to evaluate the fabric's propensity to develop bunches or balls of tangled fibers which are held to the body of the fabric by additional fiber strands. Tests of pilling resistance were conducted under standards developed by ASTM under designation D 3512-96 (1998). This test involves using fabric samples that are placed in a machine called a Random Tumble Pilling Tester. Samples are subjected to a timed level of mechanical tumbling in the machine prior to washing and again after one and five washings. The resulting pilling is evaluated

under a specific lighting condition using a five-point scale. A score of 5 indicates that there was no pilling and a score of 1 indicates there was very severe pilling. Results of the pilling resistance tests are contained in Table 4. Overall, these tests showed that the fabric used in these garments indicated a high to moderate level of resistance to pilling.

The scores of the five shirts or blouses were combined to produce the average level of pilling by brand and location of purchase. T-tests were conducted using location of purchase as the method of grouping the samples. Prior to washing, pilling resistance was statistically higher from the retail product than from the outlet product in women's blouses "T" and "R." Prior to washing, statistical differences in pilling resistance were found in all three brands of men's shirts. In products "R" and "G" pilling

TABLE 4. RESULTS OF T-TESTS OF PILING RESISTANCE BY OUTLET VS. RETAIL PRODUCTS

Number of Launderings	Mean Scores of Outlet Products ^a	Mean Scores of Retail Products ^a
	Women's "G" Brand	Women's "G" Brand
0	4.50	4.70
1	4.50**	4.90
5	4.50**	4.80
	Women's "T" Brand	Women's "T" Brand
0	1.80	4.30
1	2.40	3.50
5	3.90	4.40
	Women's "R" Brand	Women's "R" Brand
0	1.40***	3.00
1	2.70*	3.60
5	4.40	3.60
	Men's "G" Brand	Men's "G" Brand
0	4.20**	4.50
1	4.30	4.50
5	3.60	3.70
	Men's "T" Brand	Men's "T" Brand
0	3.80**	2.60
1	4.40**	4.00
5	3.40**	2.30
	Men's "R" Brand	Men's "R" Brand
0	3.50	3.80
1	4.30	4.10
5	3.70	4.10

Levels of significance: *p > 0.05, **p > 0.01, ***p > 0.001

^aRating scale: 1 = very severe pilling; 5 = no pilling.

resistance was higher in the product purchased in the retail stores but much lower in product "T."

Changes in pilling resistance due to washing can be noted in many of the shirts and blouses. These differences in pilling resistance are due to the changes in fabric structure that occur during the laundering process. Pilling resistance increases or decreases as the fabric tightens or loosens its thread structure. Some of the brands indicated excellent resistance (4+ rating) to pilling but some of the fabrics had severe levels of pilling (2 or lower rating). The poor appearance of these latter products would have lessened the desire of the owner to wear these products.

It should be noted that the researchers did not have the original fabric or construction specifications as developed by the apparel buyer and then given to the apparel manufacturer. It may be the case that apparel specifications were higher than the quality of the products purchased by the researchers. However, the technical results of this study suggest that many of the fabrics used in both the retail and outlet mall products were low in quality. In addition, many of these shirts and blouses suggest poor construction during manufacturing. Both of these negative aspects were present despite the high cost of the product to the consumer and regardless of the location of purchase.

Pricing

Data were acquired as to the cost of each of the items. Since clothing store managers and sales staff normally have agreed not to disclose the pricing practices of their operations, pricing tactics and strategies were more difficult to evaluate. The vast majority of retail stores use the keystone technique of doubling the wholesale prices of all first-line apparel goods. It is assumed that manufacturers' outlet stores also use keystone as their pricing policy. Diamond and Pintel (1997) contend that some consumers have the impression that off-price merchandisers have purchased their goods at the same price as the retailer. These consumers also believe that off-price retailers are placing a lower markup on their apparel products. However, it is more likely that off-price retailers actually buy their products at a considerable discount and then proceed to use the same pricing strategy as that of the traditional retailers. Therefore, it is assumed that the manufacturers' outlet stores are purchasing their products for less than the traditional retailer, and they then apply the same keystone pricing technique to calculate retail prices. For example, the traditional retailer may purchase a skirt at the cost of \$52 and place the retail price at \$110. The markup is 53%. The off-price retailer may be able to purchase the same skirt for \$36 and retail it at \$75. This gives a markup of 52%. The markup is essentially the same between the two retailers.

The pricing of the apparel products examined in this study were on the high end of 100% cotton shirts and blouses. The typical retail store shirt or blouse was priced between \$50 and \$60. The exact model number shirt or blouse or very similar product purchased at the outlet malls was priced between \$40 and \$45 per unit. As per the results found in the *Consumer Reports* article, consumers could save between 10 and 25% if they purchased their apparel from outlet mall operations. Despite the differences in cost, there was little difference in the quality of the fabric or construction techniques used in the production of these garments.

■ Discussion

The results of this study were in sharp contradiction to the similar study conducted by *Consumer Reports* (1998.) Their reporters found extensive differences in weight and feel of fabrics between products sold in outlet malls and retail stores. In general, they determined that there were quality differences between the locations of sale, with the outlet mall products having lower quality fabrics and construction. They determined conclusively that apparel manufacturers were producing different lines of products for their outlet stores.

This study found only a few differences in the quality of fabric and construction processes used in apparel products sold in outlet malls and retail stores. There were few statistically significant differences between seam appearance, durable press appearance, dimensional change, and pilling resistance in the groups of shirts and blouses examined for the study. When significant differences were found, some varied by location of the purchase of the product. Those purchased at retail stores were not consistently superior in quality to those purchased at an outlet mall. Overall, the quality of the fabric and the finished product was poor to very poor, regardless of where it was purchased. This study does not determine conclusively whether or not clothing manufacturers who own outlet mall stores are producing different product lines for different marketing channels.

Unlike the *Consumer Reports* study that relied on the opinion of reporters, this study used consistent textile testing techniques to arrive at its results. Although the two studies have contradictory conclusions, this is due partially to the difference of technical methodology. Both studies should be closely evaluated by retailers in the apparel business to determine their own professional conclusions.

The results of these textile tests were unexpected. We purposely selected high-end, 100% cotton products to evaluate, and expected quality products due, in part, to the relative high price of the garments. We

expected a high quality-to-price ratio. This was not found. In fact, the opposite was the case. The majority of the shirts and blouses would not have lasted more than three or four normal washings before they became unwearable. Typically, many consumers send this type of shirt or blouse out for professional laundering. However, the damage done to these garments by professional laundering would have been increased due to the higher water temperatures, more caustic forms of chemicals, the use of starch and hot pressing temperatures. Although the products would have appeared to be well maintained, the underlying structure of the fabric and construction would have been rapidly destroyed by these processes.

This study provides important warnings both to retailers and consumers. It is in the interest of retailers to determine that the apparel they purchase for their most valued customers meet high quality specifications. This is especially the case if they expect to receive a premium for name brand products. It is also in the retailers' interest to maintain quality control of the products they purchase for their stores if they desire to have satisfied repeat customers. Consumers must also take great care in their purchasing decisions in order to obtain quality apparel products. Neither the price nor the brand name on the products evaluated in this study assured that the consumer was getting his or her money's worth. The consumer must be alert to both price and quality in the marketplace.

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