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1. INTRODUCTION
A. The world as we have known it is in a state of massive transition. The changes wrought by this transition are challenging the purposes, functions and activities of all institutions which have been created to administer to our needs: political, social, religious and economic.

B. The purpose of this presentation is to discuss the nature and implication of these changes on business, specifically the textile and apparel industries, and a framework within which we can successfully address the "new world" created by these changes.

II. THE WORLD UPSIDE DOWN
A. The only thing constant about change is change itself.
1. "We must welcome the future, remembering that soon it will be the past; and we must respect the past, remembering that it was once all that was humanly possible." George Santayana
2. "The trouble with our times is that the future is not what it used to be." Paul Valery

B. While change has always been a part of historical developments, the current rate of change is unprecedented.
1. Future shock is the dizzying disorientation brought on by the arrival of the future." Alvin Toffler
2. The rate of change is making change and ambiguity commonplace instead of stability and clarity.

C. The changing environment has profound implications on how business organizations interact with the environment.
1. People and organizations strive for simplicity and order in their environment.
2. Rapid change challenges simplicity and order by introducing uncertainty and ambiguity.
3. People and management must balance the yin of continuity and the yang of change.

D. Today's management practices are predicated upon stability, simplicity and order rather than change and uncertainty.

1. Corporate strategies, organization structures and management processes are founded upon the principle that what worked in the past will work in the future.
2. Consequently, business is oriented towards managing a stable past rather than an uncertain future.

E. The competitive environment shapes the nature and types of response a company must have to compete effectively.
1. Consumers are requiring companies to supply more variety at less cost on a more immediate basis with better service.
2. The constant pressure for a company to continually align its strategy, value activities, organization and management processes to fit the environment creates confusion, and turmoil under traditional management practices = stress.

F. The "old world" - "new world" environments which business must face are:

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G. The central issue is: how does a company manage in an environment of uncertainty and ambiguity?

III. BUSINESS RESPONSE TO CHANGE
A. Changes in the competitive environment dictate changes in the way we manage.
If change is the norm, then business strategies, structure and processes must be reshaped to include change as a normal part of doing business. This requires:


b. Strategy to make vision a reality.

c. Organization motivated by and dedicated to the vision.

d. Management processes used to administer value activities.

B. How can change be incorporated into vision, strategy, organization and management processes?

1. The only effective response to change is adaptability, flexibility and responsiveness.

2. If you cannot rationally determine the future, organization must act because failure to react to change creates more disorder than change itself.

3. When organizations respond, they absorb uncertainty and impose a fluid stability upon chaos.

C. The common denominator between change and the ability to adapt, respond or be flexible is time. The shorter the time is between creation and consumption of a product, the greater is the opportunity to effectively respond to the changing needs of the market.

IV. MANAGING IN THE FUTURE PERFECT TENSE

A. Industries and businesses are organized by value activities. These are commonly called value chains.

1. Apparel & Textile Industry

2. Company Value Chain

Design —→ Produce —→ Sell —→ Service

B. Profitable growth is created by a strategy which consists of an integrated set of activities which produce a sustainable competitive advantage.

1. Competitive advantage is gained by supplying products of superior value to the customer.

a. Value is product benefits matched against their cost.

b. Superior value is delivered by creating products whose benefit/cost ratio is better than competitor's offerings.

c. An industry or company value chain describes and determines how the value will be delivered.

2. The competitive advantage gained can only be sustained if it is resistant to competitive reaction.

a. Changing variety requirements of the markets and competitors' ability to quickly respond to product offerings makes it difficult to sustain competitive advantage — especially with respect to a company's capability to differentiate the tangible product value.

b. Sustainability for advantage is therefore shifting to include not only what value a company creates but how the value is delivered.

C. Competitive advantage in the uncertain future will be gained by those industry and company value chains which can rapidly and efficiently deliver the required value by having adaptable, flexible and responsive vision, strategy, organization and management processes.

1. Value activities within a company or between members of an industry value chain have been designed to provide functional specialization which requires a high degree of coordination.

2. The vision, strategy, organization and management processes of the industry and company value chains are based upon the "old world" concept of assigned role of hierarchy where activities flow horizontally across activities and functions and then vertically within function.

3. Each value activity functions only as a part of the whole system. Efforts are typically made to maximize the functional activity performance which usually sub-optimizes the total business system effectiveness.

4. There are substantial time-lags involved in transferring the product from one part or activity to another one. This time delay impedes or destroys flexibility, adaptiveness and responsiveness. "We will make no decision before its time."

D. The "new world" solution to shortening the time between creation and consumption of a product by having flexible, responsive and adaptive industry and company value chains is to create an effective integration of all value activities involved.

1. The greatest leverage in improving the creation and delivery of value will come from reducing cycle times by improving and changing the interfaces between the functional value activities of the industry and company value chain.

2. As opposed to the closed hierarchal system, a new open system will be required.

3. This new system will be characterized and molded by intangible factors which will be shared between all parties involved in a value chain:

   a. Relationships

   b. Information

   c. Service

4. These intangible factors, both formal and informal, will act as integrators between the chain's value activities so that all parts will act as...
a whole toward a common objective. The integration of the business system(s) will link the consumer to the manufacturers.

5. Intangible factors—time—adaptiveness—change—competitive advantage.

E. Partnerships or networks will be formed to cooperatively work together to manage the flow of products along the industry and company value chains in a more timely and responsive manner.

F. The components of this operational strategy are as follows:

1. Innovation
2. Quality
3. Technology
4. Holistic organizations
5. Knowledge

G. Management in the future perfect tense will require the following changes:

1. Process:
   a. Change = ambiguity
   b. Ambiguity addressed by shortening market response time.
   c. Market response time improved by developing adaptive and flexible value activities.
   d. Adaptability created by fixing linkages between value activities (coordination).
   e. Linkages improved by better relationships, information and service.

2. Formula: VALUE CHAINS

Supplier — Textile Apparel Retail
Design — Produce Sell Service

Shorten Market Response Time

V. IMPLICATIONS FOR EDUCATION

A. Educators should be an integral part of the partnership/network because of the value added they can bring to the "new world" management.

B. "Education will have to concentrate more on those skills that are poorly done by computers." Thomas Blakesdale

1. Tangible
   a. Technology
   b. People

2. Intangible
   a. Knowledge
   b. Attitudes
   c. Innovation
   d. Social Skills

VI. SUMMARY

Compact the value dimensions of time, space and matter inherent in creating and delivering a product.

BIBLIOGRAPHY

1. If change is the norm, then business strategies, structure and processes must be reshaped to include change as a normal part of doing business.

2. This requires:
   b. Strategy to make vision a reality.
   c. Organization activated by and dedicated to the vision.
   d. Management processes used to administer value activities.

B. How can change be incorporated into vision, strategy, organization and management processes?

1. The only effective response to change is adaptability, flexibility and responsiveness.

2. If you cannot rationally determine the future, organization must act because failure to react to change creates more disorder than change itself.

3. When organizations respond, they absorb uncertainty and impose a fluid stability upon chaos.

C. The common denominator between change and the ability to adapt, respond or be flexible is time. The shorter the time is between creation and consumption of a product, the greater is the opportunity to effectively respond to the changing needs of the market.

IV. MANAGING IN THE FUTURE PERFECT TENSE

A. Industries and businesses are organized by value activities. These are commonly called value chains.

B. Apparel & Textile Industry Value Chain

Raw Material-Textile Apparel-Retail-Consumer Supplier

2. Company Value Chain

Design→ Produce→ Sell→ Service

B. Profitable growth is created by a strategy which consists of an integrated set of activities which produce a sustainable competitive advantage.

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   a. Value is product benefits matched against their cost.
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   c. An industry or company value chain describes and determines how the value will be delivered.

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   a. Changing variety requirements of the markets and competitors’ ability to quickly respond to product offerings makes it difficult to sustain competitive advantage--especially with respect to a company’s capability to differentiate the tangible product value.
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   b. Information
   c. Service

4. These intangible factors, both formal and informal, will act as integrators between the chain’s value activities so that all parts will act as
a whole toward a common objective. The integration of the business system(s) will link the consumer to the manufacturers.

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   2. Formula:

   VALUE CHAINS
   Supplier → Textile Apparel Retail
   Design Produce Sell Service
   Shorten Market Response Time
   Linkages

   TIME
   ADAPTIVENESS
   FLEXIBILITY
   RESPONSIVENESS

   RELATIONSHIPS
   INFORMATION
   SERVICE

   INNOVATION
   QUALITY
   TECHNOLOGY
   HOLISTIC ORGANIZATIONS
   KNOWLEDGE

V. IMPLICATIONS FOR EDUCATION
   A. Educators should be an integral part of the partnership/network because of the value added they can bring to the "new world" management.
   B. "Education will have to concentrate more on those skills that are poorly done by computers." Thomas Blakesdale

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         d. Social Skills

VI. SUMMARY
   Compact the value dimensions of time, space and matter inherent in creating and delivering a product.

BIBLIOGRAPHY
   Competitive Advantage (The Free Press, N.Y., 1985)
Two professional development workshops centered on nurturing research skills in graduate students, tenure-track faculty members, and tenured, established faculty members. Elizabeth McCullough and Geitel Winakor, as representatives of the Graduate Programs Committee, discussed preparing graduate students to do research and publish. Elizabeth Easter and Leslie Davis offered recommendations for faculty members working toward tenure. Bonnie Morrison and Ian Hardin described ways to promote research achievement by tenured faculty members. A period of questions and lively discussion followed each group of three presentations.

Graduate students require strong educational experiences to become competent researchers. Independent study courses must be used sparingly in programs of study and must be carefully documented, to convey a clear picture of what the student has learned. Programs must include sufficient depth in courses outside of textiles and clothing to support research expertise. Parametric and non-parametric statistics, research methods, foreign languages, and root disciplines all play crucial roles in producing skilled researchers.

Graduate students need experience in writing grants, presenting papers, preparing articles, and revising written material in response to reviewers' critique. Learning how to handle these responsibilities will increase a graduate student's chances of success as a beginning faculty member. Most graduate students will be teachers as well as researchers, so they need opportunities to teach under the direction of an experienced university faculty member. Carefully chosen courses in education, emphasizing preparation of visual materials and evaluation of student achievement, can also promote success in future teaching. Finally, graduate students need to be encouraged, even "pushed", to read current research and become members of professional organizations most closely allied to their academic emphasis.

Having obtained a university appointment, the erstwhile graduate student must now secure tenure. This means managing time to include research from the very first semester of employment. Setting personal deadlines, curtailing committee service, and even limiting time for classroom preparation were all suggested as ways to make time for research and writing. If possible, the junior faculty member needs to find a mentor among her or his experienced colleagues. This person should be a role model in finding funding and doing high quality research and writing. One important role for the mentor and other respected colleagues is to review the drafts of articles or papers before submission for outside review. Mature faculty members and department administrators should encourage a new tenure-track researcher to develop an area of specialization—something for which she or he can become well-known. Publishing the dissertation and developing offshoots from doctoral research were both recommended methods for establishing a research program. Professional contacts do not stop at the university gates. The successful new researcher uses professional meetings to form research alliances with investigators at other universities.

Department administrators need to foster continued professional growth in faculty members who have passed the milestone of tenure. Through discussions with tenure holders and careful observation, the department head or chair should strive to learn each person's strengths and weaknesses, to assess what a faculty member can do—not just what she or he wants to do. Research teams may help stimulate tenured professors, provided team members are compatible. Sabbaticals, workshops, or judicious levels of material support for research may all stimulate mature faculty members to renewed or continuing research productivity. Those professors who are superior teachers, but not researchers, should be given the opportunity to enrich the undergraduate program by the exercise of their skills in scholarship and communication.
Departures '89 was a juried design competition for members of ACPTC and their students. Entrants to the competition were asked to state a problem presented by travel and to design and execute an apparel item or ensemble that solved that problem. Entries were judged on their overall success in meeting the problem stated, the creativity of the design, and the overall appearance of the garment.

The competition was made possible through the support of the following corporate sponsors: The American Home Sewing Association; American Tourister; Bernina of America; Charles Kleibacker; McCall's Pattern Company; Russell Corporation; Sew News; and W. L. Gore and Associates, Inc.

Slides of one hundred and sixteen entries were received from forty-one different institutions. From these slide submissions, twenty student finalists and ten faculty finalists were selected by preliminary jurors: Joyce Dixon, Designer, Christian Dior, New York; Jean Druosedow, Costume Curator, Costume Institute, Metropolitan Museum of Art; Janet Racy, Fashion Merchandising Editor, Harper's Bazaar; and Steven Stipelman, Fashion Illustrator, Women's Wear Daily.

The student finalists were: Kathy Baggett, Auburn University; Ruth Bartell, University of Texas-Austin; Kristen Comstock, Texas Tech University; Loraine Cothren, Kent State University; Douglas Earl, Eastern Michigan University; Rebecca Erdman, Cornell University; Erin Fitzpatrick, Kent State University; Magdalena Gospic, Kent State University; Todd Huston, Kent State University; Jill Hyland, Kent State University; Patty Jurwicz, Cornell University; Debra Lee (two entries), University of California-Davis; Debra Lipman, Cornell University; Robin Orr, Southern Illinois University; Annette Ruiz, Syracuse University; Judy Seeger, University of Nebraska; Camelle Sharpton, University of Alabama; Kimberly Warmack, Arizona State University; and Winnie Wu, Southern Illinois University.

Faculty finalists were: Renee Chase, Drexel; John Karl, Fashion Institute of Technology; Susan Davis, University of Hawaii; Lynne Dixon-Speller, University of Delaware; Annette Fraser and Rita Mahan, University of Wisconsin-Stout; Edith Gazzuolo, Minneapolis College of Art and Design; Janet Hethorn, Minneapolis College of Art and Design; Nora MacDonald, West Virginia University; Mary Jane Matranga, University of Delaware; and Kathy Mullet, Radford University.

The thirty finalists submitted their garments for jurying to determine the top winners. Final jurying took place in Atlanta during the annual meeting of ACPTC. Jurors representing the corporate sponsors first examined the garments off the figure in a private session. Jurors included: Vicki Lyn Hastings, Marketing and Education Director, the American Home Sewing Association; Linda Griepentrog, Editor, Sew News; Karen Kunkel, Education Manager, McCall’s Pattern Company, Inc.; Jean Norvell, Product Specialist, W.L. Gore and Associates, Inc.; Jo Ann Pugh, Education Director, Bernina of America; and Ellen Abernathy, Product Manager, The Russell Corporation.

The final jurying session took place during an evening runway show. The gala event began with a reception for the finalists where sketches of each finalist’s entry done by Steven Stipelman, fashion illustrator for Women’s Wear Daily, were displayed. Mr. Stipelman was present to talk with the finalists and ACPTC members. Following the reception, his stunning sketches were given as prizes to each of the finalists.

The runway show was narrated by Charles Kleibacker, who with his own special style made it an extraordinary event. The winners of the competition were:

Students:
1st place: Camelle Sharpton, $1,000
2nd place: Erin Fitzpatrick, $500
3rd place: Kathy Baggett, $300
Faculty:
1st place: Lynne Dixon-Speller, $1,000
2nd place: Susan Davis, $500
3rd place: Renee Chase, $300

A $1,000 Charles Kleibacker award for the "Most Promising Student Designer" was given to Kathy Baggett. The award was anonymously donated in Mr. Kleibacker's name to honor him for the many contributions he has made to ACPTC and its member institutions.

"Metamorphosis"
1st place faculty design
Lynne Dixon-Speller

"Riding Togs"
1st place student design
Cammie Sharpton
Global Sourcing II: A Changing Scenario

Mary E. Barry

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Last year I presented a paper at the Eastern Region meeting of ACPTC in which I addressed some of the key issues to be considered in Global Sourcing. Those overheads which I used at that time are basic and still hold. (See Figures 1-3.)

A look at the trade data shows that Hong Kong, Korea, Taiwan, and China have supplied apparel to the U.S. in great quantities. Production and exports of apparel have enabled these countries to facilitate the use of land and labor to produce capital. This, in turn, has helped to move these countries from agrarian to industrial economies. The skill of the entry level apparel worker has enabled some of these countries, e.g., Hong Kong, Taiwan, Korea, to move from simple, adaptive, creative garments to garments that really fit. Fabric detail adds to the value of the garment.

However, these four countries are no longer the dominant players that they once were. In the early 1990's these four players will be sharing dramatically increased amounts of production with Indonesia, Thailand, the Caribbean Basin and other countries. In addition, domestic sourcing within the USA will become increasingly important. As new centers in global sourcing emerge, so do new problems.

Early pioneers, whose names are now forgotten, worked with Korea, Hong Kong, Taiwan, and China to develop their expertise in the use of land and labor to produce capital through use of their production expertise. These pioneers provided an infrastructure of education, communication, and networking to effectively produce and deliver apparel to markets thousands of miles away.

Today, many of these early global manufacturers have been joined by retail buyers who are largely unaware of machinery and of the necessity, much less the way, to train, motivate and manage labor to achieve efficient, timely production for consumer purchase in a global market.

Successful global manufacturers have learned that apparel production management requires technical skills. Training, motivating and managing people for apparel production management can involve formal or informal seminars as well as teaching by example. Being on time, exhibiting a sense of urgency, dressing in such a way that comfort and efficiency are achieved, and being flexible are nontechnical attributes of valuable employees. From the management perspective, it is important to give employees a sense of belonging, to help them feel comfortable with the equipment they will use, to see some reason for the need to wear shoes or other unfamiliar clothing, and for being unable to eat, drink, or play whenever they feel like it.

For most retail buyers, managing and coordinating both people and production is unfamiliar. Sourcing requires a knowledge of fibers, fabric, and finishes as well as of garment construction. The logistics of coordinating delivery of fabrics and findings, and the scheduling of production and shipping can be overwhelming. The right color thread, zipper, lining or facing are not present to be incorporated into the product, and if the right equipment, skills, power, lights are not present in sufficient quantities, the garment cannot be delivered on time. For example, in the Caribbean if the factory does not have its own generator, at least half a day's production can be lost two or three days a week. When product is not delivered to the consumer, payment will not be made to the producer. With no money, workers cannot be paid, further work cannot be obtained, and equipment and supplies necessary for production cannot be obtained.

This has been the scenario for global sourcing of apparel. However, the players are changing--both the sources and the sourcers. It is prudent to look at the reasons for these changes and
Global Sourcing II: A Changing Scenario/Mary E. Barry

anticipate the future. China currently has severe currency problems. The political conflicts which prompted the spring upheaval further intensified this problem. Without the money in China to buy or manufacture the fiber, to spin fiber into yarn, to knit or weave the yarn into fabric that can be dyed or finished, China is unable to produce apparel. These same capital problems preclude purchasing fabric from other countries. In addition, China can no longer produce fabric as they do not have the money for the component parts.

Rising costs are the reason that Korea and Taiwan cannot now deliver to U.S. retail buyers the volume of goods that the buyers are accustomed to purchasing. The major issues contributing to this are 1) the rise of most Far East currencies in relationship to the dollar and 2) the natural evolution of the industry. In the latter case, as workers become more skilled, numerous other workplace options are deemed more desirable.

Two years ago the exchange rate, with higher wages, for the Korean won was 800 to the dollar; today it is 650. In addition, political freedom, union activities, and a push on wage costs have meant that to the US buyers, production and delivery costs are 40% higher. Because there’s a labor shortage, Korea and Taiwan have experienced a 40-50% increase in the cost of labor. These increased costs, plus the adverse effect of the currency exchange rate, have put many manufacturers out of business.

A similar situation exists in Taiwan. A few years ago 38-39 new Taiwan dollars equalled one U.S. dollar. Today 25-26 new Taiwan dollars equal one U.S. dollar. In addition, there is a cost push on labor here as well, plus a shortage of labor caused by转移到 skilled apparel labor to electronics production. Although the U.S. has put on pressure to reduce currency inflation, since this pressure is applied, the less effective it becomes. Thus we see 3/8 appreciation of currency.

This process of shifting sources of production would occur naturally as countries industrialize and develop the skill level and resultant wage rates of the workers. However, other factors have accelerated the shift. In some areas, where production output has shrunk, prices are up, and the lower end apparel has been knocked out. The question becomes where to source the product. The good choices, the easy choices, the countries with proven expertise, are no more.

Today the pioneers in global sourcing are developing new countries. Here manufacturing, not marketing, expertise is essential. The retailer’s direct control of product development and sourcing may pose increased risks for both producers and retailer. Thus moves to the Philippines, Bangladesh, Indonesia and Thailand, and even out of the Far East to the Caribbean are occurring. This shifting sourcing scenario is an economic reality, but the difficulties are also present. It’s not as easy for manufacturers or retail buyers to go into these countries as into Taiwan or Korea. One must adjust.

Neither the work force nor the management are as skillful and sophisticated in these new source countries. “Know how” must be communicated to workers, but the organizational support, and the administrative follow up on specifications, quality and reliability are often not present. Unwary buyers will be burnt. The players, methods and rules of global sourcing that work before have a higher probability of failure in the new geographic areas. One must be prepared and try to learn from those who came before.

Apparel manufacturers were in Taiwan, Hong Kong and Korea early. These manufacturers provided technical help for local producers to bring production up to the quality and volume level necessary to enable the manufacturer to put its brand or private label name on the product. Korea and Taiwan listened and quickly developed the needed technical capabilities. They were motivated and well organized; then improved quickly. (See Figure 4)

Manufacturing technology had to be taught at entry levels and through to the local top management. (See Figure 5) Levi, Arrow and Van Heusen have been leaders in this. These manufacturers trained the workers with products that had few fashion fluctuations, but with labels which meant quality. On high fashion items, developed and sourced by retail buyers, delivery and timing are often more important than quality. But the high fashion retailers utilized producers that had been trained by the manufacturer with technical personnel to deal with the production problems. These retailers were the Third Wave; they did private label.

However, with a move to new countries as sources of production, retailers such as Macy’s and most others are at a disadvantage because they do not have the backup staff enjoyed by the large manufacturers mentioned above. These retailers are often unaware of the complexity of the product development and sourcing process. This process is not difficult, except that there is a great deal of pressure. The labor supply, equipment, and component parts for the
Global Sourcing II: A Changing Scenario

Apparel product must be timed and coordinated. When problems occur, knowledgeable back up resources have to be available at once.

In addition, because of increased consumer awareness, quality is far more important today. Brand trust and recognition of the educated consumer make producing and sourcing private label merchandise far more difficult for retailers. The world situation, with new governments and economies developing, means that country shifts will also be occurring.

In other words, global sourcing is going through a new wave in the 1990s. To source successfully in the decade ahead, one must understand this new chapter. A major part of this emerging scenario will be learning how to do business in the Caribbean.

Manufacturing to meet the Item 807 guidelines presents the necessity of learning how to buy piece goods and findings. Merchandise is cut in the U.S., then coordinated and spoon fed to various contractors in the Caribbean where the apparel is sewn and assembled.

Within the Caribbean rapid growth will occur with Costa Rica and the Dominican Republic. Hong Kong will play a role in this growth. The year 1997, when Hong Kong will become a part of the Republic of China, is feared. Most people in Hong Kong and in China want passports, and want to have businesses in other countries, but at the same time they want to stay where they are. Thus many in the Orient are setting up factories in Mexico, the Caribbean Basin and other emergency Asian apparel exporting countries.

In the Caribbean Basin, manufacturers will again be the leading sourcers. They have the skills and personnel resources needed to educate, motivate and manage a new labor pool. Eventually the producers in the Caribbean will become more skillful and sophisticated, meeting the production and quality requirements of the manufacturer. At that time, perhaps the retail buyers will once again be able to go into the area and successfully source private label merchandise. These retailers will once again build on the foundation and infrastructure established by the manufacturers working in concert with local officials.
Figure 1: Critical Building Blocks for Successful Sourcing

A Without sufficient quota the order will not be given
B Without price the product will not sell
C Without quality the product will not sell
D Without delivery the product is not in stores to sell

Figure 2: Time/Price Factors in Sourcing

A Without political stability an environment capable of sustaining production does not exist
B Without close adherence to the U.S. tariff schedule product design can double cost or change quota
C Without communication garment fit cannot be checked during production
D Without transportation nothing comes out of the producing country
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Figure 3: Production Factors for Sourcing

A Without skilled workers the product cannot be made
B Without available machinery the product cannot be made
C Without the parts necessary for manufacture the product cannot be made
D Without transportation the product cannot be delivered

Figure 4: Manufacturers as Sourcing Agents

A Manufacturer in one country becomes a sourcer
B Production sites, either domestically or elsewhere, are identified for specific products
C The labor force must be educated to provide the quality of product desired
D The procurement and assembly of component parts must be coordinated using appropriate technology to ensure timely delivery
A. Sourcing company determines type and amount of production
B. Motivational skills are necessary to stimulate effort needed to meet production and quality goals
C. Training of the management supervisors and operators is necessary to achieve desired skill levels
D. Managing the labor force is a critical skill in achieving quality and production goals

Figure 5 - Managing a Sourcing Operation
The Domestic Hosiery Industry Remarks

by

Sid Smith

Last year, the domestic hosiery industry recorded its highest levels of production and sales ever in history. And one of these two has set a new record in four out of the last six years. And 1988 certainly continued this trend, with production and shipments running about four percent ahead of 1987.

But the last three years have not just brought the challenges of record-setting years in production and shipments. They also brought significant challenges in at least six major areas that are going to be with us for the rest of this century for even more attention. The six major areas that we are going to have to try to keep up with include: (1) international competition; (2) government actions and legislation; (3) ever-changing technology; (4) generating even more sales and production than the records already set; (5) the need for even more work in the area of human resources; and (6) increasing even further the service relationships with our immediate customers and suppliers.

I. International Competition:

Having to keep up with competition is not exactly a new challenge for hosiery manufacturers. I would like to tell you a little bit of the background story that has brought the American hosiery manufacturing industry to a level of international competitiveness.

About half of the hosiery industry’s production is in the women’s sheer business. But there are less than 90 companies in the entire section nationwide. It is very concentrated, productive, and competitive. While it has always been innovative and competitive, it has not always been as tight of an industry as it is today.

About twenty-five years ago, when we first introduced pantyhose into this market, we had it all to ourselves. Demand was insatiable; quality was adequate; merchandising and marketing was in a neophyte state; and prices and profits were high.

But things began to change. First, there was a whole new generation of expensive technology coming available; and then a new challenge hit us ... one that almost every industry has talked about ... imports. In the single year of 1970, pantyhose imports captured over 12% of our market in ten months. The price structure was wrecked. We lost 100 companies in 12 months ... closed, gone. But the ones who were left made a conscientious decision and commitment to stay, to retool, to get aggressive and fight ... dollar for dollar, dime for dime, penny for penny.

Today, imports of pantyhose account for 3% to 6% of our market. And while our work force in women’s hosiery is only 50% of what it was in 1969, it has been basically stable, if not rising, during the past ten years. And we produce 76% more pantyhose today in this country than we did on average in the 1970’s. Today, we are internationally competitive.

We did not survive; or just persevere. Our industry advanced. And back in 1970, we were basically alone. We did it without outside help. There was no Multi Fiber Arrangement (MFA). There were no bilateral trade agreements or quota limitations. There were no price support systems. It was hard. It was painful. But we did what we had to do ... what we needed to do.

But don’t let me mislead you into thinking that the pantyhose business is easy today. It’s not! It’s just as competitive and intense as it was during the darkest days of the import surge 20 years ago. What is different is the attitude of hosiery management to this environment. This intense, rapidly changing, volatile market has become the norm that they have come to expect.

And many of the same things are taking place today in the sock market. We have a surge of import competition a couple years ago that is now subsiding. We have new technology coming available in this sector of the industry which...
companies are scrambling to buy and install.

II. Government Activities and Legislation: The legislative challenge today is trying to keep up with the greatly increased number of legislative proposals across the board that impact on major competitiveness issues, and how we are going to sort out what is good and bad. Taking any one legislative proposal under analysis to determine whether it will help or hurt an industry's ability to be competitive is difficult enough. But to attempt to deal with them in great numbers, and across a wide spectrum of issues, can challenge even the largest of associations or groups. But those who do not do this are going to lose out. The supposed benefits gained by the passage of a single legislative initiative can easily be wiped out by the negative impact on competitiveness from a large number of other legislative proposals. Anyone, or any one industry that puts all of their efforts or focus on just one bill is going to get clobbered across the board on other issues and actually lose ground when it comes to being able to do business in America and still be competitive.

III. Technology: And new ideas in technology, in every area of manufacturing and order processing, seem to be coming on a never-ending stream. And when it comes to purchasing this type of equipment, not only is "what to buy" a continuing question, but after it is bought and delivered, one still faces the monumental task of integrating it into current manufacturing processes. But those who do not master the complexities of the new technology and reach a point to where they can make concrete decisions to purchase new equipment, with a clear objective in mind, will fall behind even further. While new capital and finances will continue to be the largest hurdle in this area, the continued pressure to make some hard decisions in a compressed time frame will be the challenge to keeping up in the area of new technology.

IV. Increasing Sales and Production Coming Off of Record-setting Years: Coming off of a record-setting year in industry shipments is kind of like winning the Super Bowl, and then having to come back on the playing field the following year. Sometimes a team is just not "hungry" like it was before that record-setting year. But we must not forget, there are always others out there who are, and they will continue to compete with the same drive and tenacity that we exhibited in our winning season.

Going after more sales opportunities is certainly nothing new. But the challenges on the reverse side (production) in the last several years stretched many companies very thin. One hosiery company I talked with said they set a new company record for production almost every week last year and wondered sometimes how they would ever keep up.

V. Human Resources: After hearing all of the above, it may sound strange, but I believe that our human resources efforts will probably be the most important part of our work for the next decade. This is the untapped source of answers to many of the challenges that will make these years so hectic. The individual employee will always make the difference, whether it be in the area of competitiveness in the world marketplace, increasing productivity to squeeze out additional production and sales, or the smooth assimilation of new technology into the manufacturing flow. There is a sign in the employee rest area of a car wash I patronize back home. It simply says, "When All Other Things Are Equal ... You Make the Difference!"

And human resources issues may be larger, more complex than technology will ever be. It includes so many factors running from training, education, motivation, and productivity ... to providing a safe and healthy work environment, heightened self worth, to feeling involved. And these would be the same major social problems inside the mill that exist outside in society. Anyone in business who does not believe that they have a drug or alcohol problem in this company is burying their head in the sand and begging for trouble.

VI. Expanding Service Relationships: While fashion, styling, price, and delivery have long been the major concerns in regard to relationships with retailers, new elements are beginning to creep into this scenario and are growing in their importance. Small orders, short runs, and faster deliveries are forcing sophistication into the warehousing and distribution centers of hosiery manufacturers to an ever increasing degree. Computer and telecommunications technologies will "wire" companies in different industries together into almost one operating entity from top to bottom. No sooner will one customer buy a single pair of hosiery at a retail counter than that sale information will be immediately available not only to the hosiery manufacturer, but the yarn supplier as well, impacting on style and production planning throughout the pipeline.
But the biggest challenge here may not be in technology but in philosophy. The retailer, hosiery manufacturer, and hosiery industry supplier will have to start thinking together about what is best for all, and not just for one's self. Partnerships have always been one of the toughest business relationships to establish and maintain. But if we are to be partners, then we are unselfishly going to have to share in the good and the bad; the profits and the losses; the challenges and the rewards. Currently, this new relationship is just at the talking stage. We talk about partnerships, but we have yet to form them into real relationships. And all of us are at fault. The retailers tell the hosiery manufacturers that they are not partners in business, but when it comes to implementation and action, it's not there yet. And the same between hosiery manufacturers and suppliers.

So to close, the challenge for all of us will be simply keeping up! Not just maintaining the status quo ... but in keeping up with the pace that has been set for accepting and assimilating changes in the work place. Hosiery manufacturers in general have run the course well in the last several years. The remainder of this century may very well be the endurance test that I mentioned; to determine who can keep running the course at this pace.
The purposes of the study was to investigate the relationships between profitability and business practices, promotional objectives, and promotional activities. Three null hypotheses were developed as follows:

H1. There is no difference in business practices between profitable and less profitable stores.

H2. There is no difference in promotional objectives between profitable and less profitable stores.

H3. There is no difference in promotional activities between profitable and less profitable stores.

Nationwide data (n=104) were collected by sending a self-administered questionnaire to a random selection of 700 apparel stores from Phelan's Retail Directory. The majority of stores (62%) reported annual sales volume between $100,000 and $499,999, with 17 percent less than $99,999 and 19 percent between $500,000 and $1 million.

The dependent variable was profitability determined by store's profits before taxes as a percentage of sales. The stores with profits above 5 percent were categorized into profitable stores (49%) and the stores with profitability under 5 percent were categorized into less profitable stores (51%).

The independent variables included thirty two items of business practices, thirteen promotional activities, and thirteen promotional objectives.

Based on a series of Stepwise Multiple Discriminant Analyses, eleven variables of business practices, five promotional objectives, and five variables of promotional activities were significant in discriminating two groups.

First, profitable stores were associated with strength of store aspects of management such as personnel, location, store security, and customer aspects of management such as market research, customer service, credit service, and knowledge of target market. On the contrary, less profitable stores were related with owner's/manager's ability to delegate responsibility and understanding legal aspects of store management and product management such as product quality and inventory control. Based on the findings, it appears that the owners/managers of the profitable stores were more likely to hold an idea of "marketing orientation", which emphasize customer's needs, satisfaction, marketing research, and customer services. On the other hand, less profitable stores tended to hold an idea of "product orientation" by emphasizing product quality, rather than customer aspects of store management.

Therefore, apparel entrepreneurs are encouraged to focus on marketing areas first rather than trying to excel in all areas.

Second, profitable stores were more likely to concentrate on: 1) institutional strategy by showing interest in public or community service; and 2) promotional or product strategy by introducing broad product assortments and by generating immediate sales. However, less profitable stores were more likely to concentrate on only the institutional strategy by trying to establish fashion leadership. This indicates that it is important for apparel entrepreneurs to win their reputation institutionally by getting involved with customers and also to increase immediate sales volume by offering special prices or conditions.

Third, the most important promotional activity associated with profitable stores was fashion shows, followed by sales promotion such as purchase with purchase, giveaway with purchase or free samples, magazine and radio advertisements, and special events. Less profitable stores were associated with in-store promotional activities. Again, profitable stores appeared to be more actively involved with customers through fashion shows or sales promotion than less profitable stores. Therefore, it is recommended that retailers understand the efficiency and effectiveness of each promotional and advertising tool to achieve specific objectives.
In Oaxaca, Mexico, certain Indian villages have long established traditions for textile production. Originally, craftpersons wove textiles for use within their community or for trade at indigenous markets. These textiles retained their appeal until they were replaced by commercially produced items. To survive in a changing world, producers turned to production for tourist and export markets. Handcraft producers do not have models for developing successful craft businesses. Existing models of entrepreneurs have been based on studies in developed countries and oriented to products and services other than crafts. These models may not be relevant to craft producers and entrepreneurs in developing countries. Profiles of indigenous handcraft producers who have successfully developed tourist and export markets would provide an example for other craft producers and for professionals working in rural economic development.

Weavers, based in home-workshops in Teotitlan del Valle, Oaxaca, Mexico, have developed active tourist and export markets for their handcrafted textiles. The objective of the research was to develop business profiles of the successful Teotitlan handcraft entrepreneurs and their businesses and to identify cross-cultural similarities of entrepreneurs by comparing the profiles of the handcraft entrepreneurs to existing profiles of midwestern U.S. manufacturing entrepreneurs (Smith, 1967).

Profiles of the Teotitlan producer-entrepreneurs were based on case studies that included in-depth interviews and participant observations in home-workshops and local markets during four periods of field research from March 1984 to May 1988. Purposive sampling was used to select 27 producers successful in tapping tourist and export markets. Data were analyzed using content analysis and descriptive statistics. Profiles were organized using pattern-matching logic (Yin, 1985).

Four profiles were identified based on producers' volume of production, product uniqueness and diversification, hiring and delegation practices, sales sites, workshop organization, and clients. Externally Oriented, Mass Production Entrepreneurs were characterized by an orientation to volume orders of standardized products, an understanding of consumers in distant markets, and a willingness to move beyond the familiar and into new arenas through market and product development. They established sales outlets in the U.S. or near the U.S. border, and developed volume production through business practices such as delegation of routine operations to managers who supervised workers in numerous home-workshops. Internally Oriented, Local Showroom Entrepreneurs chose to remain in their own environment and to cater to visitors in Teotitlan. To attract clients, they built store-front-like showrooms for displaying a large inventory of merchandise and demonstrated production methods in large home-workshops adjacent to the showroom. Outdoor Market Entrepreneurs operated businesses that capitalized on indigenous selling strategies. Limited quantities of products, woven by family members in small home-workshops, were transported to weekly indigenous markets and artisan markets frequented by tourists. Design Entrepreneurs emphasized creative expression while fostering close working relationships with family members. Workshop artisans created high quality, original designs for inventory or produced works commissioned by non-weaving artists or other clients. These artisans targeted sales to quality-conscious tourists, collectors, and artists.

A comparison of the Teotitlan profiles with profiles of U.S. entrepreneurs identified a number of similar characteristics. The identification of cross-cultural similarities in entrepreneurial practices provided the base for developing examples of roles that can be used by craftpersons in other cultures.


A PATRONAGE ANALYSIS FOR APPAREL RETAIL STORES

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In order to understand the changing patterns of interaction between consumers and retailers in an increasingly competitive environment, it is imperative that consumers' patronage habits be studied. The purpose of this investigation was to determine how apparel patronage groups differ in their evaluations of quality, price, and value for retail stores. It was hypothesized that patronage groups would significantly differ from each other in their evaluations of quality, price, and value as well as differing in relationship to demographics.

Hirschman's (1978) theory of retail market structure was used as the framework for the study. Hirschman conceptualized stores along a price-quality continuum where department stores offer the highest quality and price for fashion products, discount stores offer the lowest quality and price, and national chains are perceived as lying between the other two store types. In the present study, patrons of four store types were studied. These included patrons of department, discount, national chain, and off-price stores. The inclusion of off-price patrons was important because off-price stores are rapidly expanding and are a fairly new form of retail institutional type. The comparison of off-price patrons with other groups was seen as particularly significant and added a unique dimension not found in previous patronage studies.

A national sample of 952 consumers who met the criterion of being the person who did most of the household shopping for apparel was drawn on the basis of a systematic probability sample of households in the United States. Random digit dialing was used to eliminate selection bias of listed over unlisted numbers. Six hundred four completed telephone interviews (64% response rate) were obtained. Four-point Likert scales were used to measure apparel quality, price, and value in department, discount, national chain, and off-price stores. Statistical measures used included analysis of variance and post-hoc comparisons to identify differences between patronage groups.

Results indicated that quality evaluations for apparel offered by department, discount, national chain, and off-price stores significantly differed by patronage group. Patronage groups significantly differed in their evaluations of value offered by discount, national chain, and off-price stores. Evaluations of store prices did not significantly differ between patronage groups. Interestingly, off-price patrons had the highest education and income levels of all patronage groups. Off-price patrons tended to evaluate the quality and value represented by apparel sold in off-price stores as higher than did other patronage groups. Thus, the success of off-pricers in their ability to appeal to this more highly educated consumer in terms of value and quality appears to be a partial explanation for market share gains.

These findings contribute to a theory of retail institutional change by adding to an understanding of how new retail types (such as off-pricers) have the potential for gaining market share in a highly competitive retail environment. Consumers in all patronage groups evaluated store prices in a fairly similar way. However, value and quality evaluations were less consistent across groups. Thus, price images appear to be fairly well solidified across non-patrons. Value and quality images seem to be less solidified and, therefore, suggest that marketers have the potential of changing their quality and/or value image with non-patrons in the hope of gaining additional market share.

Reference
DETERMINANT ATTRIBUTES IN RETAIL PATRONAGE
OF A SELECTED SPECIALTY APPAREL MARKET

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A critical element in maintaining competitiveness in today's retail market is a complete understanding of the patronage decision process. Retailer attributes are thought to be influential to consumers in evaluating retailer alternatives. Researchers have attempted to ascertain those attributes which are determinant to the individual. Determinance is the degree to which certain product features or attributes are influential in determining choices. Specialty apparel marketers rely on attributes to attract their specific target markets. The specialty apparel market investigated in this study was maternity retailing.

Research literature has disclosed 20 attribute items relevant to the maternity apparel consumer. These items are grouped into seven attribute dimensions: salesperson, price, atmosphere, product, type of store, service, and store location. In order to provide conceptual clarity to the area of patronage research, Attaway (1988) investigated consumer shopping motivations and proposed three major dimensions of shopping motivations: functional needs; symbolic needs; and experiential needs. Functional needs are the needs to solve consumption-related problems. Symbolic needs are represented by one's desire to enhance self-image, and receive recognition through association with retailers. Experiential needs are associated with an individual's desire to participate in life's events.

The purpose of this study was to determine if there was a relationship between respondents' shopping motivations and the determinant attributes for purchasing maternity clothing. The sample for the study included 300 pregnant women attending childbirth classes in a large southern metropolitan area. One hundred usable questionnaires were returned. Respondents used Attaway's (1988) validated scale to rate their shopping motivations. They also rated the importance of 20 retailer attribute items (corresponding to seven attribute dimensions) in choosing a maternity store. Pearson correlations were used to correlate the respondents' self-ratings of their shopping motivations with their ratings of retailer attributes.

Results indicated that 63% of the subjects were motivated by functional needs; 30% of the respondents indicated experiential motivations; and 7% reflected symbolic motivations. Findings showed significant (p<.05) relationships with functional shopping motivations and the attribute dimension of price. Significant positive relationships were found between consumers with high self-ratings on experiential shopping motivations and the attribute dimensions of product, atmosphere and service. Strong symbolic motivations showed significant positive correlations with the attribute dimensions of product and atmosphere.

Implications suggest that shopper motivations influence determinant retailer attributes. Therefore it is important for retailers to understand the shopping motivations of their specific target market in order to best meet their customers' needs.

Reference:
Adolescents are confronted with the development of a comfortable body image and a positive self-esteem. For the physically able-bodied person this life stage is difficult because of the physical and psychological changes taking place, but for the physically impaired person, the difficulty in the whole process becomes magnified. Scoliosis treatment may involve wearing a brace that will guide and hold the spine during the growth cycle. This experience may lead to adjustment problems related to self-image and social problems. Clothing was identified as the most important variable in value judgments to adolescents (Kaiser, 1985). Clothing could be an important catalyst in treating the psychological aspect of a handicap while medical procedures treat the physical problem.

Objectives of the research were to investigate (1) the difference between female adolescents with scoliosis and non-handicapped female adolescents regarding selected clothing interest factors and self-perception domains; and (2) the relationships between clothing interest and self-perception for female adolescents with scoliosis and non-handicapped female adolescents.

A sample of 35 female adolescents who had scoliosis and who were wearing or had worn a brace and a control group of 35 non-handicapped female adolescents were used. The non-handicapped sample was matched to the scoliosis patients according to age and geographical location. A clothing inventory, developed by Creekmore in 1963 and revised by Borsari in 1978, titled "Dimensions of Clothing Interests," was used to measure clothing dimensions of Interest, Conformity, Modesty, Psychological Awareness, and Self-Concept. A second instrument, the "Adolescent Self-Perception Profile," developed by Harter in 1989, was used to measure five domains of self-perception which were: Social Acceptance, Athletic Competence, Romantic Appeal, Physical Attractiveness, and Global Self-Worth.

Data were analyzed using t-tests, Pearson correlations, and Fisher's $z$ transformations. T-tests detected similarities in clothing interest, conformity, and modesty at the .05 probability level. These findings indicated that, in general, all of the adolescents were interested in clothing and placed importance on the role clothing plays in social situations. Psychological awareness was significantly different at the .05 level which indicated the scoliosis group had a heightened awareness of clothing. This tendency may have occurred because of the problems the brace presents to the scoliosis patient in clothing selection. Differences were also detected (p < .001 level) in areas which involved the individual's self-perception. Adolescents having scoliosis consistently rated their self-esteem lower than did the non-handicapped adolescents. Pearson correlations and $z$ transformations revealed that the scoliosis group had a high clothing interest and low self-perception whereas the control group had a moderate clothing interest and moderate self-esteem. Differences in the correlations of the variables in the scoliosis group were significant at the .05 level. Differences between variables were not significant in the control group.

These results were consistent with other physical handicap related research which also indicated physical handicaps affect the individual psychologically as well as physically.


ARE PERCEPTIONS OF LARGE SIZE WOMEN CHANGING?

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Specialized markets have begun to receive the attention of the apparel industry and petite, pregnant, and large size women can now buy clothing which fits and is at least somewhat fashionable. Sizing varies somewhat, but most consider sizes 14 (or 16) and up to be large sizes. By either definition large size women, 35 million strong, make up a third of all U.S. women. Although today these women are described as "plus size," "robust," or "smart size," until recently they were referred to as fat, overweight, and obese. Past research investigating the effects of obesity on both social and task-related judgments has revealed that the obese or overweight have been consistently devalued. Compared to thinner individuals, obese people are more likely to be discriminated against with regard to hiring decisions, are judged to be less sociable, less intellectual, and less likable, are expected to do less well in graduate school, and are generally perceived to be less attractive. This study was designed to determine the extent to which these negative perceptions of obese individuals can be extended to size fourteen women, the smallest of the large sizes. Since (1) there is a substantial group of large size women, (2) there are large size models and modeling agencies, and (3) large size women have finally been recognized by the apparel industry as a viable market, it was felt that size fourteen women might not be viewed as negatively as the obese.

Student volunteers (N = 59) were told that they would see and hear a perfume marketing brainstorming session. A pre-recorded audio tape was played consisting of 30 suggestions relative to marketing a perfume. As a comment was heard a black and white slide of the woman purported to have made the comment was projected. The comments did not differ from one another in terms of pre-rated usefulness. Models for the study were six different women dressed in either suits or dresses, three of the models wore size six clothing and three wore size fourteen clothing. The dependent measure consisted of eight items; one tapped friendliness, two tapped desire to work with the model, and five tapped competence. Correlated t-tests were used to analyze the data. As expected, the size fourteen models were not seen as less competent than the size six models, t (58) = .52, ns. However, the thinner models were perceived to be friendlier than the size fourteen models, t (58) = 4.50, p < .000. Subjects were more likely to say that they would rather work with the size six models than the size fourteen models, t (58) = 1.95, p < .056. Although perceptions of size fourteen women were negative, they were not as negative as earlier research on overweight individuals would suggest. Perhaps as the apparel industry (manufacturers, retailers, and fashion magazines) begins to recognize the existence of large size women as a viable market segment, people's perceptions of large size women will begin to change. We may speculate that the apparel industry's attention to needs of large size women may be analogous to the corporate world's attention to needs of their female employees; i.e., business has not become more humane, but rather is responding to bottom-line profit motives (Alvareztorres, 1989; Winburne, 1989). Speculations aside, these results can only be generalized to size fourteen women and only to first impression situations. Future researchers may wish to extend these findings to social interactions and to women larger than size fourteen.

References


The incidence of stroke in the United States is 500,000 individuals per year (American Heart Association, 1988). Stroke occurs when the supply of oxygen to the brain is interrupted. The results, called a cerebrovascular accident (CVA), depend on the location and extent of the brain lesion. There are currently an estimated two million people in the U.S. who have been disabled by strokes. A number of the residual effects of CVA have important implications for their clothing.

Awareness of medical factors is essential in selecting apparel to facilitate the physical aspects of dressing and self-care following a stroke. Reduced frustration and increased success in these tasks contribute to enhanced self-esteem for stroke survivors. Thus, appropriate apparel can also address psychological aspects of clothing for people with special needs—an area that has been neglected (Lamb, 1988). To design functional clothing, one must "look beyond the obvious...toward a more comprehensive picture of the...situation" (DeJonge, 1984). It is easy to draw incorrect conclusions about the physical evidence of CVA and to suggest inappropriate design criteria without sufficient analysis of what is observed.

The objective of this research was to determine design criteria for clothing for stroke survivors based on the medical factors involved. The researcher: 1) gathered indepth information about the physical consequences of stroke, 2) observed and analyzed the impact of CVA on dressing, and 3) observed and analyzed strategies used by occupational therapists following stroke.

Observations were conducted at medical facilities where stroke survivors represent major population groups. Information was gathered in the initial stage of recovery and subsequent rehabilitation on physical, cognitive, and spatial involvement. A major aspect of physical involvement in recovery following CVA is paralysis. Placement of garment openings is critical to reducing the danger of shoulder dislocation and increased ease of dressing by others.

When muscle tone returns, stroke survivors were observed to be more able to carry out a dressing program and other self-care training. The success of subsequent rehabilitation for those with cognitive deficits (such as the inability to identify the use of objects) depends to a great extent on their capacity for new learning (Brandstater, 1984).

Spatial deficits include dressing apraxia (inability to don garments successfully). Individuals made errors of garment orientation and those with a right-side brain lesion often neglected to dress the left side of their bodies. Occupational therapists used such strategies as garment positioning and color cues to help individuals compensate for their losses. Some garment designs were observed to facilitate dressing more than did others.

The observations and an analysis of possible design options and dressing strategies were used to establish a framework for design criteria. It will guide apparel designers, rehabilitation professionals, and consumers in making appropriate garment choices to meet the needs of stroke survivors, as well as people with other disabling conditions.

References
Due to functional disabilities, approximately 25% of the older population in the United States require assistance with their personal care, mobility, activities of daily living, or home health care (Doty, 1986). Eighty percent of these older persons continue to live in their own homes. Care for frail elderly is intense and long-term with the average amount of assistance, two hours a day over a six year period (Noelker and Wallace, 1985). With more people living longer, the demand for in-home care aides will increase because many aged persons will have adult children who are employed, have dependent children of their own, and be unable to provide daily living assistance.

The purpose of this study is to identify variables that contribute to in-home care aides knowledge related to clothing needs of elderly persons. A secondary purpose is to identify aides' perceptions of elderly patients' clothing needs and their preference for educational delivery systems to address those needs. The dependent variable is total clothing knowledge as related to garment and bedding maintenance, apparel design, and fabric suitability. The independent variables include aides' age, education, marital status, similar job experiences, length of time in current job, and quality of training. Social cognitive theory is used to explain relationships between past job experiences, current job training, and resulting knowledge related to aides' understanding of elderly clients' clothing needs (Sherif, 1982). In additional analyses, clothing knowledge is used as an independent variable in addition to similar job experiences, attitudes about aged parents, and self-esteem to explain job satisfaction.

Researchers enlisted cooperation of the Missouri Council for Homemaker Services. Due to confidentiality issues, mail surveys were distributed to council members. They mailed a response card indicating the number of surveys distributed to aides. Based on their responses, 672 surveys were distributed; 345 (51.3.6%) aides responded. The aides' age ranged from 18-74, M = 43.6 years; the majority were married (60.7%), and 38.2% had children less than eight years old. The range of education was 7-17, M = 11.7 years; 50.6% had worked less than 15 months at this job; 50.6% had worked at a similar job; and 74.6% rated job training adequate.

Statistical procedures included frequency, Pearson correlation, chi-square, ANOVA, and multiple regression. The results from the regression model accounted for only one percent of the variance and did not indicate significant relationships between knowledge and the identified independent variables (DF = 6,267; F = 0.54; p<.78). However, aides did identify topics about which they needed information related to clothing needs of older persons: stain removal, sensitivity of skin to fabrics, and incontinence. Aides also indicated tasks that clients most frequently requested: housecleaning, personal grooming, and laundry. They felt most qualified to perform housecleaning activities but least qualified to do clothing alterations. Of five educational delivery modes, videotape was ranked most useful and slide/tape, least useful.

Although, variables identified did not relate to clothing knowledge, aides indicated a need for information to assist them in their care of elderly patients. Further investigation with experimental design is needed using the educational materials developed to determine the effectiveness of such materials in providing quality care.

An essential characteristic of any standard test method used in the evaluation of textiles is reliability (Ary, Jacobs, & Razavich, 1972). A basic tenet in the development and use of standard test methods is that the procedure, if properly followed will produce both interlaboratory and intralaboratory consistency of test results. Recognizing the importance of such replications, the American Association of Textile Chemists and Colorists (AATCC) in 1986 mandated the development of precision statements for each of their test methods. To date, very few AATCC research committees have developed such precision statements (American Association of Textile Chemists and Colorists, 1989). Other standard test methods producing organizations such as the American Society for Testing and Materials (ASTM) and the International Organization for Standardization (ISO) have had limited activity in this area (American Society for Testing and Materials, 1987).

The purpose of this study was to establish precision statements for the five AATCC water resistance test methods. Interlaboratory testing by twenty textile laboratories was conducted to determine variability estimates. The test fabrics for a specific test method were selected because they produced a wide range of ratings. Fabrics were rated for their degree of water-repellency or water-resistance in accordance with established test protocol. Data were compiled and analyzed using analysis of variance (ANOVA) and the Kruskal-Wallis test to determine the degree of variability of test results within and between laboratories, operators, and laboratory-by-operator. Significance was determined at the 0.05 level. Estimates of variance components were used to assess the variability that could be attributed to the factors of fabric, laboratory, operator, and laboratory-by-operator interaction.

Significant interlaboratory differences were seen in four of the five test methods: Rain Test, TM 35; Impact Penetration Test, TM 42; Tumble Jar Dynamic Absorption Test, TM 70; and Hydrostatic Pressure Test, TM 127. Two of the test methods (Spray Test, TM 22 and Impact Penetration Test, TM 42) could be evaluated for intralaboratory variability of test results. For both test methods there were no significant differences within laboratories. Laboratory-by-operator interaction was a significant factor of TM 22, but not for TM 42. Based on the statistical analysis of test results, precision statements were written for each test method. The precision statements currently are under review by the AATCC research committee RA64, Water Resistance Test Methods.
Detergency Study: The Role of Soil Release Polymer


The role of soil release polymer on oily soil removal was evaluated. The effect of the addition of soil release polymer to a built, heavy duty liquid detergent was analyzed on a 100% polyester fabric (with octalobal fibers) and two polyester/cotton blended fabrics (40/60 and 65/35). To determine the effect of the soil release polymer, one set of fabrics were preconditioned by laundering three times with an anionic surfactant, citrate built, liquid detergent with 2% soil release polymer. The control fabrics had no exposure (preconditioning) to the soil release polymer prior to soiling. Both sets of fabric received identical soiling and laundering. Fabrics were soiled in the laboratory using a synthetic sebum and washed in miniwashers for 12 min. at 95°F with water hardness of 5 gpg (CaCl₂). The fabric specimens were treated with 2% aqueous osmium tetroxide to tag the unsaturated residual oil (1). The total quantity of unsaturated oil was measured by neutron activation analysis (2). Backscattered electron imaging and x-ray microanalysis were used to study the distribution of osmium tagged oil within the yarn and fiber structures. The preconditioning of the polyester fabric with soil release polymer significantly reduced the concentration of oil on the fiber surfaces, particularly in the crenulations of these octalobal fibers. On the 40 polyester/60 cotton fabric, preconditioning with soil release polymer resulted in lower concentrations of residual oil on the polyester surfaces while the concentration of oil on the cotton surfaces were higher.


REACTIVE DYEING OF RAMIE FABRIC

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Widespread use of ramie fiber and fabric in the U.S. dates back only about five years. All of the fiber used in the U.S. is imported, primarily from China. Most of this fiber is imported in the form of fabric or apparel, and is frequently blended with cotton or another fiber.

The physical properties of ramie fiber are well-known. Recent studies have focused on the crystallinity of the fiber since it is one of the most highly crystalline and oriented of the cellulosic fibers. However, there is very little information available regarding the dyeability of the fiber. Previous research reports that ramie, when dyed with direct dyes, has good levelness and fastness properties but that the affinity of ramie for dyes is somewhat lower than that of cotton. (Horbury, 1935; Coss and Taylor, 1948; Cheek and Roussel, 1989)

The purpose of this study was to examine the reactive dyeing characteristics of ramie and to compare them with cotton.

Scoured and bleached 100% cotton sheeting and a similar ramie fabric were dyed with five different reactive dyes. The dyes were selected to represent a range of reactivities (mono- and di-chlorotriazinyl) and to meet the criteria of being workhorse dyes and have known chemical structures. The five commercial dyes were applied in two ways: exhaust and pad-batch. The cotton and ramie dyed fabrics were then analyzed for dye content (percent fixation) by dissolution in 72% sulfuric acid and spectrophotometric determination of the amount of dye in the resulting solution. Visual appearance (color yield) of the dyed fabrics was determined colorimetrically using the CMC (L:c) color difference equation.

When compared with cotton, the ramie fabric had a higher percent fixation of each of the five reactive dyes used. This result was particularly evident for the pad-batch method of dyeing. Very small differences in percent dye fixation on cotton vs ramie were noted for the exhaust dyed fabrics, yet the ramie fabrics visually appeared to be much darker than the cotton fabrics. Color yield (E) results verified these observations. The variations of cotton and ramie's response to reactive dyeing were attributed primarily to differences in fiber and yarn morphology.

REFERENCES


Sugar cane is produced in large quantities in several southern states in this country. In most current processing, the cane stalks are crushed to extract the sugar, and the crushed stalks, or bagasse, are then used for fuel, for mulch, or are discarded. Attempts to find economical uses for this by-product of sugar production from cane have not been particularly successful (Paturau, 1982). The cellulosic fibers in the cane stalk could provide a commercial product to enhance the profitability of sugar cane production and processing.

The sugar cane stalk is composed of an outside rind and an inner pith. The inner section contains short fibers and the majority of the sucrose, while the rind contains longer and finer fibers. In traditional cane processing, the entire stalk is crushed, breaking up the fibers in the rind. The Tilby separation process, introduced in the 1970's, slices the rind away from the pith leaving the latter for extraction of the juice for sugar (Anderson, 1978). The rind, and therefore the longer fibers contained therein, remain uncrushed. The present research was undertaken, in conjunction with researchers in sugar processing and utilization, to determine the feasibility of the rind fibers for textile applications.

Sugar cane rind was obtained from processors using the Tilby separator in Jamaica. The rind was stored in a freezer to assure no further organic growth, and was then cut into pieces for processing to remove the fibers. The pieces were boiled in an alkaline solution for 24 hours, until the stalks became soft. The fibers were then peeled off for testing. Stalks of flax were processed in the same manner for comparison.

The bending and tensile properties of the cane fibers, the extracted flax fibers, and processed flax fibers were measured. In addition, moisture regain and linear density were determined. The cane fibers were observed with scanning electron and light microscopes to determine any similarity to other bast fibers.

The fibers in the sugar cane rind exist in bundles, as do those in flax. The linear density of the sugar cane fiber bundles was lower than that of the bundles of flax fibers, and when the bundles were separated, the cane fibers appeared to be smaller. This was confirmed by electron microscopic observation in which the individual fibers in sugar cane were finer, and shorter than flax fibers. The moisture regain of the sugar cane fibers was higher than that of either the extracted or the processed flax. Some of this higher regain could be due to lignin remaining in the fibers after extraction. The mechanical properties of the flax and cane fiber bundles were similar. There were no differences in the bending modulus, bending hysteresis, and tensile modulus.

The results of this study indicate that fibers in the sugar cane rind have similar properties to flax fibers which may make the former suitable for textile applications. Further work is needed on more efficient extraction methods for obtaining purified cellulose fibers from the cane stalks.


Quick Response is promoted as one solution for the troubled apparel industry and is defined as a reduction in time between product research and retail sales. This strategy can increase the speed and accuracy of the industry's response to the consumer. Quick Response has been suggested as a method to improve U.S. apparel manufacturers' competitive position in the world market. To develop more Quick Response linkages, improved understanding of apparel manufacturers is needed.

The purpose of this research was to determine the relationship of apparel manufacturers' demographics to their use of Quick Response. Two demographic variables were chosen for examination: Size of operation (numbers of employees) and body type of product (men, women, or children.) Market segmentation theories were adapted to provide a model for the study. The inference drawn from the model is that a company's demographic features influence Quick Response use.

A questionnaire was developed from interviews with textile and apparel industry personnel and a review of trade literature. A section listing 17 Quick Response operations and a demographic section were included. The questionnaire was pretested prior to being mailed to North Carolina manufacturers. North Carolina was selected as the accessible population for this ex post facto survey because of its importance to the total textile industry. Individual manufacturers were selected by a stratified random process; the population was stratified by size and product body type for comparison testing. The return rate was a satisfactory 48% (n=203) for a study of this industry.

Factor Analysis with Varimax Rotation was performed on the 17 Quick Response statements and yielded five Quick Response factors: Inventory Control, Information Sharing, Bar Coding, Product Planning, and Shade Sorting. Factor reliability was tested, and the Quick Response factors were used as the refined dependent variable. Use of GLM with Analysis of Variance (ANOVA) resulted in 40% significant relationships between the demographic variables and Quick Response factors. When significant variance was found, follow-up analyses were made using Least Squared Means (LSM).

Significant differences were found between the levels of the two demographic variables (size of the apparel manufacturing operation and the body type for the product) and the Quick Response factors. Generally, as the size of the manufacturing operation increased, the usage of Quick Response techniques increased. Firms with more than 99 employees were more likely to use inventory control and shade sorting techniques than smaller firms. Body type was also associated with the manufacturer's choice of Quick Response factors. Men's wear manufacturers used more inventory control techniques than manufacturers of women's wear. Children's wear manufacturers used more shade sorting information and equipment than manufacturers of apparel for other body types. Results from this study indicated that all apparel firms do not use the same Quick Response strategies. Choice of which of the five Quick Response strategies shows a significant relationship with the demographic features of an apparel manufacturer.

Knowledge of the apparel manufacturer is important for forming partnerships between supplier and customer. Results of this study indicated that the techniques used by apparel manufacturers vary according to demographic characteristics of the manufacturer, and no one combination of Quick Response techniques appeared to be correct for all apparel manufacturers. With the continued competition in the world market, Quick Response strategies and company demographics need to be monitored. Understanding of the apparel manufacturer's selection of Quick Response strategies enables the industry to develop more linkages and market channels to more efficiently use its resources to better serve the final consumer.
Relationships between U.S. apparel manufacturers and retailers have grown increasingly strained in recent years, as each segment of the industry pursued its own business objectives. Retailers have bypassed domestic manufacturers as they contracted for merchandise directly from overseas suppliers. Further, retail mergers have concentrated buying power in the hands of fewer merchants. In view of the dramatic structural changes occurring in the softgoods industry, it is important that we better understand factors which have an impact on manufacturer-supplier relationships.

Prior work on channel relationships provides helpful background. Stern (1969) asserted that the whole channel must operate effectively if the desires of any one member are to be realized. Similarly, Mallen (1963) advocated that channel members focus on common goals. Lack (1987) suggested that suppliers who succeed in the future will be those in closest touch with the retailer.

Objectives of this study were: (1) to determine how manufacturers felt about their ability to work successfully with their retail customers, including mass merchandisers; (2) to examine perceived relationships according to characteristics of the apparel firm; (3) to determine how manufacturers establish and retain retail accounts; and (4) to seek manufacturers' views on how they might improve their ability to market to retailers.

The entire population of Missouri apparel manufacturers (134 manufacturers in SIC 23) was included in this study conducted through a mailed survey that followed the Dillman (1978) method. A 70% response rate (93) came from the upper level management persons to whom the mailing was directed.

Larger apparel manufacturers and those operating at higher capacity utilization rates reported fewer difficulties in working with retailers in general, and with mass merchandisers, than smaller companies. Further, the larger the percentage of the manufacturer's production directed to mass merchandisers, the less the difficulty reported in those relationships. Results suggested a pattern in supplier-retailer relationships. Larger, more active manufacturing companies appeared to have less difficulty in their relationships with retail customers than their smaller, less active peers. Manufacturers relied most heavily on traveling market representatives to establish and maintain retail accounts. Apparel producers saw lower prices and improved products and services as the primary means of improving their company's ability to market to U.S. retailers.

Upheaval in both the manufacturing and retailing sectors has required retailers and suppliers to rethink their relationships with one another. Changes appear to have reduced the competitive, adversarial relationships. Instead, both sectors are discovering the mutual dependency each has on the other. Results are useful in identifying specific problem areas in those relationships and in considering strategies which can improve channel relationships.

References:
Interfiber competition has been of interest to many researchers since man-made fibers were introduced after World War II and successfully captured a large share of the market formerly held by cotton and wool. Several factors such as price and income have been examined in explaining changes in demand for different fibers. However, previous studies have failed to quantify and systematically analyze those factors. The primary purpose of the study was to examine factors influencing changes in the market shares of textile fibers in the United States.

Three major fibers (cotton, wool and man-made fibers) and three end-use markets (apparel, home furnishings and industrial use) were identified for the study. The market shares of the major fibers were based on domestic consumption of fibers in each market using annual data from 1960 to 1983. The Generalized Choice Model by Chern and Just (1980) was used. This model consisted of two parts. The first part was concerned with total fiber demand in each end-use market and factors influencing total demand. The second part included a set of equations which focused on interfiber competition and the dependent variables were the market shares of the fibers, which were assumed to be functions mainly of fiber prices. The system of equations in the model was simultaneously estimated using the seemingly unrelated regression method.

Income was significant in explaining aggregate demand for apparel and home furnishings while the industrial production index was significant for industrial uses. The demand for apparel and home furnishings was elastic with respect to income indicating that apparel and home furnishings were luxury goods. In contrast, the aggregate demand for industrial uses was inelastic with respect to the level of industrial production. Other variables significant in the aggregate demand equations were trend for apparel, the unemployment rate and housing construction for home furnishings and automobile sales for industrial uses. Man-made fiber prices were significant in the share equations for apparel and home furnishings, but were insignificant for industrial uses. The prices of cotton and wool were insignificant in all end-uses. Elasticities, calculated from the coefficients of price variables, indicated that demand for man-made fiber was inelastic with respect to fiber price and man-made fibers were substitutes for cotton and wool. Trend was significant in the share equations for home furnishings and industrial uses indicating the importance of non-price factors such as quality in interfiber competition.

The results of study were compared to those of previous studies which examined interfiber competition, and those reported by Chern and Just (1980) who used the same type of analysis in examining energy demand. The study also provided some implications for both man-made and natural fiber producers.

Reference

The Economic Competitiveness of U.S. Pantyhose Manufacture

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The purpose of the research was to examine key economic variables of the pantyhose manufacturing sector to determine the impact of trade on domestic production of pantyhose and to predict the future economic competitiveness of this sector. Research has been conducted concerning the exporting activities of U.S. industries, their market structures, and performance. Caves (1986) found that product differentiation and oligopolistic structure in the home market appears to be related to successful exporting activities. Yamawaki (1984) found that the ability of an industry to compete in world markets depends upon the rivalry present in its home market.

Variables chosen for examination were: 1) Value and Quantity of U.S. Exports; 2) Value and Quantity of U.S. Manufacturer's Shipments; 3) Value and Quantity of U.S. Apparent Consumption; 4) Value and Quantity of Imports; 5) Per Capita (females Æ 15 years) Value of Apparent Consumption; 6) Per Capita Quantity of Apparent Consumption; and 7) Share of U.S. Apparent Consumption Held by Imports.

Data used in this study were obtained from the National Association of Hosiery Manufacturers. A time-series from 1963 to 1988 was constructed for each variable. Value of Manufacturer's Shipments, Value of Imports, Value of Exports and Per Capita Value of Apparent Consumption were converted to constant 1982 dollars using the Producer Price Index. Trend analyses were performed, using the Box-Jenkins procedure to fit and forecast the time-series data.

Significant decreases were found in Value and Quantity of Exports. Significant increases were found in Value and Quantity of Manufacturer's Shipments, Value and Quantity of Apparent Consumption, Value and Quantity of Imports, the Share of Apparent Consumption Held by Imports and the Per Capita Value of Apparent Consumption. Changes in the Per Capita Quantity of Apparent Consumption was not significant.

It was determined that manufacturer's shipments have increased, although at a slower rate than that of apparent consumption. The constant rate of per capita quantity of apparent consumption has contributed to the increase in imports to cover the short fall. The model predicts this gap to continue to widen, with imports capturing an increasing percentage of apparent consumption. Assuming constant population growth, manufacturer's shipments are predicted to increase each year but the share of the U.S. market held by domestic producers will decrease. The significant rise in the per capita value of apparent consumption, given the constancy in quantity indicates a real cost increase to buyers. These cost increases are also predicted to continue. These real cost increases appear to be a factor in the decrease in exports and increase in imports, as U.S. pantyhose become relatively more expensive in the world market. Therefore, a loss of competitiveness for U.S. produced pantyhose in both domestic and world markets is predicted.

References


Clothing and textiles researchers have ever shown a strong interest in physical attractiveness (e.g., Buckley & Haefner, 1984; Johnson & Roach-Higgins, 1987; Nielsen & Kernaleguen, 1976). Recently age and body type of a model were found to be related to judgments of her physical attractiveness (Lennon, 1988). Furthermore, age and body type were found to function analogously to physical attractiveness on assumed attitude similarity. In fact, as compared to models aged 45 to 55, young models (aged 18 to 25) were judged to be more similar in attitudes to college student subjects. This might be because people generally assume that the attitudes of desirable (physically attractive) others are similar to their own or because the subjects in question were similar in age to the young (18 to 25 year old) models. The current study was designed to test the functional analogy between age, body type, and physical attractiveness with middle-aged subjects. Support for the functional analogy would be provided if middle-aged subjects' attitudes were similar to assumed attitudes of younger models. Hypotheses were that middle-aged women (1) would judge young models to be more attractive than older models, (2) would judge size six models to be more attractive than larger models, (3) would assume that young models' attitudes are more similar to their own than older models' attitudes, and (4) would assume that size six models' attitudes are more similar to their own than larger models' attitudes.

Twenty-six female volunteers (mean age = 50.06) individually viewed and responded to black and white photos of females who systematically varied in age and body type. Subjects indicated their own and each model's assumed attitudes on a variety of issues and then judged each model's attractiveness. Data analysis revealed main effects for age and body type on physical attractiveness (both ps < .0001) such that young models were judged more attractive than older models and size six models were judged more attractive than larger models. Assumed attitude similarity was also affected by age and body type of the models (both ps < .005). Cell comparisons revealed that young models were assumed to have more similar attitudes to middle-aged subjects than older models, thus age functioned analogously to physical attractiveness. The cell comparisons for body type indicated that subjects assumed that the size fourteen women held attitudes which were the lest similar to their own. Implications are that (1) Middle-aged subjects (like college students) judge young models as more attractive than older models. Thus a model's age affects judgments of her attractiveness even when the judge is middle-aged. (2) Furthermore, the age of a model functions analogously to her judged physical attractiveness on assumed attitude similarity even when the judges are not young. (3) Finally, main effects for body type on physical attractiveness and on assumed attitude similarity replicate earlier research with college students. Thus body type is an important facet of attractiveness and functions analogously to attractiveness.

References


The effect of clothing in the formation of first impressions is well-documented. Typically, researchers have varied the clothing of a target person and have asked subjects to give their first impressions of this person's personality or behavioral traits. Results support the conclusion that clothing of the target person affects first impressions.

According to social cognition theory, individuals employ a consistent set of categories in forming first impressions. In other words, the personality traits and behavioral categories that an individual uses in forming first impressions are fairly consistent across target persons. In fact, Dornbush et al. (1965) argued that social perception is more influenced by what categories a perceiver uses than by the characteristics of the target person. Based on this reasoning, it was hypothesized that: 1) category usage in first impressions would not be affected by the clothing of the target person, and 2) greater overlap would exist in category usage in first impressions for one perceiver of two target persons than for two perceivers of one target person.

A clothing manipulation was incorporated into a research design previously used to investigate impression formation (Dornbush et al., 1965; Bourne, 1971). Fifty-two female university students viewed slides of target persons dressed in either similar (sportswear or suits) or different (sportswear and suit) clothing. In order to investigate the effect of clothing on category usage across stimulus persons and perceivers, comparisons were made among six groups of dyads: one person viewing two target persons (1 on 2) in similar or different clothing, two people viewing the same target person (2 on 1) in similar or different clothing, and two people viewing two different target persons (2 on 2) in similar or different clothing. So that actual category usage could be described, subjects completed an open-ended dependent measure asking them to describe the personal traits and characteristics of the target persons. These descriptions were then content analyzed for the frequency of occurrence of five categories (Park, 1986): character traits, behaviors, attitudes, demographic traits, and physical/biological traits. Using Pearson correlations and Fisher's Z statistic, no differences were found in category usage among the groups of dyads, 1 on 2 (r = .61), 2 on 1 (r = .50), or 2 on 2 (r = .50). Contrary to prediction, there was no greater overlap in category usage for one perceiver of two target persons than for two perceivers of one target person. As predicted, category usage was not affected by appearance characteristics such as minor differences in clothing of the target person. Park (1986) suggested that characteristics of the target person affect the valence (positive/negative) of the category. Examples of such clothing variations include neat/sloppy, attractive/unattractive, appropriate/inappropriate. Thus, the results of previous research on the effect of clothing on first impressions may have been due to researchers measuring category valence rather than category usage.

References
Among women, mothers of young children are the fastest growing group of workers in the nation. This trend has resulted in an increased reliance on child care facilities. As a result, child care workers have the potential to serve as primary socialization agents. Dion (1977) suggests that initial impressions of a child may influence the socialization process. It could be predicted then, that the appearance of a child could result in differential socialization by child care workers.

It has been demonstrated in research that nursery school teachers tend to treat boys and girls differently and further, that teachers are not aware that they are doing so. How other aspects of appearance, such as clothing, could affect impressions of children is unknown. This study is designed to investigate the effect of clothing on initial impressions formed of a preschool child's competency.

Method. This study is planned according to a 2 X 2 X 2 between subjects factorial design. Sex type of clothing (masculine, feminine) and sex of child was manipulated using a photograph. Masculine clothing consisted of a sweatshirt with an airplane motif and a pair of jeans. Feminine clothing consisted of a collared sweater with an animal motif and elastic waist corduroy pants. A preschool girl and a preschool boy were photographed in each of the two outfits which resulted in four photographs for use in the study. A manipulation check confirmed that the feminine outfit was perceived as more feminine than the masculine outfit. The third independent variable, sex role stereotypes of the subject was assessed by responses to Broverman et al., (1972) Sex Role Questionnaire.

The instrument used to collect the data was an adaptation of an instrument designed to measure preschool children's social and nonsocial competencies. In addition, subjects were asked to respond to questions such as child's attitude towards preschool and the child's future in preschool among others.

Subjects. Subjects were 100 female university students majoring in early childhood education. Each subject received a questionnaire with one of the four photographs attached and then responded to the items using 7-point Likert type scales.

Results. Results indicated a main effect for sex of child $F(1,84) = 11.01$, $p \leq .001$ for impressions of social competencies. The preschool girl was perceived as more socially competent ($M=132.22$) than the preschool boy ($M=122.79$). Impressions of nonsocial competencies were not influenced by sex of child, sex type of clothing or sex role stereotypes. In addition, subjects responses concerning how the child would do in preschool, whether the child would experience future academic difficulty or difficulty in peer relationships were also not influenced by the independent variables. However, subjects did indicate an outing with a preschool girl would be more pleasant ($M=6.13$) than an outing with a preschool boy ($M=5.45$), $F(1,87)=8.86$, $p \leq .004$ and that a preschool girl would have a more positive attitude toward school ($M=5.91$) than a preschool boy ($M=5.47$), $F(1,87)=3.60$, $p \leq .06$. Results seem to indicate that subjects are forming impressions of competencies based on the sex of the child and not on the clothing, at least as it was manipulated in this study.


Attire as an Influence on the Perceptions of Therapists' Characteristics

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Based upon the theory of impression formation, this study examined the initial impression formed by clients of therapists based on attire. Clothing is an important cue in developing impressions about another person, and this impact is more significant when the contact with the individual is limited (Horn, 1981), as it usually is in the initial contact of a client with the therapist. Several studies have been conducted evaluating clothing's relation to client/therapist rapport. Most of these have used students as subjects, not actual clients. The findings from these previous studies suggest casual attire gained the highest attraction rating, and subjects perceived informally dressed counselors as more expert, trustworthy, and helpful (Roll & Roll, 1984).

Clients are influenced by many factors when they make the decision to seek clinical assistance. Their initial impressions about the therapist determine if they will continue or terminate therapy. Thirty to 60% of clients terminate within the first six months before therapy is completed. Clients often drop out due to impressions formed about the therapist as not being trustworthy or competent (Gass, 1984).

The purpose of this study was to determine the influence of attire of therapists on clients' perceptions of therapists' characteristics. Characteristics examined included empathy, authenticity, competence, and trustworthiness. Also analyzed was the client's willingness to see the counselor based on the client's reaction to the attire of the therapist.

Eighty-six clients in a Marriage and Family Therapy Center viewed sketches of four differently attired male therapists and four differently attired female therapists with very formal (suit) to very casual (jeans and t-shirt) clothing. Each sketch was then rated by the client on the four characteristics of empathy, authenticity, competence, and trustworthiness using a five point Likert-type scale ranging from strongly agree to strongly disagree. Clients also selected the counselor they would choose to see.

Analysis of variance and chi square were used to analyze the data. Results showed that the attire of therapists did influence clients' perceptions of therapists' characteristics (p<0.001); more highly rated forms of attire were also rated higher on selected personal characteristics. Out of the four categories of attire ranging from very formal to very casual, over 80% of the clients preferred the middle categories of attire for both female and male counselors.

This research reinforces the importance of the impression formation theory; clothing does serve as an important cue in developing first impressions about another individual. Therapists' attire should be partially based on consideration of what that attire communicates to clients. The personal characteristics of the therapist that are initially perceived by the client due to attire, may largely determine the final impression, and, as a consequence, affect the outcome of counseling.

References


Clothing Storage in 19th Century U.S. Households

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The purpose of this research was to describe clothing storage techniques employed in the U.S. during 1840 to 1900. Research questions focused on defining terms, describing advice given in 19th century women's household magazines and domestic science books, and determining the relationship between storage practices and the following variables: hangers, rods, hygiene, good housekeeping practices, and appearance of people and rooms. Other data came from patents, books of houseplans, and garments. The investigators found no previous historic research concerning clothing storage.

Various storage devices and systems were used to store clothes. The Shakers may have invented clothing hangers around 1850 (Shea, 1971; Sprigg, 1981); however, the general population did not adopt them until approximately 1880. Patents appeared in the 1870's, 1880's, and 1890's, but advice about hangers did not surface until the 1880's and 1890's. Hangers first appeared as simple wooden or wire devices. Gradually hangers began to closely resemble devices used today. In the 1890's, clothing styles such as puffed sleeves, influenced the design of hangers. Other devices were advocated, too. Fabric loops continued to be used, judging from the analysis of 29 garments from one university collection. Hangers and loops were used with hooks or pegs rather than with closet rods.

Clothing storage systems used during the middle to late 19th century were closets, wardrobes, and boxes. Closets appeared in houseplans as early as 1840. Data obtained from houseplan books suggest that the more sleeping rooms, the more closets a house contained. Advice about closets commented on the necessity of adequate ventilation, and the importance of proper hygiene and housekeeping practices. In the 19th century, a tidy closet was as important as neat personal appearance.

Among the most common furniture used for clothing storage were wardrobes and boxes. Wardrobes had drawers, shelves, and hooks. Boxes supplied flat storage and seating. Advice givers conflicted in their opinions regarding flat vs. hanging storage, but insisted on some type of organized, clean clothing storage system. Columnists stressed alleviating strain on clothes by use of loops. Clothes had to be folded properly; storage facilities had to be clean, well-ventilated, and uncrowded.

One important part of 19th century clothing storage was home-made devices and improvised clothing storage systems. Parloa (1898) and other columnists from The Delineator and Good Housekeeping described making hangers from barrel hoops (E. S. W., 1892;Gabriel, 1887).

Future research might focus on regions of the U.S. to determine differences and similarities in techniques and periods before and after 1840 to 1900.

Few costume historians in the United States have investigated children's clothing. Helvenston (1981) examined advice related to dressing young children for health and for gender roles from 1800 to 1920. Paoletti (1983) studied the transition in boys' clothes from being more like women's styles in 1860 to being more like men's styles in 1910. We focused on the perceived relationship of health to clothing for infants and young girls through age 10, during the 1890s and from 1910 through 1929. During these decades, pediatrics emerged as an important medical specialty, dress reform movements proliferated, and children's welfare became important to both the federal government and such groups as the National Congress of Mothers (future PTA).

We found advice about infants' and girls' clothing in books on child rearing and the home, written by physicians, nurses, home economists, teachers, employees of the U.S. Children's Bureau, and non-specialist parents. Home and family periodicals, including Good Housekeeping, Children, and The Delineator and professional journals such as the Journal of the American Medical Association and the Journal of Home Economics also provided data. We then examined dated underwear and outerwear and informal photographs of children from three Iowa collections to test for consistency between advice and practice in the choice of infants' and girls' under-and outerwear.

The research questions dealt with clothing advice related to the age of the wearer; indoor and outdoor temperatures; the design and fit of clothes; fiber, fabric structure, and finish; and the cost of "healthful" clothing. We examined trends in advice to discover points of consensus and controversy among writers.

Across both periods, writers recommended clothes that gave infants and girls even distribution of warmth, light weight, and free movement. Some writers urged shortened skirts for infants and, by the 1920s, rompers or creepers for toddlers. Clothing's effect on the child's mental health emerged in advice literature by the 1920s. In both periods, parents were often told to dress the child for the weather, not the season; to guard against chills due to sudden changes in temperature; to protect vulnerable areas, such as the joints; and to judge the child's comfort in clothing as they would their own. Under the probable influence of the Jaeger Sanitary Woollen System, writers rejected linen undergarments in favor of knitted woolen ones during the 1890s. By the 1910s and 1920s, some writers espoused cotton underwear as cleaner than wool, while others stood firm on the advantages of pure or blended wool undergarments.

In the 1890s and 1910s, a few writers endorsed corset-like garments for girls, but most advisors deplored constriction in inner or outer garments. Clothing for children was supposed to hang from the shoulders, even in the 1890s, when fashionable clothes hung, in part, from the waistline. By 1916, before really tubular costumes came into vogue for women, advisors urged clothes without waistlines for infants and young girls. Tight necklines and sleeves were generally condemned. Changing from street clothing at home was intended to prevent the transfer of public germs to the private household. Advisors, however, approved of airing rather than washing outer- and underclothing between wearings.

When clothes were washed, thoroughness was the watchword. The dollar cost of clothing children in a healthful manner was not discussed directly. Having clothes for different purposes was considered a long-term economy as well as hygienic practice by the 1920s.

Writers seemed to have regarded infants and children as vulnerable beings, to be shielded from all-threatening disease by wise choice, use, and care of their clothes.


Clothing is a reflection of lifestyles and may reflect regional variations (Ginsberg, 1982). More research is needed on regional variations in clothing (Haack & Farrel, 1980). The research objective was to determine whether women's 1890's garments worn in Nevada differed from national fashionable styles as identified by fashion illustrations.

Extant garments are appropriate data sources for historical research. Many garments in public collections lack documentation especially with regard to dating; this makes historical research difficult (Paoletti, 1984). Since local style variations may exist they should not be dated via fashion illustrations. Photographs are an appropriate alternative source which provide datable records of what was worn (Ginsberg, 1982).

The Nevada sample (N=30) was photographs from the state historical society dated to the 1890s. The national sample (N=30) was drawn from illustrations in Harper's Bazaar featured in Blum (1974). All were daytime garments.

A checklist instrument was developed based on previous and current research (Haack & Farrel, 1980; Horridge, Smathers, & Vachon, 1977; H.E. Rexford, personal communication, June 21, 1987; J. Sever, personal communication, July 16, 1987). Garment characteristics included silhouette; neckline, sleeve, bodice, and skirt treatment; neckline and waistline placement; and garment ornamentation. State garment characteristics were compared with the national garment characteristics to determine if regional characteristics existed.

The hourglass silhouette with a fitted bodice, natural waistline, and bell skirt occurred in both samples. The majority of bodices (63%) had a high collar; all garments had long sleeves. Most fabrics were a solid color (26%). A larger portion of the local garments (72%) had natural armscye placement than the national garments (35%). Sixty-three percent of the national garments had leg-of-mutton sleeves while only 23% of local garments featured this style. Differences were found in the ornamentation of the garments. The national garments featured more ribbons, embroidery, fur, and bows, while the Nevada garments featured more ruffles, gathers, and buttons.

One silhouette was found while other characteristics of garments were different in the local area. The national silhouette was widely disseminated while other characteristics were not always adopted. Garments with national shoulder and sleeve characteristics were found in the northwestern, more urban area of Nevada. The more local variations occurred in rural ranching and mining areas indicating a time lag between the two areas. The scarcity of narrow shoulder and leg-of-mutton gowns may be due to differences in lifestyles between the larger national urban areas and the urban and rural areas of Nevada. Although the types of decorations utilized on the garment varied from the national styles, trims were used throughout the state. Embellishment of garments appears to be important in both the urban and rural regions. Future research will compare local garment characteristics with garment illustrations in the Delineator or Peterson's Magazine.

References

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Recent research on nineteenth century women's apparel has focused on developing a better description of North American dress as distinguished from European dress. My research continues this focus and additionally attempts to describe less fashionable clothing. By examining an item of everyday apparel such as the Mother Hubbard, the daily experiences of a greater variety of women are more thoroughly explored than by simply looking at more formal high fashion styles of the period.

The purpose of this study was to develop statements of description, origin, history, function, and social position for the Mother Hubbard. Based on primary evidence, a general description was developed as follows: a floorlength informal dress fitted loosely from the shoulder, or upper bodice (in either front, back, or both) made from a usually washable patterned fabric. The feature which distinguished it from fashionable attire was the loose fit.

The Fleming model for artifact study was used. Sixteen extant costumes from four museums were examined as well as photographs of women wearing Mother Hubbards in various geographical locations. Information also was gleaned from personal documents, women's housekeeping journals, farm journals, ready-to-wear and pattern catalogues, and other primary and secondary sources.

The typical high yoke with fullness below originated as the result of American missionaries' attempts to fit the large girths of Hawaiian royalty with their own high-waisted styles of about 1819. In Hawaii the garment (known as the holoku) was worn throughout the nineteenth century and into the twentieth. The name Mother Hubbard was the result of the popularity of the Mother Hubbard rhyme which came to the U.S. from England after 1810 and the garment's suggestion of the appearance of a stout, untidy old woman. (The term "Mother" was used to address older servant women dating back to the 16th century.) The Mother Hubbard became more common in the last quarter of the nineteenth century. It reached its peak in the 1880s when its looseness and flowing lines complemented movements toward health and aesthetic reform in women's dress. The latest known reference to the wearing of the dress appears in the dust bowl regions of the United States in the 1930s.

The garment was worn in all regions of the country and was primarily used as morning attire, either for negligee or for summer house work. Examination of extant garments revealed that darker soils concealing colors, washable fabrics, bishop sleeves which easily could be rolled up, pockets, and shortened front hemlines (conducive for bending forward) were features which assisted housework. Overall, the typical design features included loose fit in front with a fitted back from the waistline up, inner linings fitted to the waist (perhaps to mediate the feeling of wearing a loose garment compared to a tightly fitted fashionable gown), flat tape and ruffle trims, with a variety of yokes and collars. Primary evidence also indicated that the garment was used for maternity wear and was recommended for children. (Other types of garments: cloaks, aprons, and nightgowns were also named Mother Hubbard.)

While the garment was socially acceptable as a house gown, it received negative public reaction when worn on the street or especially in town. Compared to similarly styled house gowns, it seemed to rank midway in prestige between the "untidy wrapper" and the elegant teagown. While the Mother Hubbard provided a comfortable alternative to the usual tight fitting clothing of the nineteenth century, its resemblance to intimate apparel such as the nightgown, and its conspicuous divergence from fashionable fit militated against its acceptance as street wear. It represents an attempt (though not as radical as the bloomer) to step outside the narrowly proscribed boundaries of acceptable nineteenth century feminine attire.
This study was designed to examine consumers' intention to buy apparel items by mail order. More specifically, the first objective was to test two conceptual models of consumer behavior in the context of mail order shopping of apparel, especially concerning consumers' beliefs about and attitudes toward mail order purchasing of apparel and decision process variables. The two models were the EBM Decision Process Model (Engel, Blackwell & Miniard 1986) and the Fishbein Behavioral Intention Model (1975). The second objective was to identify factors that might distinguish those who have a high level of intention to purchase apparel through mail order from those who have a low intention in terms of decision process variables.

Data were collected via a 6-page mail questionnaire sent to a national random sample of 1,500 names which were purchased from Demographic System Inc. After a follow-up card, 348 usable questionnaires were returned for a return rate of 23.2 percent.

As a result of a series of t-tests, those who had high intention to utilize mail order purchase of apparel showed significantly higher belief scores on all of the nine attributes of shopping and favorable attitudes toward mail order purchasing apparel than those who had low intention. This indicates that positive belief about and favorable attitudes toward an alternative are related to intention that an action will be undertaken. In terms of marketing implications, marketers can attempt to increase the strength of beliefs about already positive attributes (e.g., convenience) by emphasizing these points in catalog copy and other direct mail pieces. Marketers can also try to improve those attributes with weak belief scores in consumer's mind (e.g., variety of services). In addition, adequate sales information can be provided to consumers by increasing the factual information in the copy.

Based on stepwise multiple discriminant analysis, eleven variables out of fourteen appeared to have discriminating powers between those who have high mail shopping intention and those who have low mail shopping intention. These who had high mail order shopping intention tended to: 1) have previous mail order purchase experience, 2) be influenced by people who are important to them; 3) have preschool children; 4) have higher total household income, 5) have higher self-confidence and venturesome characteristics, 6) feel time pressure for shopping; 7) be younger; 8) be married; 9) be dissatisfied with local shopping facilities; 10) be planned shoppers; and 11) enjoy going to large shopping center. Based on these results, some of the selected marketing implications are as follows:

First, enhancing the triability of this shopping mode appears to be a key to acquiring new customers. Perhaps coupons for first time purchasers could be offered as an incentive. In addition, those who have experiences with any type of direct marketing (e.g., telephone order) may be a good target market for the mail order shopping mode. Second, since social influence was the second most important variable, marketing efforts should be made to stimulate favorable word-of-mouth. One way to achieve this is by creating advertising that encourages consumers to talk with others or by developing imaginative ads in the hopes that phrases become a part of everyday language. Finally, marketers may do well by targeting those who are in the early stage of family life cycle, with an emphasis of "convenience."

References
The influence of product involvement regarding catalog preference for apparel purchases

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The purpose of the present study was to investigate the relationship between selected shopping motives, clothing involvement and catalog preference for clothing purchases. The issue is important because more money is spent on catalog clothing purchases than upon any other product category.

The underlying theoretical framework for the study originated from Sheth's (1983) model of shopping preference. Sheth suggested that personal factors and shopping motives influenced shopping preference. In the present study personal factors included clothing involvement. Shopping motives investigated included price of the merchandise, value for the price, brands carried, merchandise assortment, location close to home, quality of services, hours of operation, outlet atmosphere, savings during sales, sales promotions, and convenience of purchasing merchandise. Catalog preference described the level of acceptability of catalogs for clothing purchases.

A questionnaire was developed to access shopping motives, clothing involvement and catalog preference. Shopping motives were measured using a 5 point modified Likert scale ranging from very important to very unimportant. Clothing involvement was operationalized using Zaickowky's Involvement Inventory (1985). Catalog preference was operationalized using a modified Likert scale ranging from very acceptable to very unacceptable.

A nationwide survey of 5,000 residents of the United States was conducted. A 15 percent response rate resulted after the initial mailing. A response rate of 15 percent is appropriate for two reasons, 1) a 20 percent shrinkage over a six month period occurs using such lists and 2) the length of the questionnaire (six pages) may have deterred response to the survey. Over one third (35%) of the respondents resided in the central region of the United States. Over half of the respondents were female and almost half were between the ages of 25-44. A majority of the respondents were married with no children living at home. Over half of the respondents reported annual incomes of $20,000 to $50,000 and approximately three-fourths reported owning their own homes.

Analysis of covariance was used to uncover the relationship of each of the predictor variables on catalog preference. The covariate tested included clothing involvement and results of analysis yielded a significant relationship between clothing involvement and catalog preference (p < .05). Pearson's correlation analyses revealed a negative correlation between catalog preference and clothing involvement. Results of analysis of covariance yielded significant main effects for brands carried and price of the merchandise (p < .05). Results support Sheth's theory of shopping preference regarding the influence of product category on patronage behavior. Furthermore, results support findings prevalent in the literature and suggest that catalog users are brand conscious consumers regarding catalog clothing purchases. Shopping by mail provides a convenient means to fulfill family and individual clothing needs for today's dual-career families. Clothing specialists can provide educational materials and consultation to assist consumers to make effective and satisfactory clothing purchases within budgetary constraints.


The researchers would like to acknowledge the financial support of J.C. Penney's, The University of Cincinnati, The Center of Marketing and Design, College of Business Administration: University of North Texas and other retail institutions.
Mail catalog shopping is an important growth segment of the retail industry and has been the most generally accepted form of non-store retailing. Understanding why consumers shop through catalogs will not only lead to a better understanding of mail-catalog shopping but may shed light on innovative forms of non-store retailing (e.g., electronic in-home shopping).

The purpose of this study was to examine patronage motives for clothing. The shopping preference theory (1983) which suggests that consumers' patronage motives influence the choice of a retail outlet was used as the foundation for the study. A national sample of consumers (35% response rate/1500 surveyed) was surveyed to assess the nature and scope of the motivations for shopping for clothing through catalogs. The subjects completed a self-administered questionnaire consisting of questions that measured clothing catalog shopping and the strength of 14 rational and 17 nonrational patronage motives that have been shown in past research to be predictive of shopping behavior. Using a Fishbein multiattribute model, the salience of the patronage motives and the likelihood that these motives would be satisfied through shopping from mail catalogs was assessed. Congruent to Sheth's theory of shopping preference, the overall strength of the rational patronage motives were found to be significantly higher (p<.05) than the strength of nonrational patronage motives for mail-catalog purchases. The means for each group of motives were compared using a within-factors repeated measures ANOVA.

To assess the individual motives responsible for clothing catalog shopping, the all-possible-regressions procedure was used to examine all possible combinations of patronage motives. The model with the highest $R^2$ and most conservative error variance was selected as the optimum model of motives for the prediction of clothing mail-catalog shopping. Given in the order in which they entered the regression equation, these motives included the ability to shop in the home, merchandise quality, image and appeal of the catalogs, convenient use of credit cards, and obtaining quick deliveries.

These results indicate that motives for mail-catalog shopping that have been suggested by previous studies such as convenience, low price, uniqueness and variety of the merchandise, and dislike for in-store shopping may not be as important as other patronage motives which had never been studied in the context of mail-catalog shopping. This research has marketing implications for mail-catalog businesses in developing strategies which stress attributes most important to the mail-catalog consumer. In addition, the motives identified in this study suggest the means by which more innovative shifts in non-store shopping can gain acceptance.

REFERENCE


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CONSUMER EVALUATION OF THE MAIL ORDER APPAREL MARKET

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As noted by Fishman (1987), the mail order market is a major source of consumer goods and apparel is a high volume sector of this market. In spite of the importance of mail order as a source of consumer products in general and apparel in particular, only a limited amount of research has been directed toward characterizing this market. The research that has been done has emphasized determination of attributes that differentiate between mail order shoppers and nonshoppers or light and heavy shoppers (cf. Darian, 1987; Seitz, 1987; Smallwood and Wiener, 1987). To date, little work has been done on exploring problems that consumers have with this market and the factors that might be related to number and type of problems.

The objectives of this study were to characterize the mail order apparel market in terms of type and frequency of problems and to determine the relationships between catalog attributes and problems. The study was also designed to investigate the relationships between consumer characteristics and problems in order to get an indication of whether some segments are at more risk than others.

The study was conducted in two stages. The first phase involved telephone interviews with a systematic sample of 386 area residents. These interviews were used to qualify people as mail-order customers and ask for their cooperation in completing a mail questionnaire on shopping problems. In addition, the interviews served as a means of collecting data on mail order market complaints from those people who were not regular mail order customers.

Frequency analysis of the interview data indicated that a little over twenty-five percent of the respondents did not view use of catalogs as a viable shopping option for any type of product. Reasons most often given for not using catalogs were wanting to see, feel, and/or try on the actual item and enjoying the experience of shopping in stores. The next two deterrents, in order of frequency of mention, were problems with size or fit and returning items. Nine percent of the respondents were willing to buy products other than clothing from catalogs but not clothing. Again, wanting to see, feel, and/or try on the item was the reason most often given by this group, followed by mention of problems with size and fit.

Frequency analysis of the questionnaire data indicated that the most common problem among mail order customers was receiving items that were different from what catalog information led them to expect. Next in terms of number of complaints were incomplete orders and late deliveries. When multiple regression analysis was used to relate consumer and catalog characteristics to number of different types of problems, the presence of children in the home and shopping from children's apparel catalogs were found to have a significant positive relationship with number of different types of problems. On the other hand, price was negatively related to number of different types of problems.

Findings suggest that mail order firms' incomplete appreciation of the interests and needs of some segments of the population is limiting the potential utility of this form of retailing. In particular, lack of sensitivity to problems and preferences of parents of young children may be operating to the detriment of both the companies and this group of consumers.


Contained within the physical and chemical structure of an archaeological or historic material is information concerning the conditions of its growth (the biologic context) and any treatments applied during its lifetime (the systemic context), as well as a record of the subtle interactions which have occurred between it and its long-term storage context (labelled the diagenetic context) (Sibley and Jakes 1989).

Recognizing the value of unlocking these clues, this research was undertaken to explore the potential usefulness of a variety of analytical techniques for the identification and characterization of the composition of historic and archaeological fibers and to explore some of the inferences which can be made concerning those fibers employing the compositional data. The microstructure and elemental composition of the fibers taken from Paracas funerary bundles excavated from the Necropolis burial precinct (ca. 500-150 B.C.) were examined using the following experimental procedures: 1. photomicrographic examination using brightfield, darkfield, polarized light, phase contrast, and differential interference contrast techniques, 2. scanning electron microscopy, 3. energy dispersive analysis of x-rays of longitudinal sections and of freeze fractured cross sections, and 4. infrared microspectroscopy.

Integration of the information derived from these analyses provided new insights into the production and use of the Paracas textiles, including: the presence of immature and mature cotton fibers reflects a variability in climate and lack of cultivation, the presence of scalar patterns and medullar structures typical of the llama genus as well as of other genuses is indicative of the possibility of the blending of hair fibers in yarn production, the presence of differently colored hair fibers found within one yarn structure suggest that fibers were dyed prior to yarn manufacture, and the presence of aluminum within the fibers while other heavy elements are present only on the fiber surface reflects the mordanting of the fibers with alum, and their long term burial in a dry environment with a soil containing silicon, calcium, potassium, and aluminum.

This research provides an example of the usefulness of the characterization of the chemical and physical composition of archaeological textiles at all levels of structure from its gross physical shape to its elemental composition. Not only is the object described in physical terms, but the understanding of the technology of the textile's production and use by people and of its degradation in the diagenetic context also are enhanced.

A wide variety of historic textiles and clothing items have ink markings on them. Since ancient Egyptian times, launderers have marked fabrics to identify ownership. A more recent practice of writing on fabrics developed as quilters incorporated signed squares in friendship quilts. Collections also include one-of-a-kind textiles that have drawings, stencils and stamps on their surface. Unfortunately, the most common permanent ink contained several acids that were detrimental to fibers, especially cellulosic ones. This ink was made from ferrous sulfate and nutgalls which contained tannic acid. Sulfuric acid often was added to the mixture to prevent precipitation of the ferrous tannate. Damage where ink has reacted with fibers is obvious on some of these textiles, and people handling the pieces can see that the fabric is fragile. Other textiles with ink markings have weakened yarns that are not readily detected and mistakenly could be handled as if they were in good condition. Individuals working with historic costume and textile collections need to be aware of the potential weakness in these textiles and safe methods of caring for them.

Researchers have investigated the effect of inks on paper, noting characteristics such as brittleness of the paper, migration of acid from one sheet to another and halation outside the edges of ink marks, but even with a computer literature search no study was located that concentrated on ink damage to textiles. Information is available on various recipes used in making ink from ancient times.

This study was limited to American textiles and clothing used before 1920 onto which ink was penned, stamped or brushed. The objectives were to analyze damage in American textiles that have degraded by ink; determine if harmful inks could be identified by color on the fabric; look for migration of acids from ink on textiles like that which occurs on paper; identify types of textiles and clothing items that are most likely to have ink marks; and identify methods of handling, cleaning, storing and exhibiting marked textiles that will help protect them from further damage.

The researchers examined inked textiles from several collections and recorded the following information: origin, date, how ink was applied, color of ink, damage apparent to naked eye and general condition of object. Inked areas were viewed and photographed with a stereo-microscope at a magnification range from 70 to 400. Characteristics of fiber damage and color differentiation in inked areas were noted.

Ink marks often were darker along the edges than in the middle of the mark, indicating that the liquid concentrated at the edges of the marks as it dried. Fabrics had splits at the edges of ink marks more often than in the interior. Since the acid concentration was higher at the edges, the damage to fibers was more extensive there. The microscopic examination showed that fibers often broke at the edge of the ink mark, leaving stubby ends sticking up at the yarn intersections. The color of ink on textiles with the most damage often was reddish brown.

Collectors, dealers and collection staff should recognize that damage can exist on textiles marked with ink even though the fabric looks intact. Folds should not be placed along inked areas. If time and skill are available, items that have damage should be supported to prevent further deterioration. Deacidification or wet-cleaning should be considered carefully since the swelling of brittle fibers could be very destructive. This is one of the areas identified in this study that needs further research.
ABRASIVENESS OF BACKING FABRICS FOR SUPPORTING HISTORIC TEXTILES:

CONTINUED TEST METHOD DEVELOPMENT

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During conservation or display of a historic textile item, it is often necessary to mount the historic textile to another fabric surface. Such a support fabric needs to provide strength and an aesthetically pleasing surface compatible with the mounted textile. However, the mounting fabric also should avoid placing an abrasive, rough surface next to the historic textile since that surface may cut at delicate fibers. No textile test method was identified for the measurement of abrasiveness, although abrasion resistance of textile fabrics—quite a different property—can be measured.

The purpose of this study was to devise and refine a possible method for measuring differences in the abrasiveness of fabrics used as backing fabrics in textile conservation. The principal mode of abrasiveness selected for study was the rubbing of fabric against fabric. The measurement value selected was the number of loosened fiber particles transferred during rubbing. The crockmeter, a commonly used textile testing instrument, was adapted for this test procedure. Buras and Harris (1983) had similarly adapted the crockmeter to produce linting of fabrics. The crockmeter's original purpose is the rubbing of color from a dyed surface onto a white fabric mounted on the peg (AATCC, 1988). However, for this test the crockmeter peg was covered in a brightly colored, napped, 100 percent cotton fabric. The rubbing action of the peg allowed fibers from the colored surface (simulating the historic textile) to be transferred onto the white backing fabric mounted on the lower platform. A linen tester was utilized for viewing a centered one inch square in which to count the transferred fibers.

An earlier study had initiated development of this methodology (Simpson, 1988). The present study focused upon a modification of the earlier procedures. The backing fabric specimens were cut in a warpwise direction rather than on the bias, as had been done initially, in order to more closely simulate the usual mounting position of historic textiles on a backing fabric. The fabrics tested included unbleached cotton muslin, cotton sailcloth, cotton duck, and cotton sateen. Ten specimens of the face and the back sides of each fabric were tested. Ten specimens of the face and the back sides of each fabric were tested. Ten specimens of the face and the back sides of each fabric were tested. Statistical analysis utilized the Kruskal-Wallis one way analysis of variance. Significant differences at the .01 level were noted for fabrics characterized by differences in weight and number of float yarns. Differences between testing on the bias and on the warp direction were noted, with more fiber loss occurring with the warp direction specimens.

This methodology, although accelerated from actual museum conditions, provides a test for measuring fiber loss due to abrasiveness, and allows comparison and rating of the abrasiveness of support fabrics. Thus, conservators may find this information useful in selecting support fabrics which are less abrasive in nature.


The purpose of this study was to identify textile attributes, derived from a study of archaeological textile remains, that can be useful indicators of status differentiation within the prehistoric Caddoan society (ca. AD 1000-1500). The sample consisted of 119 textiles recovered from Caddoan burial contexts that, based upon other archaeological evidence, were designated as either high (71) or low (48) status. A textile attribute dimension form was developed to facilitate the systematic study of attribute complexes and was used to record attribute data on fabric structure, patterning, design, coloration, yarn construction, and fibers. Contextual and specific textile attributes were analyzed using a series of contingency tables and a classification and pattern recognition program.

The degree of association between individual specific textile attributes and status was measured and ranked. Cramer's V ($) was used as the measure of association between the variables because the influence of sample size and degrees of freedom is minimized and because it allows for a comparison of relative strength of association between several contingency tables. Ten attributes had $\phi$ values above 0.5, which are considered to indicate substantial association between variables. These attributes, listed in order of relative association with status rank are: fringed edges, stitched edges, color source, color application, surface pattern technique, color description, presence of design motif, fiber class, type of design motif, and average fabric count.

The Classification and Regression Trees (CART) program is designed to find measurements which are useful in classifying objects into groups. CART was used in this study to search for predictors (textile attributes) of group membership (status). In the CART analysis all attributes were considered together and those attributes that serve as the best predictors of status were selected. The results identified color description and average fabric count as the best combination of predictors of status. Using only these two attributes, 114 out of the 119 textiles analyzed could be placed in the correct status group.

Based upon the findings of this research, textile attributes did vary according to the status level of the burial contexts, and certain textile attributes appear to be highly indicative of status differentiation within the prehistoric Caddoan society. As was expected, however, certain attributes were relatively consistent between the two status groups, and these are more useful for defining or characterizing the Caddoan textile complex as a whole than for making cultural inferences relating to social status. This study identifies attributes from archaeological textile remains that can serve as indicators of status differences within the Caddoan society. Thus, archaeological textile analyses is shown to provide useful information from which to make cultural inferences relating to status differentiation. Insights gained from this study lead toward a better understanding of the importance and use of textiles by prehistoric peoples of the eastern United States.
The Textile Clothing Technology Corporation (TC²) was initiated through a common vision of industry, labor, universities, and the federal government. TC² is a non-profit organization created to be a catalyst for increasing the American apparel industry's use and development of more productive equipment and manufacturing systems. The physical facility located in Raleigh, North Carolina, houses state-of-the-art equipment and is available as a resource to manufacturers. Although heavily involved with the development, demonstration and implementation of apparel industry technology, TC² also provides educational experiences for students which have in the past been limited to participants from technical colleges and universities close to the Raleigh, North Carolina area.

A feeling prevails that in order for the United States' apparel industry to have a competitive edge worldwide, there must be competent people committed to the successful use of the ever changing technology and business environment. Thus, TC² is committed to using its facility as an educational resource.

This year TC² offered four faculty and six student internships. These internships were available to schools participating in the American Apparel Manufacturers Association (AAMA) Education Committee.

The faculty interns proposed to adapt their experiences with the futuristic technologies available at TC² to generalized university clothing/textile programs and more specifically, to apparel production programs. The course of study covered by the selected faculty is relevant and applicable to university curriculum and not available elsewhere at this time.

Applicable subject matter adapted the state-of-the-art technologies of:

1) Real Time Production Control
2) Cut Order Planning
3) Production Systems: UPS/Modular/PBS
4) Methods Engineering
5) Stichology
6) Time study
7) Electronic Data Interchange (EDI)
8) CAD: Pattern Design System/Marker Making
9) Product Costing

Materials from the above area were presented at both the general and specific level as they pertain to clothing and textile curricula. Suggestions were made for adaptation and implementation of each subject addressed.
A MODEL FOR REFINING MERCHANDISING CURRICULUM

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Declining apparel retail sales over the last two years are forcing re-organization in retail chains and apparel specialty stores. From this, the researchers projected increased competitiveness in jobs for merchandising graduates, and sought to improve the relevance of merchandising curriculum. The flexibility of this model permits exceptional focus on the needs of a particular group of retailers, thus increasing the competitive advantage of the graduates of that program.

A model for curriculum development and evaluation was field tested for merchandising programs in higher education using the focus group technique. The technique is a form of group research widely used in market research. It was selected as a key feature in the model because of the unique opportunities it afforded for both "fine-tuning" a curriculum, and generating fresh ideas.

Ruddick, Sherwood and Stevens (1983) described a focus group interview as a variation of a depth interview conducted with a carefully selected group of participants. Breen (1977) aptly suggested "Group discussions are used where new, fresh, thinking is desired" (p. 152).

The model consisted of six phases: 1. review of literature, 2. questionnaire development, 3. focus group interaction, 4. synthesis, 5. questionnaire revision, and 6. utilization. To assess the practicality and effectiveness of the model, a pilot study was designed. The pilot study utilized four separate focus groups: retailers, alumni, students, and merchandising educators. The results validated the usefulness of the model. Data collected from the questionnaire and focus group phases were highly compatible. Trends for specific elements of professional preparation were consistently recorded in both written and oral form. As expected, the focus group technique allowed the valuable opportunity for elaboration and explanation as well as the generation of ideas not included in the written questionnaire.

As limitations of this model, the authors cite the qualitative nature of focus group results. This concern, however, was judged to be more than adequately countered by the benefits of the technique's ability to promote creative thought. To balance the qualitative nature of focus group research, a quantifiable questionnaire was used. Thus, though the pilot test of the model utilized a sample too small for generalization, it did serve to illustrate the model's potential use.

The outstanding characteristic of supplying fresh ideas and specific information makes this model well suited to refining the outcomes of a curriculum. There is abundant agreement in the literature to shape the broad outline of a merchandising curriculum. Information to guide the formation of particular goals is frequently what is needed. Focus groups, comprised of people with a concern for the graduates of a particular program, have a vested interest, and therefore can provide insight into the needs assessment and program development process.

References


Are we sharing our research efforts as effectively as possible? Is there a wider audience who would benefit from our research efforts? The telelecture provides a means of presenting research as a seminar or lecture via telephone to an audience at a distant location. The reception site is equipped with a telephone with voice amplifier, and visual presentation equipment if needed. Telelectures have been widely used to share information for a number of years, and most universities have suitable reception facilities. Thus, the cost of a telelecture is small.

Currently, video presentations are a more widely used delivery medium than are telelectures. Video presentations are a dynamic visual and oral vehicle. However, more expertise, time, expense, and facilities are required to produce a video presentation as compared to a telelecture. Creatively planned, a telelecture can actively involve students in the learning process.

Following a research presentation given during the 1988 Central Region ACPTC meeting, a conversation ensued between this presenter and a professor in the audience. As a result of the conversation, a telelecture of the research presentation was delivered by the presenter located at Oregon State University to undergraduate students enrolled in the professor's course at Oklahoma State University.

The research presentation focused on the garment designs of Madeleine Vionnet. Due to the intricate nature of Vionnet garments, and to actively involve the students in the learning process, the presenter developed a student learning packet and sent it in advance of the telelecture. The learning packet contained a duplicate set of the slides that had been used for the ACPTC presentation. The slides included both photographs of the Vionnet garments used for the research study and quarter-scale diagrams of each garment's pattern pieces. To help the apparel design students better understand the intricate garment cut, the learning packet included photocopies of the actual quarter-scale pattern piece diagrams. The professor at the reception site provided photocopies of the pattern pieces for each of the students in the class, who then cut out and taped together the pattern pieces, creating three-dimensional paper "garments." To make it easier for the students to prepare their paper garments, the presenter also sent a set of the three-dimensional paper garments. A quarter-scale replica garment in silk for one of the garments in the study was also included in the learning packet. Students further prepared for the seminar by reading about the work of Madeleine Vionnet.

For the telelecture, the students met in a classroom equipped with slide projector and telephone at the reception site. Students brought their paper garments to examine during the telelecture. A forty-five minute presentation was given in which the presenter viewed her set of slides while delivering the presentation by telephone at the same time the duplicate set of slides was shown at the reception site. As each garment in the study was discussed, students compared the photograph of the garment to the slide of the pattern diagram, and to their own paper garment replica.

Following the formal presentation, students asked questions of the presenter concerning several aspects of Vionnet's work. An assessment of the learning experience was completed by the students following the presentation. The students were in agreement that this was a valuable learning experience. Their suggestions included additional time for the telelecturer to present more historical background on Vionnet and to have photographs or drawings of the Vionnet garments available while they were "constructing" their paper garments.

It is suggested that during each national conference, a pool of researchers willing to share their research and/or creative work with undergraduate or graduate students at other institutions be established. Dissemination of research results to a wider audience benefits the individuals involved and has the potential to contribute greatly to the future strength of the profession.
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Many of today's largest and most successful fashion manufacturers and retailers sell merchandise directly to customers. The business of direct marketing offers new and exciting career opportunities for fashion merchandising students.

To prepare students with techniques used by these companies, a course was developed, submitted for evaluation, and funded by the Office of Special Sessions as an experimental course during January of 1989. Course content included basic direct response terminology, successful catalogue production, and traditional retailer expansion into direct response.

Two field trips were scheduled. At a local cable television station, students learned how direct response ads were produced. At a corporate catalogue facility, class members observed warehousing, order fulfillment, secondary buying offices, and customer service.

Evaluation of student performance was in the form of tests, group projects, and merchandise tracking analyses. The purpose of the tracking assignment was to provide a better understanding of how direct response companies conduct business. Class participants were required to purchase an inexpensive item from a catalogue with which they had not dealt before.

All interactions with the direct response company by telephone or correspondence were followed from the order date to merchandise delivery. Students evaluated the condition of the merchandise and how the actual merchandise corresponded to its catalogue representation. Additional sales notices and new information from other direct response companies using the mailing list were recorded. Most people were pleased with the merchandise and service they received.

For the course project, students were divided into teams which developed a direct marketing plan for a product following guidelines established by the company and the Direct Marketing Educational Foundation. At the conclusion of the course, groups presented their direct marketing plans using a variety of techniques. One group produced their own video. Another group used billboards. Prizes were awarded to "best overall," "best projected results," and so forth as evaluated by class members. All group projects were submitted to the 1989 Direct Marketing Association Collegiate Competition, a national competition which announced winners in May 1989.

Evaluations by fashion merchandising students and other majors were positive. Current departmental plans are to continue to offer this fashion direct marketing course as an elective within the fashion merchandising curriculum.
The development and production of a fashion show for the physically disabled was the focus of the Fashion Technology program for two consecutive semesters. It was a multi-phase project that involved undergraduate and graduate students in a variety of classes.

The educational objectives of the project were: (1) to acquaint all students with the clothing needs of the physically disabled; (2) to demonstrate that it is possible to design garments for the disabled that are both functional and fashionable; (3) to familiarize apparel design students with processes involved in developing a line for a specific population, pattern development, and garment production and costing; (4) to provide apparel design and fashion merchandising students with the opportunity to conduct market research to assess consumer needs, as well as have a fashion coordination experience.

The three phases of this project were: (1) Pre-planning: The first semester students were acquainted with the psychological and physical needs of the various disabling conditions as well as the corresponding functional clothing needs. They addressed the availability of functional and fashionable clothing at the retail level and conducted a national survey of mail order catalogs that feature clothing for the physically disabled; (2) Garment Design, Production, and Costing: A sample population of 23 models ranging in age from 3-77 with a variety of physical disabilities were drawn from a school for the physically disabled and the community at large. After the designs were completed, students were taught the necessary pattern modifications. In all, they designed 29 original garments and modified 9 ready-to-wear garments for the show. The apparel production students were responsible for the production and costing of the garments. (3) Fashion Show Coordination and Production/Evaluation: The fashion merchandising students worked with the designers to coordinate and accessorize the garments and executed the physical coordination of the fashion show. Graduate students developed and administered an evaluation form to ascertain the audience reaction to the fashions and solicit suggestions and comments to be used in future design development.

This project was highly successful. The fashion show was an overwhelming success as evidenced by high attendance as well as tentative invitations to present the designs on two nationally televised shows. Other positive outcomes as a result of the project were the development of a bond of understanding between the designers and their models, an increased sensitivity for the disabled by all the students and the establishment of the Center for Clothing for the Disabled within the Fashion Technology program.
On April 22, 1989, they came by the thousands, on foot, on horseback, in wagons loaded with their possessions to claim land in the newly opened Indian Territory's Unassigned Lands. Over 60,000 people claimed almost two million acres on that day. Guthrie, the capital of the new territory, came into being in a day. Of the many festivities planned to commemorate the Centennial of the land run throughout the state, an innovative town/gown joint project provided Oklahoma State University apparel design students with a unique opportunity to participate in the state's Centennial celebration.

Guthrie docents from the State Capital Publishing Museum had uncovered copies of The Delineator, one of Butterick's foremost publications of the 1890s in restoration projects. Thus, pioneer women had access to this publication and the illustrations of the featured Victorian gowns. An idea to recreate a collection of gowns from The Delineator that could tour the state during the Centennial year was born. Butterick agreed to release copies of The Delineator but their original patterns were no longer in existence. It was agreed that students in a Flat Pattern Design class would develop patterns and construct gowns to fit the docents who would model the gowns in historical fashion shows around the state. Funding was obtained to cover all fabric and other supplies through Hancock Fabrics, Inc.

The instructor's objectives of the project included:
1. To provide a uniquely substantive learning experience for the flat pattern students.
2. To provide increased visibility for the department and design students across the state.
3. To contribute to the community through the Centennial celebration.

Students spent the first two-thirds of the semester learning basic flat-pattern techniques and completing various assignments. At the same time, each of the 13 docents chose three or four gowns or suits from 1889-1890 original issues of The Delineator. Xeroxed copies of the docents' choices were sent to the class who narrowed the selection to one ensemble per student or student team. The final third of the semester was spent on the Centennial project. Students and docents worked as a team with the students completing fitting garments, sloper, and pattern and ensemble. Docents came to class, students went to docents' homes. In the end, 17 Victorian ensembles were completed including a tennis dress, everyday wear, walking suits, and elaborate ball gowns.

The premiere fashion show was held on campus with an elegant luncheon and reception. Once again, cooperation was obtained from university and town Centennial committees to produce the successful show. A major TV station sent their news crew to class to film and interview students and their docent clients in their final fittings. Extensive television and newspaper coverage of the project and the premiere showing occurred. Publicity has continued as the show has toured the state.

Course and project evaluations were completed and document that the students felt it was an enormous learning experience in fitting, pattern-making, advanced construction, time and cost management, and interpersonal relations. The docents were very pleased with the gowns and the positive publicity has been outstanding. Furthermore, the premiere show generated a profit which was used for a student design award.
Computerization of functions within the apparel industry allows manufacturers to compete more effectively in the world market. Computer aided designing (CAD) used with computer aided manufacturing (CAM) contributes to reduced material costs and work-in-process time, and increased accuracy, product standardization, and product quality. CAD systems are being used by apparel manufacturers but, due to the high cost of these systems, they are not readily available in universities and colleges. However, to prepare students for employment educators need to provide students with hands-on CAD experiences. BODICE EDITOR was developed to provide an economical alternative for educators who have access to VAX computers. The objectives were:
1) to develop a program that provides CAD experiences, 2) to develop a program that simulates CAD used by apparel manufacturers, and 3) to evaluate the program's effectiveness related to student's computer anxiety and attitudes towards the use of this program.

BODICE EDITOR enables the user to design garments, using bodice basic blocks, by moving or combining darts, converting darts to fullness, converting darts to seams, adding fullness, lengthening the pattern, creating new neckline variations, or adding extended openings and facings. Completed designs can be printed for evaluation and testing on a standard half-scale dress form. Menu and message areas are provided on the screen to guide the operator through the designing process.

The BODICE EDITOR program has been used for three semesters in flat pattern classes to a total of 46 students. Before using the program, students complete a Computer Opinion Survey (COS) (Montag, Simonson, & Maurer, 1984), designed to identify student's anxiety about computers. After completing the assignment students are given an Agreement Attitude Rating Scale (AARS) to determine the direction and intensity of their attitudes for this computer program. The AARS, developed by the author following procedures outlined by Henerson (1978), consisted of 20 statements addressing four areas: use of computers in a flat pattern class, factors relating to the class assignment, relationship of the program to computer use in industry, and appropriateness of BODICE EDITOR as a class activity.

The COS instrument had a reliability of .95 and the AARS had a reliability of .92, indicating internal consistency within each instrument. Results revealed a tendency for students with higher computer anxiety to be more negative toward the computer lesson. Future exercises can be developed to reduce the anxiety before introducing the computer assignment. Following are some of the highlights of the students' responses: 79% felt using computers in class was meaningful; 86% indicated that the assignment helped them to understand how computers are used in the apparel industry; 93% agreed that making patterns on the computer was a good use of class time; 93% thought the Manual was easy to understand; and 79% agreed that this activity was appropriate for the class.

In addition, students were asked to write statements on their feelings about using the computer program. Example responses included: "I liked how easy it was to change a line, dart, etc.", "I gained more confidence working with computers.", "The program was easy to understand.", "I like working at my own pace.", "I gained new knowledge.", and "Instructions were well written."

BODICE EDITOR has been developed to simulate CAD programs designed for the apparel industry but at a fraction of the cost. Since this program was developed for instructional use, it is very user friendly and can be operated with minimal direction. A manual has been developed to assist the operator in using the Bodice Editor program.

USING PAINT SYSTEMS TO TEACH COMPUTER-AIDED TEXTILE DESIGN

AND FASHION DESIGN

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As the fashion industry increases its use of design-oriented computer technology, exposing the fashion student to the computer in the classroom becomes critical. However, small educational institutions can barely afford the technology developed for the industry by companies such as Gerber, Lectra, and Microdynamics, that integrate the design, patternmaking, grading, and marking phases of production. The microcomputer is the only realistic alternative, and when used with a paint system, it becomes a versatile and cost-efficient vehicle to emulate the design phase of the more costly systems.

Some universities have harnessed the microcomputer with CAD software as an alternative to the expensive systems, enabling the student to develop technical sketches and do patternmaking, grading, and marker-making. Paint software is probably a better choice for fashion sketching, presentation, and the surface design of textiles, and it is easier to teach and quicker to master. The advantages of paint systems over CAD software are:

1) Paint systems are generally available at lower and accessible prices.

2) Paint systems offer the designer 256 colors, or the combinations of those, which produce 16,000,000 possibilities versus the eight colors available using CAD software.

3) Paint software works by activating graphic tools with a cursor as opposed to the commands of CAD, which must be learned first and then typed from the keyboard.

4) Paint systems yield a more delicately drawn image with greater potential for realism.

CAD software is the superior choice when accurate measurement is critical.

A course using paint software is especially worthwhile for students in fashion design and illustration, textile design, and graphic design. The student gains exposure to the computer, learns the related terminology and how the computer operates. The software provides tools and menus to draw curved and straight lines, hollow and filled circles and squares, different font types, and to cut out an image, store it, reverse it or copy it. A peripheral attachment called a stylus and pad may offer alternate manipulation ease to the mouse.

The course is most valuable if students have had previous drawing experience. Currently, it is taught to seniors who have met most of the competencies in their major field.

The main thrust of the course is to teach applications to the industry. Textile design students develop motifs and place them in a variety of repeats and colorways for printed patterns and create designs for embroidery and quilting. Graphical design students develop ads and illustrations in a variety of layouts, capitalizing on the wide choice of fonts. Fashion students create and view a design in a variety of colors and patterns. They stockpile design ideas, coordinate different parts of a line and experiment in illustration styles.

The course received praise from students, faculty and administration, especially for the clarity and color range of the end products. Because of the course experience, a few students gained internships with small businesses that had just purchased computer systems.
As competition among retailers stiffens, store layout and merchandise presentation are becoming increasingly important as means of enticing customers. However, students often do not experience this process until they enter the work force. While traditional merchandising courses require students to draw simple layouts by hand, computers allow them to experience merchandise presentation dynamically.

To enliven the merchandising process, a tutorial was developed for use with AutoCAD software. It teaches students the basics of floor merchandising and progresses to layouts for several kinds of stores, merchandise, sales, and promotional events. Accommodating wheelchair users and other persons with special needs is stressed. In addition, students learn to transfer information from their floor plans to database programs in order to perform calculations and create reports.

The tutorial is designed for novices as well as advanced computer users. This enables more educators to provide students with CAD and database skills without being experts in the use of the software themselves. All necessary information is included in the package, permitting minimal start-up and training time.

As well as a student work disk that holds a variety of files, the package includes custom menus with floor plans, fixtures, macros for performing specialized tasks, and other items. The floor plans include the actual layouts of department, specialty, and discount stores, such as Gottschalk's and Ross's Discounts. The numerous fixtures available in the menus were taken from suppliers catalogs. Along with time-saving modifications of existing AutoCAD commands, the menus contain new commands created especially for store layout with AutoLISP programming language. Other files and macros enable students to export information from their drawings -- such as fixture, type, model number, and location -- into other programs for analysis.

The instruction booklet contains step-by-step directions for each exercise, taking students from operations as basic as opening their drawings to creating original, detailed floor plans. Students enrolled in merchandising and interior design programs in two states have used the software and documentation and have provided input. Retailers have also reviewed the package and provided input to make it more closely resemble actual store operations and to make it a tool that they themselves can use. Interior design faculty have provided input as well. As the package is perfected, it will be available to faculty at other universities for testing and use.

An additional advantage of the merchandise presentation package is that it provides students with a variety of materials for their portfolios. This gives potential employers visual evidence of the quality of the student's education and of her/his ability to handle layout and presentation problems that merchandise managers and other retail personnel encounter several times a week.
"Portfolio in Motion" is a student produced fashion show, providing students enrolled in Fashion Show Production and Independent Study the opportunity to work together toward a common goal: to produce the best possible fashion presentation. This spectacular show features clothing created by fashion design and fashion merchandising students during the academic year, and is in effect, a portfolio in motion.

In 1978, a one credit Fashion Show Production course was initiated at Marymount University. By 1989, the course, which had previously been expanded to three credits, not only increased its enrollment from 27 to 44 students, but also incorporated more professional experiences and projects related to the fashion industry. Offered during the spring semester each year, the quality of the show evolved to a high level of professional excellence. While earlier shows included clothing from retail stores and student work, student creations had become so professional, faculty determined student work could stand on its own. Thus, the start of a completely original and very successful fashion show presentation, "Portfolio in Motion".

The teaching strategy for Fashion Show Production is to provide students with a wide knowledge base of professional presentations at the trade and consumer level, with instruction and hands-on experience in producing a very creative and technically correct runway fashion show.

At the academic level, students are tested on both lecture and text material. Four projects, counting for a total of 20%, dealing with fashion show development, show writing, trend forecasting and video design were assigned throughout the course. A fifth project, counting for 30% of the grade, required each student to plan on paper all aspects of a fashion show for any target audience of the student's choice. Throughout the course, students also actively participated in professional shows including GQ Men's Show, Multiple Sclerosis Charity Show, 1989 Hispanic Art and Fashion Extravaganza and the Cherry Blossom Fashion Show.

While the course's sixth and major project, production of the student show, "Portfolio in Motion", accounted for 30% of the student's grade, the show also enabled more advanced students enrollment in independent study projects, providing leadership assignments in show planning, presentation and production.

The Fashion Show Production course resulted in carefully orchestrated, professional presentation, filling the hall to capacity with campus administrators, students and local professionals in the field. All comments regarding the quality of the production were extremely positive. A video of the show was produced by an outside source and aired on cable television.

Two tools were used to evaluate the show and course. First, students were asked to compare their presentation to those of past student and professional shows participated in or seen. Second, students anonymously evaluated the course itself, including content, methodology and relevance to the program. Both show and course evaluations were highly positive and stressed the excitement and pride generated by producing a professional quality show. Further, the video of 1989's "Portfolio in Motion" will serve as an evaluation tool for future Fashion Show Production classes.
Experiential activities are important elements of a fashion merchandising curriculum. They give both faculty and students an opportunity to gain exposure that is often not possible in regular program offerings. Many fashion merchandising educators neglect to develop experiential activities because of the time, money and effort involved. Also, the selection and planning process can be intimidating, especially when the success of many experiences depends upon input and cooperation of people in the business community.

Our University has an experiential component as an integral part of its fashion merchandising curriculum. The activities are used to supplement basic program offerings and to accomplish general and specific program objectives. In selecting and planning learning activities, we consider how the types of activities meet program objectives and students' personal and career objectives.

The experiential component consists of the following options: international and domestic travel/study programs, semesters abroad, one-year and one-month visiting student programs, internship, supervised work/study course, two-day field trips, and one-day local field trips. Students may incorporate one or all of these options into a four-year course of study. The variety of experiential options allows students to reach beyond normal program offerings and select activities in keeping with their economic resources.

There are several aspects of the planning process. The financial aspect of implementing experiential learning is important to the university because direct expenses of these activities are not included in the department's regular budget. In planning experiential activities, faculty use a formula to ensure that the direct expenses associated with the options are covered; thereby, making all experiential activities self-funding.

Other aspects of planning include: the development of objectives for each option, identifying and defining roles of experiential directors, identifying and establishing contact with industry resources, developing a master schedule of appointments and visits, and addressing liability concerns of program directors and administrators.

Over six years both student and faculty evaluations have resulted in experiential options being deleted, revised and expanded. Because of the success of the fashion merchandising model plans to develop additional options in other departmental majors are underway.
For us who teach apparel design, the challenge is to find new methods to stimulate the creative process and find new formats and sources of funding to display the results of this creativity. What follows is a description of two joint projects with one of our local museums, that provided an exciting way to meet this challenge.

The Higgins Armory Museum displays one of the largest collections of Medieval and Renaissance arms and armor in the Western Hemisphere. The Museum's Director and I arranged for my design students to participate in the reopening celebration of the Museum's newly renovated galleries by mounting the first exhibition to be held in the "temporary exhibits" gallery. Our Exhibition, entitled "Peplum, Fanes, Cuts, and Slashes", had as its theme contemporary apparel inspired by Medieval and Renaissance costume. The contemporary apparel was researched, designed, drafted, and constructed by my design students. Eighteen pieces were chosen for display in the gallery: included were childrenswear, eveningwear, bridal, wearable art, menswear and maternity. Each garment was mounted on a dress form and was accompanied by a wall plaque which included the designer's name, an illustration of the historic costume that inspired the contemporary piece, and a brief written description of the adapted features of the design.

The planning and execution of this Exhibition extended over eight months prior to its opening. The Director of the Museum arranged and funded publicity, development and mailing of invitations for opening night, printing and photography for the wall plaques, painting and lighting of the gallery to coordinate with the colors of our pieces, and the opening night reception. My responsibilities included development and printing of the specific guidelines for submission and judging of the items, supervising student's research and design of the garments, arranging for the jury to select the final garments, providing dress forms and supplies for the Exhibition, and mounting and arranging all the pieces in the gallery.

The benefits of this type of joint effort are numerous. It gave our design program excellent exposure to thousands of Museum visitors and resulted in several newspaper articles. It gave our design students an exciting and creative challenge in researching and designing apparel. It gave the Museum a way to attract many new visitors and complemented the Medieval and Renaissance armor on display in the other galleries.

The Exhibition was open for five months. It was so popular that it was extended four weeks beyond the scheduled closing date. With this high level of community interest it seems that this type of project could be initiated and carried out successfully by other colleges and museums throughout the country.

The success of our first joint project led to another that was just recently completed. Design students in my functional clothing course were provided with funding from the Museum to design, draft, and construct a children's "try-on" collection of Medieval and Renaissance reproduction costumes. The design students' sketches were presented to the Museum staff who chose twenty ensembles for three separate age levels of boys and girls. The designs included gowns, doubles, breeches, tunics, shoes, and headgear. All the pieces were designed to withstand frequent washings and the usual abuse given to clothing worn by children at play. The garments were also designed to make them easy to put on and take off.

As a result of our work with the Higgins Museum, other museums in our local area have approached us with offers of gallery space and funding for exhibitions. Our newest project is an Exhibition entitled "Design Expectations '89", which will be mounted at the Danforth Museum of Art, in which we will show thirty five contemporary apparel designs to showcase our senior designers.
In 1988, apparel and fashion merchandising faculty initiated a program of education and research involving Fotrama, a handicraft cooperative headquartered in Cochabamba, Bolivia. The cooperative membership comprises some 1500 Quechua Indians who knit and weave garments, rugs and tapestries from yarns spun from alpaca and llama fibers. Fotrama is one of the few crafts cooperatives in Bolivia that is vertically organized. All aspects of production are controlled from maintenance of the alpaca herds, to distribution of products to domestic and international markets. To date, Fotrama has attempted only limited export efforts. A desire of co-op members to improve their product lines and marketing endeavors led a cooperative representative to contact university apparel design and merchandising faculty.

An agreement was reached by which participating faculty would, through classroom work and research projects, address Fotrama’s request for design, quality control, and marketing advice and assistance, thus satisfying both the educational and research priorities of the university and the special needs of the cooperative.

Starting with fall of 1988, faculty members incorporated aspects of the joint project into two of their classes, knit design and technology and the fashion merchandising practicum. Graduate studies included an investigation of the feasibility of marketing Fotrama knitwear via a mail order catalog and an analysis of sizing problems.

In the knit design course, thirteen students accomplished the objectives of research design and production of scarves and sweaters incorporating traditional Bolivian motifs. Selected garments were photographed or remade in alpaca and presented to Fotrama as examples of designs reflective of tastes typical of the U.S. market.

Twenty-five fashion merchandising students enrolled in the practicum viewed the alpaca knitgoods from a retailing perspective. The objective was twofold: (1) to expose them to procuring and merchandising Bolivian knitswear, and (2) to assess the marketability of Fotrama inventory among American consumers. Student buyers ordered 108 sweaters, scarves and shawls and dealt with freight, brokerage and customs; they developed a logo, brochure and hangtags as part of a promotional strategy.

The results of these projects were evaluated and incorporated into a report that was presented to Fotrama during a site visit. Three university faculty spent ten days at Fotrama’s facilities studying the spinning and dyeing, quality control, inventory, distribution, knitting and finishing operations. They also traveled to rural areas to document regional center operations and to the Altiplano to observe the alpacas. At the end of the trip, faculty members submitted a second report to Fotrama summarizing their observations and recommendations.

Continuing research and classroom activities include market analysis, textile research, product design for export, development of additional merchandising strategies, incorporation of information into an international sourcing course, and the design of educational and training materials.
CLASSIFICATION OF FEMALE CLOTHING TRAIT WORDS

BASED ON EVALUATIONS OF ITEMS OF CLOTHING

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Clothing is expressed or evaluated by means of a great variety of trait words. How to select the trait words is an important topic for studies relating to clothing evaluation. The purpose of this investigation were: (1) to classify female clothing trait words into a few clusters on the basis of evaluations of clothing, and (2) to find out the dimensions of clothing evaluation.

Photographs of items of female clothing were selected from magazines and catalogs. From these photographs, five kind of clothing were drawn; (A) yellow blouson and black straight skirt made of leather, (B) white blouse and beige tailored suit, (C) blue sweat shirt and jean pants, (D) light blue cardigan jacket and white gather midi skirt, (E) deep red cardigan suit of hour-glass silhouette. These photographs were reproduced as an 8.0 x 11.5 cm color print in which the backgrounds were cut away. The Word Rating Scale developed in a previous study was used. The rating device consisted of 60 descriptive or evaluative adjectives on a five-point scale ranging from "extremely well" to "not well at all". Participants in this study were female college students who ranged in age from 19 to 20 yrs. Each subject completed the word rating scale for each of the five photographs.

Proximities were computed to obtain the measures between each pair of 60 variables. Cluster analysis of the 60 x 60 proximity matrix resulted in a dendrogram consisting of 10 basic clusters: (1) loud, (2) fashionable, (3) unpleasant, (4) casual, (5) youthful, (6) conventional, (7) unrefined, (8) dressy, (9) basic, and (10) sophisticated. The dendrogram showed hierarchical clustering scheme, cluster (1) through (5) joined to form a cluster, which consisted of those clothing trait words representing a strong image. By contrast, the cluster which consisted of clusters (6) through (10) could be interpreted in terms of a weak image.

In order to examine the dimensions in clothing evaluation, and to coordinate the trait words in the dimensional space, multidimensional scaling was applied to the 60 x 60 proximity matrix. Three dimensions were obtained, (1) loud and conventional, (2) dressy and casual, (3) decent and unrefined. This indicated that there were 3 basic dimensions in evaluation of items of clothing, although items of clothing were evaluated by means of a wide variety of words.

Sixty trait words were plotted in three dimensional space and were clustered visually, based on the distance among the words in the space. The same number of clusters as those obtained from the cluster analysis could be coordinated in three dimensional space. This represented the features which located the clusters to each other; the clusters (1) through (5) were coordinated at the left side of the loud/conventional dimension and the clusters (6) through (10) at the right side of it. It was also found that cluster (2) fashionable and (3) youthful were coordinated closely, while they were merged at a high level of the distance measure in the dendrogram.

INDSCAL model in multidimensional scaling was applied to the measurement of the clothing differences in the way of the evaluations. The weights for each clothing on the three dimensions mentioned above well corresponded to the general trait of the clothings used as stimuli.

Reference

Review of clothing related literature indicates a lack of theoretical foundation for analyzing perceived clothing problems. The majority of studies, most of which occurred during the late 1960's and early 1970's, were concerned with the clothing practices of low-income families. In addition, a few investigations which attempted to measure clothing problems actually yielded problems identified by the researcher, not the respondents.

The purpose of the present research was to provide an operational framework for categorizing perceived clothing problems, based on an empirical investigation. This structural categorization may be useful to future researchers in the area of textiles and clothing. Sletten and Petrich (1983) identified ninety-eight clothing problems, which were subjectively classified into six categories. For the purpose of cluster analysis, below, it is assumed that these ninety-eight items can be objectively partitioned into six mutually exclusive and exhaustive subgroups.

Subjects for this study consisted of fifty-six graduate and undergraduate college students enrolled in upper level textile and clothing classes and six faculty members who have taught clothing related courses at a midwestern university. The subjects were administered the list of ninety-eight clothing problems and asked to classify each problem into one of the six following categories related to: 1) Social Acceptability, 2) Marketplace, 3) Maintenance, 4) Sewing, 5) Quality, and 6) Inability to Purchase.

A similarity matrix of dimension 98 by 98 was formed. Elements of the matrix were the simple frequency with which subjects paired any two clothing problems into the same category (similar to the procedure used by Buckley, 1985). Cluster analysis was applied and completed by using SAS disjoint cluster analysis (VARCLUS procedure). This procedure divides a set of variables into nonoverlapping clusters and tries to maximize the total variation accounted for by all cluster components.

Based upon the preestablished number of clothing problem categories as identified above, a six-cluster solution provided the following results. The portion of overall variation of the ninety-eight items explained by the six-cluster solution was 77 percent. The explained within cluster variations for Social Acceptability, Marketplace, Maintenance, Sewing, Quality, and Inability to Purchase were 81, 74, 80, 72, 81, and 74 percent, respectively. In addition, the numbers of problems falling into each cluster were 27, 24, 12, 15, 11, and 9 respectively.

The analysis was further extended by allowing each of the six clusters to split and form new groups until the most popular criteria for a single underlying factor dimension was satisfied. As a result a 12-cluster solution was emerged, explaining 85 percent of the overall variations of the 98 items. An examination of the items of each cluster and comparison across clusters suggest that a 12-category model is superior to a 6-category model and can be used as an operational framework by researchers in assessing clothing problems.

An extension of this research, currently undertaken, is the identification of the underlying cluster components and therefore the reduction of 98 clothing problems to a set of summary statements which can be used in future research.

References


Increasing concern for the graying population and the importance of having good quality long-term care for them is supported by several medical and non-medical professionals in the United States. Most of the prior work on older consumers yielded an abundance of information on medical and social issues, and ignored the socioemotional needs of residents. Panicucci (1984) argued that a functional approach in geriatric practice should focus on the patient's coping abilities rather than just diagnosis of a disease. This author's previous work suggested that clothing can enhance the coping potential of elderly females by making them feel good about themselves. Empirical and theoretical work support this linkage for younger populations and the institutionalized elderly female. Therefore, the researcher has examined the influence of the clothing option (freedom in choosing apparel for use) on the self-esteem (feelings of self-worth) of the institutionalized elderly male (those over 65).

A two-group pretest-posttest design was adapted to three phases for conducting this research. In a Veterans Administration Hospital housing 52 residents, 12 male residents (those over 65) participated in the study. Two groups of six men were used for this experiment. Rosenberg's (1965) instrument was used to measure self-esteem for each phase. The clothing option measure was adapted from the author's previous instrument to make it appropriate for male elderly. To control for the influence of the "receiving gift" factor, one of the groups received the garment they asked for, and the second group received what the researcher determined to be functional and practical for them. Descriptive statistics and paired t-tests were used to analyze the data.

The findings indicated that the mean age of the group was 78.4 years with a range from 66 to 93 years. Results from Phase I revealed that a majority of the respondents opted for dress pants or shirts (54%), blue color (57%), and plain fabric (50%). Their fiber-content preferences ranged from anything to polyester, polyester/cotton, and others. After receiving the garment in Phase II, all of the participants perceived the garment as an added option in their wardrobes. Also, color was reported to be the most liked aspect and "nothing" as the least liked aspect. The results from Phase III indicated that a majority of the respondents wore their garments from 1 to 4 times in the two-week duration. After using the garments for two weeks, a majority of the respondents mentioned color and "everything" as the most liked aspect of the garment received and "nothing" as the least liked aspect.

The findings from t-tests indicated that self-esteem scores of the respondents improved significantly (p<.01) for the entire group from Phase I to Phase II. Unlike the previous work with institutionalized females, differences between the group that received what was requested as opposed to the group that received something were not significant. Although a decline in the self-esteem scores (p<.05) was observed during Phase III, a comparison of self-esteem scores from Phase III with the scores from Phase I indicated that respondents demonstrated a significant increase (p<.05). However, it could not be determined specifically what contributed toward their enhanced self-esteem: receiving something, receiving a clothing item, or the act of letting them select from possible options.

The results suggest empirical justification for the proposed linkage between clothing and self-esteem of elderly males, and offers a coping tool to enhance their psychological selves. However, repeating this research in other locations and using personal items (other than clothing) could improve generalizability.


The purpose of this research was to document change in the production of "geringsing", double ikat textiles in Tengannon, Bali, Indonesia. The objective was to discuss change and any continuation in terms of technical and cultural aspects including the status of women in this traditional "Bali Aga" hindu village where customs change little.

Textile experts and anthropologists have documented ikat production and ceremonial and village life here. However, documentation of continuation of the technique and meaning are not being currently explored.

The research methodology included a thorough review of literature in all areas related to ikat production and cultural village life. The field research was conducted between 1986 and 1988 during four trips and is ongoing. Interviews were often in English with an interpreter when needed. New information was obtained due to access to weaver's homes. Extensive photodocumentation and visual accounting were used.

From 1986 to 1988 traditional patterns were still being made with natural dyes using the old methods. In 1986, four elderly women were the master weavers. In 1986, young girls were receiving instruction on the ikat process. In 1988, a few teens, were producing "idup cepuk", a single ikat which is easier to learn.

Urs Ramseyer of the Museum fur Volkerkunde had done extensive videotaping of the master weavers. In an interview, Ramseyer thought that perhaps this had helped to renew interest in weaving.

The study focuses on three key weaving families and a discussion of the family of Nyoman Diani aged twenty-nine who has mastered several patterns and helps run the family shops where ikats and other textiles are sold. Implications as to what her weaving ability will mean in terms of economics are discussed. By 1988, three of the elderly master weavers had discontinued weaving due to age.

Documentation, including slides or photographs include production and ceremonial use of the double ikats at major village festivals where all the villagers wear the traditional "geringsing" and the women are crowned in gold. The accentuation of an already rich culture by the use of these beautiful unique textiles paints a more intriguing picture. The ceremonial use of these textiles creates the implicit need for continuation of the weaving tradition instead of a monetary need. Most tourists who do not understand the process are not willing to pay for a unique "geringsing" whose meaning eludes them and settle for a less expensive souvenir from Tengannon.

It appears that traditional weaving has increased; however it will be necessary to monitor progress of intermediate and new weavers.
CLOTHING INTEREST: A CROSS CULTURAL ANALYSIS

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Even casual observers can note the differences in clothing behaviors among peoples of different cultures. The question can be asked whether these differences are due to the influence of current fashions or due to basic attitudes toward and interest in clothing. Clothing attitudes and interests are related to general and clothing values, and these in turn can be attributed partly to a person’s cultural background. In other cross cultural research, differences were found between emphasis put on clothing, interest in fashion, emphasis on quality, store services, costs, and other demographic data. Little research has dealt with specific clothing variables.

In this research differences in the strength of five dimensions of clothing interest between students attending universities in South Africa, Korea, and the United States were investigated. Female students enrolled in colleges or schools of home economics were asked to complete a clothing questionnaire containing items purporting to measure five clothing variables: modesty, conformity, clothing interest, self concept, and psychological awareness. Responses were obtained from 164 Korean women, 136 students from Pretoria, and from 169 students in the United States.

Mean scores were analyzed by Z-tests and independent T-tests. Because of the possibility that scores were influenced by semantic differences among the cultures, a factor analysis, using the varimax method rotated to optimal orthogonal structure, was done separately for all three groups.

The three groups scored significantly different on three of the five dimensions that were measured. Significant differences were found between all groups on items that measured clothing interest. Differences were found between two of the three groups (but not between all three groups) in modesty and self-concept. There were no differences on the conformity and psychological awareness dimensions.

One problem with cross cultural research is that most measuring instruments were developed and used in American populations. An instrument that has demonstrated validity in one country may not have the same validity in another. Factor analysis was used to determine the validity for using the Gurel-Creekmore Clothing Questionnaire in this research. For the Yonsai sample, 40 of the 57 items (70%) loaded onto the same factors as in the American study. Responses were even more similar to the results obtained in a 1978 study by Borsari using the same instrument (84%). However, in the South African study only 37 out of the 57 items (65%) loaded on the same factor as in the United States study. Here, too, the factor loadings were more similar to the earlier work while for the United States group the responses remained stable.

The implications of these agreements with information collected more than ten years ago is interesting and needs further investigation.

Although the results of the factor analysis indicated that there were sufficient similarities in interpretation across the three cultures to lend credence to the results, subtle differences do exist between cultures in interpretation of statements. Measuring instruments used in other countries should be thoroughly tested for validity before any general conclusions can be drawn.
Although several studies have investigated what is perceived as appropriate dress, most have not looked at those in retail establishments. Yet, the majority of the students in Clothing and Textiles enter some area of clothing retail. Therefore, the objectives of this study were to determine: (1) what was perceived as appropriate attire for females in retail management positions by those in retail positions and (2) if differences existed with respect to personal and company variables.

To measure the perceived appropriateness, a questionnaire obtained input on 17 components of attire including such things as: type ensemble, fiber content, cut/style, length, pattern/texture, and color of outerwear, blouse, shoes, hosiery, and/or hair, as well as jewelry, makeup, and accessories. Under each component a number of possible options were given and respondents indicated the appropriateness using a 5-point Likert scale from most appropriate, somewhat appropriate, neutral, inappropriate, to totally inappropriate. The independent personal variables included the sex of the respondent, their position (owner, buyer, store or department manager, or manager in a support area), the length of time within that position, and the department within which they worked. The company variables included the size of the store and whether it was located within a shopping center or not. Statistical analysis included factor analysis, MANOVA, and Tukey's multiple comparisons test. Significance was set at the .05 level.

The questionnaire was distributed to 325 males and females in clothing retail stores in a metropolitan area in the midwest. All those completing the questionnaire were assistant managers or above. A total of 124 were received for a 38.15% return.

Unexpectedly, the results revealed that even in clothing retail, the most appropriate attire was the more conservative items. This held true across all 17 components of attire. For example, the most appropriate attire was perceived as:

1) a major ensemble consisting of a tailored skirted suit or other outfit with jacket, in a solid color of neutral or blue, in a natural fiber, with a skirt length just below the knee;
2) a blouse or dress in a simple cut, with long sleeves, in a solid color with the blouse white or off-white;
3) pump style shoes with a 1 1/2 inch heel in any basic color; and
4) neutral colored hosiery. Most types of jewelry, makeup, and hair color/style were perceived as appropriate with the exception of either heavy or no makeup. Perceived as NOT appropriate were items of a feminine or sexy nature, as well as sleeveless outfits and shoes which were high platform, laced, or sandals.

Using principal component factor analysis with quartimax rotation the components of attire loaded into eight factors. These were analyzed with MANOVA to determine if differences existed with respect to the personal and company variables. Accounting for the most significant differences were department on four of the eight factors, followed by position and length of time on two factors each, and location on only one. However, Tukey's multiple comparisons failed to identify where the significant differences were with three of these. Neither the sex of the respondent nor the size of the store revealed any significant differences on MANOVA.

These results suggest that, with a couple of exceptions, what is considered either appropriate or inappropriate holds true irrespective of personal or company variables. This is in opposition to a previous study by the author in which sex was identified as the major difference in what was perceived as appropriate for females in business positions, other than retail.
AN EXPERIMENTAL ANALYSIS OF THE EFFECT OF SALESMAN'S CLOTHING

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Consumer behavior researchers' historical focus on the actual buying process and whatever activities precede purchase has recently been enriched by an interest in the symbolic meaning of items of consumption and the communication aspects of the use of product, i.e., the semiotics of consumption. Specifically, it is suggested that products such as clothing provide a complex sign or symbol that communicates messages about the user (e.g., Holman, 1980). Recognizing this important function of clothing, many companies have historically regulated the dress worn by their sales representatives even though they lack a clear understanding of the messages conveyed.

The current study looked at clothing as communication within one area of interest, i.e., the dress of members of a sales force within a specific industry (hospital sales) and sought to identify the influence of clothing choices on attitudes toward a hypothetical salesman and the company which he might represent.

Photographs of actual hospital supply salesmen and the subjective judgment of the researchers were used in developing 7 "typical" outfits to serve as the experimental manipulations: 1) three piece suit, 2) dark navy two-piece suit, 3) medium gray two-piece suit, 4) sport coat and slacks, 5) European look, 6) casual look, and 7) a "tourist" look. Subsequently, a model was photographed wearing each of these outfits with care being taken to insure that the model was in an identical position (hands, feet, eye focus, etc.) in all seven photographs.

Based on pretesting, a list of fourteen adjective pairs relating to characteristics of an individual salesman and nine relating to the company a salesman might represent were included in a self-administered questionnaire. Items regarding the size and type of the hospital and age, experience, and sex of the purchasing agent were also included.

A sample of 645 purchasing agents were mailed one of the seven photographs, the brief questionnaire, a cover letter explaining that the study was about salesmen but not mentioning clothing was an aspect of the study, and a postage-paid return envelope. Two hundred, twenty questionnaires, or a minimum of 24 per manipulation were returned and used in the analyses.

Analysis of variance procedures and Newman Keuls tests of significant differences were used in examining the differences in the perceptions of the salesman and the company represented by the salesman in the seven photographs. For all items except two, there were significant differences among the clothing combinations. The most consistent differences were between the four more typical outfits (3-piece suit, dark suit, light suit, and sport coat-slacks combination) and the three less typical (European, casual, and tourist) looks.

When, however, the four typical outfits were evaluated separately from the other three, the salesman in the sport coat/slacks combination was seen as a significantly poorer dresser and as more liberal than the salesman in the dark suit. Similar differences were evidenced in evaluation of the company which each salesman might represent.

The results suggest that clothing provides a form of communication not only about the wearer of the clothing but, in business, about the organization which an individual represents. Of equal interest, however, may be that within the range of normally accepted attire, such differences are generally insignificant. For example, while the three-piece suit is considered currently "out of style," wearing the outfit did not significantly change evaluations of either the salesman or the company downward.

References

Many working individuals are receiving an informal education on both corporate culture and their own business environment through a unique learning experience called a mentoring relationship. These relationships take place when a more experienced, higher ranking individual (mentor) provides various types of career support and guidance to developing, less experienced individuals (protege). Current researchers have explored mentoring relationships in general, but little is known about how mentor gender affects the characteristics and operational activities of these developmental strategies.

Therefore, the purpose of this study was to determine mentor gender differences in the characteristics, benefits, and functions of mentor-protege relationships experienced by women in retailing. Subjects selected in this study were 1) middle and upper level female retail executives listed in the 1987 department, discount, and specialty store directories, 2) were identified by gender specific names, 3) were employed by retailers that listed ten or more executives, and 4) held a position not visibly due to family ownership. Survey questionnaires were sent to 466 systematically randomly selected women from the Southwestern Region of the United States and 81 returned usable questionnaires indicating they had been mentored only by male individuals or only by female individuals.

Data analysis indicated that women who were mentored by individuals of the male gender were earning significantly more in wages \((P < .05)\); were more likely mentored by individuals higher up on the organizational chart \((P < .01)\); placed more importance on the "Ability to work well with others" as an important characteristic which helped them gain a mentor \((P < .05)\); and experienced significantly more "Sex related problems" \((P < .05)\) than did women who were mentored by other women.

Subjects who were mentored by individuals of the female gender reported significant differences in only two areas. Specifically, female mentors more often "Served as a role model for setting attitude, value, and behavior examples," and "Enabled the exploration of personal concerns" \((P < .05)\).

Overall, few significant differences were found in the characteristics, functions, and benefits being reported by individuals experiencing male vs. individuals experiencing female mentoring relationships. Additional research to learn more about the effects of mentor gender on mentoring relationships would seem to be particularly useful and have implications for the advancement of women in retailing.
Research has demonstrated that attributions concerning responsibility for a sexual assault are influenced by appearance factors of the victim such as clothing (Lewis and Johnson, 1989). This research suggests that individuals believe sexual assaults can be provoked by a victim. It follows that attributions concerning responsibility for sexual harassment (which some writers have suggested is just a milder form of sexual assault) might also be influenced by appearance of the victim. Utilizing attribution theory, the purpose of this study was to determine if cosmetic use influenced attributions concerning sexual harassment as "provoked" by a victim and if cosmetic use influenced attributions concerning likelihood of being sexually harassed.

Method. The study was a single factor design with three levels of cosmetics (heavy, moderate, none). Each subject viewed one of three colored photographs of a professional model wearing either heavy, moderate or no cosmetics and indicated how likely she was to provoke sexual harassment by checking 7-point Likert-type scale. The eighteen item scale included likelihood of: being treated with respect, encouraging close physical contact, being propositioned and provoking sexual harassment, among others (reliability = .83). Subjects were also asked to rate the likelihood of the model being sexually harassed, to indicate if the level of cosmetics worn by the model was appropriate, and to indicate their confidence in their ratings. One additional item, amount of cosmetics worn by the model, served as a manipulation check.

Subjects. Eighty-nine undergraduates volunteered to serve as subjects (females= 85; males=4). Subjects ranged in age from 18 to 26 with 98% of the subjects under age 24.

Results. Mean ratings for amount of cosmetics worn by the model indicated that the experimental manipulation of this variable was successful (heavy condition M=5.33; moderate condition M=5.26; no cosmetic condition M=4.96). Subjects indicated that the moderate amount of cosmetics was the most appropriate (M=5.33) followed by the heavy amount (M=4.26) and no cosmetics (M=3.41) p<.05. Overall, subjects indicated they were confident of their ratings, (M=5.10, I=not confident, 7=confident). Analysis of variance resulted in a main effect for cosmetics, F(2,81)=8.17, p<.001. The model appearing in heavy cosmetics was rated highest on likelihood of provoking sexual harassment (M=61.21) followed by moderate cosmetics (M=52.65) and no cosmetics (M=46.85).

Newman-Kuels test revealed the mean of the heavy cosmetic condition was significantly different from each of the means of the other two conditions, p<.05. Analysis of variance on the item "likelihood of being sexually harassed" also resulted in a main effect for cosmetics F(2,86)=3.84, p<.03. Results revealed the model in the no cosmetic condition was rated as the least likely to be harassed (M=2.10) followed by the heavy cosmetic condition (M=2.93) and the moderate condition (M=3.10). Newman-Kuels test revealed the mean of the no cosmetic condition was significantly different from each of the means of the other two conditions, p<.05.

From these findings it could be concluded that impressions of provoking sexual harassment are tied to amount of cosmetics worn (heavy user perceived as more likely to provoke sexual harassment than either moderate or non-user). On the other hand, impressions of likelihood of being sexually harassed appear to be tied to whether or not one wears cosmetics at all (non-user perceived as less likely to be sexually harassed than either moderate or heavy user).

Two-thirds of pesticide application in the United States is done by aerial applicators who face the dual hazards of daily pesticide exposure and in the event of a crash, a post-crash fire. Pesticide exposure has been reported by several researchers. In the event of an airplane crash, it is quite possible to survive the crash impact since aerial applicators fly close to the ground, yet, the possibility of a fire remains a serious threat.

Two experiments were conducted to evaluate selected flame resistant fabrics on their pesticide barrier protection and flame protection properties in order to initiate research aimed at developing protective clothing for aerial applicators. Study 1, phase 1 evaluated the barrier protection property of six fabrics to full strength EC formulation of malathion. Fabric swatches were pipette-contaminated with 100 μl of malathion. Pesticide penetrating the test fabrics to the collection layer was determined by GC analysis. Phase 2 examined the fire protection properties of the new fabrics for two flame exposure times (12 and 30 sec.), using Federal test method 5903. ANOVA, Duncan's multiple range test and t test were used for statistical testing.

Results show that malathion did not reduce the flammability characteristics of the test fabrics. In fact, the pesticide-soiled fabric samples showed reduced char lengths.

Further penetration and flammability testing with additional pesticides should be conducted. Also, the influence of care procedures on penetration and flammability needs to be determined. But these early results are encouraging that it may be possible to meet both hazards with one fabric.
Consumers rely on size statements as a guide to specific garments to try on when assessing fit. In some garments the dimensions for specific areas are stated as opposed to nominal size statements. For example, on men's jeans the dimensions of the waist and inseam are printed on a back patch. If the dimensions of the waist and inseam are printed on the back patch and the measured dimensions of the jeans are different, the consumer is presented with inaccurate information. Sieben (1985), in a study measuring economic loss, observed that relatively large discrepancies occurred between the back patch and the measured dimensions of jeans of the same style by one manufacturer. In a study with boys' knitted shirts using a nominal sizing system, Chen (1986) observed variations in the measured dimensions of the same style garments from the same manufacturer.

Previous research was not specifically designed to determine if the discrepancies observed were statistically significant. Therefore, this study was designed to investigate whether there is a significant difference between the stated and the measured dimensions of garments. Differences were also examined within the subgroups of different brands and price ranges to determine whether the accuracy of size labels vary for brands and/or prices.

Men's prewashed jeans were selected as the garment category to be measured because jeans are a basic wardrobe item. Also, manufacturers generally print the waist and inseam dimensions on a back patch attached to men's jeans.

The price variable was sub-categorized into three ranges - low (up to $21.99), medium ($22.00 to $39.99), and high ($40.00 to $52.50). The low and medium price ranges included two national brands and one private label. The high priced jeans with a private label were not available in the market when the data was collected. This incomplete block design resulted in a total of eight cells. Two hundred forty samples, 30 from each cell, were included in the study.

Paired t-test, Chi-square, Analysis of Variance (ANOVA) and Pearson Product-Moment Correlation were used to analyze the data. The discrepancies between the measured dimensions and the stated dimensions of jeans were found to be statistically significant. Furthermore, the discrepancies between measured and stated dimensions were significant between price ranges. With private label jeans, there were more discrepancies between measured and stated inseam measurements than the national brand jeans.

These discrepancies are significant to consumers selecting jeans. Lacking information regarding these discrepancies they are unaware of the need to try more than one pair of jeans in their search for a satisfactory fit. At the manufacturer and retail level this type of discrepancy contributes to lost sales. Dissemination of these results to consumers through education and popular literature could increase consumer awareness of the existence of discrepancies. Once consumer consciousness is raised, they could be encouraged to provide feedback either orally or verbally to retailers and/or manufacturers regarding the acceptability of this problem. It is also important that the research findings are shared with manufacturers and to actively represent the consumer in seeking improvement in quality control at the manufacturing level.

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The essence of the marketing concept is that all elements of a business should be geared to the satisfaction of its customers. In addition to selling and distributing, the marketing concept should also include planning and development of a product. A new product should not be developed unless there is evidence of a need for it. Likewise a retailer should not stock and introduce a new product unless the retailer is aware of a group of people who are interested in purchasing it.

The purpose of this study was to survey fabric retailers to assess their perceptions of the feasibility of offering customized patterns produced by utilizing computer aided design technology. Specifically, questions addressed marketing techniques and concerns such as acceptable price of pattern, method of obtaining measurements, level of sewing ability and effect of fabric price on interest in customized patterns.

Procedure: A questionnaire was mailed to fabric retailers in the Dallas, Denton, and Fort Worth areas. A total of 45 surveys were completed by fabric retailers (57% rate of return): 24 (53.3%) from fabric chain stores; 15 (33.3%) from independent fabric stores; 4 (8.9%) from variety stores; and 2 (4.4%) from discount stores.

Results: A within subjects repeated measures multivariate analysis of variance was used to analyze the data. Results revealed a significant difference, \( F(4,38) = 144.1, p < .000 \), in judgments of acceptable price with the most acceptable price for a pattern customized to an individual using computer aided design technology being under $10.00 (\( M = 4.5 \) out of 5.0). Mean acceptability decreased as price increased: $10-20 (\( M = 3.21 \)); $20-30 (\( M = 2.07 \)); $30-40 (\( M = 1.38 \)) and over $40 (\( M = 1.19 \)). Preference for method for obtaining measurements differed significantly, \( F(4,38) = 19.41, p < .000 \). Methods which received the highest ratings were for the customer to be measured either by themselves (\( M = 3.33 \)) or by another person (nonstore personnel) (\( M = 3.36 \)) following an instruction sheet. Methods which were rated lowest were sending an existing garment that fit well to the pattern company (\( M = 1.52 \)), trying on a standard garment and recording deviations with the aid of store personnel (\( M = 1.64 \)) or measuring a similar garment that fit well (\( M = 2.21 \)). A customer's level of sewing ability was judged to significantly affect interest in purchasing a customized pattern \( F(2,42) = 21.75, p = .000 \), with advanced sewers (\( M = 4.16 \)) judged as significantly more interested than intermediate (\( M = 3.45 \)) or beginning (\( M = 2.3 \)) sewers. Fabric price was judged to significantly affect interest in purchasing a customized pattern, \( F(5,35) = 2.96, p = .025 \), with fabric prices over $5.00 a yard resulting in significantly more interest.

Conclusions and implications: One obstacle to development of this product appears to be the method of obtaining measurements. The ultimate success of a customized pattern lies with the accuracy of the measurements on which it is based. Retailers did not appear to want responsibility for measuring customers as methods which included retailer participation were rated low. The highest rating for any method was only moderate. Another obstacle appears to be price. At the present time, many noncustomized patterns sell for more than $10.00. Yet retailers perceived that as the price increased beyond $10.00, it became increasingly unacceptable. Results from another part of this study indicate a potential market for customized patterns. Pattern companies and retailers interested in exploring this new product can use this information to market customized patterns successfully. An additional benefit of the availability of customized patterns in retail outlets is the accessibility it can provide for special needs populations.
Correctly fitted clothing will provide a neat and smooth appearance and will allow movement that is free from constriction for any individual. To accomplish this, fitted garments in which seams and design details rest on the body in the correct places with appropriate amounts of ease to allow for freedom of motion are needed.

Individual bodies may be asymmetrical, requiring different fitting techniques on each side of the body. For people who have special clothing needs, the differences may be exaggerated, necessitating design changes to accommodate the body sizes and shapes. Traditional methods for producing the individualized, custom garments that are required by people with disabilities and other special needs are time and labor intensive and result in expensive one-time solutions to design problems.

For the general population, gross body measurements may suffice as a foundation for fitting garments. Many individuals with special clothing needs have bodies that are asymmetrical in configuration, requiring precise measurement techniques to produce clothing to fit. The body must be measured in quarters to differentiate the right side from the left, and front from back. This research was conducted to develop techniques for taking multiple body measurements which could be input into a micro-computer to produce altered patterns.

Students enrolled in a fitting and alterations class at a California Community College participated in a research project designed to develop, analyze, and refine body analysis techniques. The students were instructed in measurement techniques, then worked in groups of four to take their measurements. Both photo and computer generated somatographs were taken of students to provide full and silhouette graphs of their bodies.

Somatographs were analyzed by placing lines to indicate shoulder, waist, and hip levels, shoulder width, and vertical centers of the body. Shoulders, waist, and hips were checked for evenness. Body shape was analyzed. Posture was observed using the anterior silhouette.

Analysis of measurements and somatographs were made and applied to adjustments of basic dress and pants patterns which were constructed in gingham by the students. Fine alterations were made to the gingham dresses and pants and transferred to the tissue patterns. Corrected basic patterns were used to alter several commercial patterns.

The researcher measured a T-4 level paraplegic male who uses a sports wheelchair. The initial session was used for an in-depth interview to determine likes, dislikes, design features, problems and concerns regarding the subject's clothing preferences.

Basic patterns for pants and jacket were altered and constructed for the subject. Two sample garments were constructed for him prior to testing the patterns in fashion fabric. With each fitting of the suit and shirt, interviews were conducted to refine the subject's needs and preferences.

A research collaborator, an engineer from the local Veterans Administration Hospital, entered the student's and research subject's measurements into a microcomputer. The suit pattern was digitized into the computer. Alteration methodology parallel to that done by hand was electronically applied to the computerized blocks. Altered patterns were produced through a plotter program.

The methodology developed through this exploratory research was successful. Measurements can be entered into micro-computers to produce altered patterns. Further refinement of the computer methodology is needed. The technology could be successfully applied to the production of custom clothing. Because of the availability of the technology to businesses individualized clothing may be used by many individuals. This is an important component in providing functional clothing for people with special needs.

MEASURING EQUITY IN EXCHANGE SITUATIONS

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While researchers generally agree on the importance of reciprocity in gift giving, at least in exchanges among equals, the method by which to measure reciprocity is less clearly delineated. Belk (1979) refers to the expense of the gift whereas Caplow (1984) refers to value. Moschetti (1979) defines asymmetry in terms of receiving "more" than is given whereas symmetry involves receiving an equal gift in return.

This study was designed to compare two methods of measuring equity, number of gifts and value of gifts. In addition, it was intended to compare perceptions of the partners in the exchange dyad. As noted in early work on spousal influence on family purchase decisions for example, each participant in a given event may attend to and process information quite differently. Since financial and time constraints may limit researchers to collecting data from only one partner, it is important to estimate the amount and direction of bias that is apt to result.

Subjects were obtained by placing advertisements in the university newspaper and on a campus bulletin board. A small reward was offered to couples in return for describing their Valentine's Day gift exchange. Forty-two subjects volunteered and met the requirement that both partners agree to be interviewed separately.

To obtain an estimate of the number of gifts actually exchanged, partners' lists were merged and duplicates were deleted. The data indicated that males gave more than they received but by only a narrow margin (62 versus 60). Further analysis of the data indicated that males and females differed in perceptions of number of items given and received. Women's memories were equally good for gifts they gave and gifts they received; men were more likely to forget gifts given but even more likely to forget gifts they received. Stated another way, males were more likely to say they got less than their partners remembered giving. This difference was significant at \( p < .02 \).

Analysis of the cost data indicated that both males and females perceived that males spent more on the exchange than did females. Again, there was a tendency toward biased perceptions about contributions to the exchange. That is, females were more likely to overestimate the cost of gifts they received relative to what males said they paid. On the other hand, males were more likely to underestimate the value of what they received. These results, taken in conjunction with the number-of-gifts data, support contentions that males tend to trivialize females' contributions to a relationship.

An analysis of gifts forgotten by one member of the dyad suggested that non-durables were more often forgotten than semidurables and durables. These findings suggest that if one is interested in clothing exchanges alone, reports from either partner may be a fairly accurate reflection of the actual transfer of goods. However, when testing of theory depends on capturing the full range of product types, prompts may have to be added for the nondurables.


The purpose of this study was to assess consumers' attitudes toward the use of fur for coats, the obtainment of pelts, and the attitudes toward the fur coat itself. Additionally, this survey attempted to identify differences in attitudes of consumers who were exposed to negative advertising for furs and those who were not exposed to negative advertising for furs.

Research in the fur-issue is a very interesting area of study since no research of this type has been undertaken in the United States and the controversy between the fur industry and animal rights groups is intensifying.

A questionnaire was developed for data collection. It included items such as: possession of a fur coat, desire to own a fur coat, awareness of use of animals for fur coats, feelings toward killing animals for apparel, awareness of the well being of animals on fur ranches, feelings toward trapping, attitudes toward suffering of animals, and social acceptance of wearing a fur coat. General attitudes toward the fur coats were measured on a seven point semantic differential scale. Data on exposure to negative advertising of fur and selected demographics of the respondents were also collected.

The instrument was administered to 34 female graduate students at a Southwestern university. Frequency distributions, percentiles, modes, and mean scores were calculated and selected variables were cross-tabulated. The age of the sample ranged between 18 and 55 with 78 percent under 35 years of age. Eighty-nine percent were employed outside the home.

Twenty-five percent of the sample owned a fur coat and fourteen percent desired to own one. These groups had more positive attitudes toward fur than respondents that did not desire to own a fur coat. Forty-eight percent of the respondents had never been exposed to negative advertising of fur. Fifty-seven percent of the sample agreed that trapping should be prohibited and almost 40 percent were uncertain. Eighty-eight percent, however, agreed that animals suffered when they were trapped and 74 percent of the sample did mind that animals were killed for fur apparel. Surprisingly, 28 percent of the subjects wanted to wear a fur coat even if they were not sure that the animals would suffer for a fur coat. Sixty-six percent of the respondents were not aware of the living conditions of animals on fur ranches.

The results of the study imply that exposure to negative advertising of fur is not very widespread and that effects of negative advertising on attitudes toward fur coats cannot be inferred. Furthermore, the findings suggest that many people do not understand the purpose of trapping since a large part of the sample were uncertain about any prohibition of trapping practices. In this regard, there is certainly room for education concerning the fur-issue.

Since research in the fur-issue is very limited, replication of this study is strongly recommended with samples of other populations. Additionally, the effects of negative advertising in the fur business may be an interesting area of study.
REFERENCE PRICING: INFLUENCE ON CONSUMERS' EVALUATIONS OF PRICE SAVINGS

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The Federal Trade Commission lists five types of deceptive pricing which commonly occur by means of price comparisons. Price comparisons involve the use of reference pricing, such as regular/sale/compare at price combinations on products or product advertisements. With growing competition, price comparisons are increasingly being used by apparel retailers as a competitive tool in the marketplace. Consequently, the impact of these pricing strategies on consumers is of importance to researchers.

This study was based on Weber's Law (Monroe, 1979) which states that equally perceptible changes in a response correspond to proportional changes in the stimulus. Thus, if a low priced item has a selling price which is 25% lower than the regular price, then the high priced item should also have a selling price 25% lower than its regular price, in order to create the same amount of perceived savings. Weber's Law was tested by using a higher priced apparel item (suit) and a lower priced apparel item (blouse). It was hypothesized that reference price information would influence subjects' evaluations of the price level (high/low), the fair price (price consumers think the item should cost), and percent savings.

An experiment was conducted in a large regional mall in the Midwest. A 4x2 factorial design was used. Four levels of price information included 1) regular price only; 2) sale price only; 3) regular and sale price; 4) compare at, regular, and sale price. The sale price was 25% lower than the regular price; the compare at price was 25% higher than the regular price. Two levels of apparel items (blouse/suit) were used. Dependent variables were price level, fair price, and percent savings. Price level was measured on a 7-point scale where 1 meant "very high" and 7, "very low" price. Fair price was measured in dollar amount, and percent savings in percentage. A total of 320 women, 18 years and above, were randomly assigned to each experimental cell and interviewed.

Results based on t-tests and analysis of variance revealed that use of two reference prices with the sale price resulted in the lowest price level evaluations. Fair price evaluations were significantly lower when reference price information was present. Reference price information increased percent savings perceptions. Consumers perceived significantly higher percent savings for the blouse than for the suit across all price information levels. Thus, Weber's Law was refuted because the lower priced apparel item was perceived as offering greater percent savings than the higher priced apparel item. It is therefore concluded that reference price information can influence consumers' evaluations of price level, fair price, and percent savings, but the amount of influence may partially depend upon whether or not the item is higher or lower priced. Further testing of Weber's Law is recommended to determine if the findings from the present study are consistent across apparel categories and price points.

Reference
Market segmentation refers to the process of separating a market into groups of people in which the members of each group have similar needs, preferences and lifestyle. Lifestyle has been one of the important factors used for dividing a market into groups of consumers according to activities, interests, opinions, attitudes, values and/or demographic information of consumers. The application of lifestyle segmentation techniques to the apparel market has increased as the understanding and communicating with consumers in the market has been increasingly recognized by marketers and researchers. However, apparel lifestyle market segmentation studies are still limited in magnitude, particularly in developing countries. In Korea, a developing country, the importance of market segmentation has been increased; however, most of the studies used general lifestyle patterns instead of clothing-oriented ones, resulting in inaccuracies in grouping consumers purchasing apparel products. Therefore, the purpose of the present study was to apply the market segmentation framework used in the U.S. to the Korean apparel market; to identify Korean apparel market segments by using clothing-oriented lifestyle patterns measured with respect to shopping-related activities, media usage, clothing/fashion interests and self-image; and to examine if the market segments differ with respect to family income, family size, social class, importance of product benefits such as economy, fit, fashion, quality, comfort, sexual attractiveness, becomingness, and money and time expenditure.

The results of the present study can be used by apparel marketers to understand the Korean apparel market, and to develop marketing and advertising strategies directed towards specific consumer needs. Since the results provide ideas about consumer's interests, needs, and buying behavior, products and services can be tailored for consumers of each segment. When resources are mobile, the results of this research can be used by marketers to identify target markets. Money and time expenditure, and the number of people in each segment give clues concerning market size, which groups have higher buying power, and which consumer groups are willing to spend relatively more time for shopping. The results of this study may also help educators in textiles and clothing, international marketing and retailing. Since most fields are emphasizing an international perspective, the results of this study can contribute understanding of lifestyle market segmentation in other cultures, broaden knowledge and perspectives of educators on consumer behavior, market segmentation, lifestyle patterns in other culture, and help educators apply knowledge and perspective to their teaching and research.
This study investigates the spending patterns of elderly people on apparel and related services, entertainment, reading and education. It was hypothesized that expenditure on discretionary items can be used to identify the importance of these products and services to the quality of life of elderly people. This hypothesis was based on other such studies that showed that the amount of time, energy, and resources devoted to activities such as travel, entertainment, and recreation can be used to identify lifestyle characteristics.

The sample (N = 2970 observations) consisted of consumers 55 years old and above chosen from the Consumer Expenditure Survey (CES) which served as the database for this research. Since this study focuses on the amount of money that elderly people spend on personal apparel and related services, only single consumers and husband-and-wife dyads were included in the sample. Socioeconomic data were also obtained from the CES file. Data analysis procedures included SPSS frequency distributions, percentages, and Pearson product moment correlations. The mean amounts of money spent on apparel and related services, entertainment, reading, and education were calculated from the CES categories APPARPQ, ENYERTPQ, READPQ, and EDUCAPQ, respectively.

Pearson product moment correlations revealed that moderate strong relationships exist between the total household expenditures of the elderly and the mean amount of money spent on apparel and services (r = .48; p = .000). However, minimal evidence was found to support the hypothesis of a positive relationship between reading expenditures and total household expenditures (r = .20; p = .001).

This study supports the hypothesis that a relationship exists between total household expenditures and expenditures on apparel and services among elderly groups. However, since other variables may intervene to cause variables to covary systematically, future studies are needed to develop a model for predicting the elderly's expenditures on personal apparel.
Ads for products in highly competitive categories like fashion and cosmetics and intangible products like fragrance have become product odes relying on mood, image, and emotional appeals with no direct product pitch. Advertising research seeking to understand how these image ads influence purchase intention when compared to ads based on product attributes and benefits often use a set of actual ads published in current magazines as stimuli. Selecting the set of stimuli ads poses difficulties.

In a study of the variable attitude toward-the-ad (ad liking), a set of nine ads across several product categories--fashion shoes, running shoes, moisturizers, and fragrance--was used to investigate the interaction of individual differences and ad type. The selection of ads for the stimuli set was critical to the manipulation of ad type. The first step was to identify several hundred possible ads. Then, a procedure consisting of a priori screening (classification, matching, and qualifying) and post hoc analysis was used to protect the manipulation of ad type.

Screening

Classification. Ad type was defined for this research as three ad message strategies: 1) utilitarian ads that refer to physical, tangible features and performance, 2) symbolic ads that refer to the social context of the consumer, 3) hedonic ads that refer to the emotional or sensual pleasure resulting from using the product. A clear definition of type is crucial since most ads are combination types. The researcher's role is to select ads that are as unambiguous in type as possible.

Matching. Ads that rely on visual executions are usually thought to be "feeling" ads and ads with substantial copy are thought to be "thinking" ads regardless of the actual appeal strategy. Thus, ads within each product type must be matched as to visual/verbal ad execution to eliminate the possible contamination of the ad type manipulation.

Qualifying. The researcher's selection and interpretation of ad stimuli is based on her own cognitive schema. Unless the subject group is demographically similar to the researcher, problems can arise from the assumption that the researcher's reading of the ad will be similar to the subjects'. To eliminate cultural differences in interpreting the ad stimuli, a qualifying round may be required. Using a panel demographically similar to study subjects, a large set of test ads are presented for sorting into ad types. Prior to sorting, the panel is fully instructed as to the definitions of ad type used in the study. The ads scoring best in the qualifying round are those where there is substantial agreement across the panel as to the type of ad. This procedure provides a set of test ads grounded in advertising reality as interpreted by the population tapped by the research.

Analysis

After data collection and before hypothesis testing, factor analysis can be used to examine the relationship of the ads to the dependent variable--in this case, attitude toward-the-ad. For this research, analysis showed that for the running shoes ads, the ad type manipulation was submerged by the desirable symbol of an active lifestyle as portrayed in the ads. Thus, these ads were dropped from subsequent analysis since the ad appeal manipulation was central to hypothesis testing.

Summary

Using a systematic procedure for selection of existent ads produces a set of test ads matched on ad execution and appeal structure across product types. Qualifying ads with a panel assures basic agreement on the cultural interpretation of ad type within the subjects' demographic group. Factor analysis provides clues to the performance of the test ads in the context of the research sample and allows for adjustment of the set prior to hypothesis testing.
INTRODUCTION
The purpose of this study was to determine if urban/rural location has a significant effect on household expenditures for clothing. Previous research has produced mixed evidence. Dardis, Derrick and Lehfeld (1981) analyzed data from the 1972-73 Consumer Expenditure Survey (CES) and found that urban households spent significantly more on clothing than comparable rural households. Nelson (1987) used CES data from 1984-85, more than a decade later, and found no significant difference. Researchers using 1980-81 CES data (Norum 1989) were unable to include urban/rural variables because of temporarily discontinued data collection on rural households in the latter part of 1981. This study investigates the combined impact of urban/rural location and age of household head on family expenditures for clothing. It was hypothesized that an urban/rural location effect would be revealed if age of household head was taken into account; that rural households headed by older individuals would exhibit significantly lower expenditures for clothing than comparable urban families, ceteris paribus.

THE DATA AND SAMPLE
This preliminary study used annual CES expenditure data from 1984. The sample consists of 180 husband/wife families without children.

RESEARCH METHODOLOGY
The data were analyzed via OLS. Key explanatory variables are urban/rural location, and an interaction of urban/rural location with age of household head. Other variables control for income, race, and the age, education, and occupation of the husband and the wife, and a variable for sewing expenditures. The model was estimated once with both of the urban/rural variables (the urban/rural variable itself, and the interaction with age of the household head) included, and once without them. An F-Ratio was calculated to determine if the combined effect of the urban/rural variables was significant.

RESULTS
Urban/rural location and the interaction with age did not have significant independent effects. The F-Ratio indicates that their combined effect was also not significant.

CONCLUSIONS/IMPLICATIONS
This preliminary study provides useful information about the clothing expenditure behavior of rural households. Urban/rural location and the interaction of location with age were not significant. Their combined effect was also not significant. There may be other interactions that are better indicators of urban/rural differences, or perhaps the ceteris paribus conditions, the control variables, in the clothing expenditure model are the true indicators of clothing expenditure behavior. Income, occupation and education provided the explanatory power in this analysis.

REFERENCES


The 1972 Care Labeling Trade Regulation was intended to provide consumers with appropriate care information to minimize problems resulting from incorrect care. Because care labels were incomplete, inaccurate, or inconsistent, a 1984 amendment to the regulation required the label to include one appropriate care method using more clearly defined terms. However, recent research suggests that consumers frequently ignore the care label, especially if the recommendations require too great a commitment of time or other resources or because the results are not acceptable to the consumer when the label directions are followed (Stout & Kadolph, 1988). Sieben (1987) studied the accuracy of care labels for 100% cotton shorts and found the labels did not recommend the care method that caused the least change in dimensions.

Six care procedures were selected based on care labels and consumer practices in laundering sweaters of 55% ramie/45% cotton and 100% cotton. The care recommended for the ramie/cotton sweater wash 'machine was warm, dry flat, for a more luxurious feel, add fabric softener to final rinse'; the care recommended for the cotton sweater was 'hand wash cold, lay flat to dry'. Care procedures included washing by hand and machine; drying flat or by machine or a combination of flat and machine drying; and use or no use of fabric softener. The sweaters' hand was evaluated for 16 characteristics by trained raters using a nine-point Likert scale when the sweaters were new and after two wash and dry cycles. Sweater size was measured when new and after one and two wash and dry cycles to assess change in size. Analysis of variance (p = .01) was used to determine differences in hand and size based on care method.

Change in sweater size varied significantly depending on care method. Flat drying usually resulted in growth of the sweater, frequently in both course and wale directions. For both sweater types, those that were machine washed and at least partially machine dried had less change in size than those that were dried flat.

Sweaters of both types usually exhibited increased change in size between the first and second care cycles. The care method resulting in the smallest size change for both sweater types was machine wash and partial machine dry.

The hand of the sweaters was significantly affected by drying method. Flat drying resulted in harsher and stiffer ratings for sweaters, regardless of fiber type. Machine drying created a more pronounced texture, especially for the ramie/cotton sweaters. The hand wash/dry flat procedure produced hand ratings that most closely matched those of the new sweaters. Use of fabric softener produced the most positive ratings for hand for both sweater types.

Thus, the care recommended on the labels for both sweater types does not maintain the sweaters' size and nor does it result in the most positive rating for hand of the sweaters. Further research is recommended with other product categories to determine if this problem with optimal care labeling is a common one or an isolated situation. This research also raises the question: What aspects are considered when determining the appropriate care label?


MULTIPLE REQUIREMENTS IN CLEANROOM GARMENTS

Contamination control has become an important aspect of semiconductor and microelectronic device manufacturing in cleanrooms. Evidence points to air sources, equipment, process gases, chemicals, and production personnel as major sources of contamination in cleanroom operation. In order to control the personnel source of contamination, production workers are required to wear specialized protective garments designed to isolate and protect the manufacturing environment from contamination generated and released from people. Effective garments must be non-linting, anti-static, chemically resistant, cleanable, and provide a barrier to particle passage through the fabric. Garment design must also insure the containment of particles within the garment. At the same time, garments should be comfortable, stylish and pleasing to the wearer.

Clearly, cleanroom garments must satisfy multiple requirements. On one hand, garments must provide protection and isolation of the manufacturing environment. This represents a benefit to the manufacturer as seen by increased efficiency. On the other hand, garments must fulfill the operator's needs for garment acceptability and comfort. Garments which do not meet this need can result in a cost to the manufacturer and are represented by a decrease in production or an increase in employee turnover. In order to aid cleanroom managers in balancing benefits versus costs when making decisions regarding cleanroom garment selection, this study investigated industry's recognition of multiple garment requirements and examined cost-benefit analysis as a possible means of resolution.

Information gathering techniques consisted of visits made to cleanroom facilities and questionnaires sent to 32 companies having cleanrooms. Survey questions addressed current and future garments, such as desired fabrics and garment styles in addition to fit and comfort. A 69% response was obtained, and all data collected were based on responses from management. Due to the small sample size, descriptive analysis using frequency distributions were used to analyze the data collected.

Survey responses indicated that management was aware of the presence of multiple requirements associated with cleanroom garments. Responses from management as to what they considered to be important features in current and future garments were divided into three categories: increased comfort, increased garment effectiveness, and a desire for modifications in garment design. Of the reported modifications in garment design, e.g., knitted neck, longer sleeves and improved styling, all but one response—improved styling—indicated both garment effectiveness and operator needs requirements.

Cost-benefit analysis and the concept of economic efficiency were considered as a means to aid managers in resolving the multiple garment requirements situation. By using this model and evaluating both the benefits and direct and indirect costs of garments, management could discover the ideal level of garment effectiveness and satisfaction of operator needs that benefits cleanroom operation without incurring undue costs.
Thermal transmittance characteristics of interior shading devices can best be understood with respect to the following model. The first part of the model examines the effectiveness of different types of interior shading devices (roller shades, draperies, blinds) on their thermal transmittance. The second component of the model examines the effect of configuration of the device (air space, sealing, drapery configuration) on thermal transmittance. The final component examines the physical properties of the fabrics that constitute the shade and their effect on thermal transmittance. With this model the design parameters that are most important to the insulating qualities of shading devices can be identified.

The research presented here was undertaken to determine which factors have a significant influence on the thermal transmittance of one type of interior shading device (draperies) in a typical unsealed configuration (air flow at the top, sides, and bottom). Although it is well documented in the literature that sealing the edges of the drapery around the window improves its thermal performance, our objective was to evaluate draperies in their conventional, unsealed configuration, even though the air flow around the edges may diminish the effect of other drapery properties on thermal transmittance.

The primary objective of the study was to identify the influence of (1) drapery configuration (flat or draped) and (2) fabric physical properties (yarn count, yarn size, fiber length, and fabric structure) on drapery thermal transmittance, when they are mounted conventionally without edge seals. A secondary objective was to compare thermal transmittance values of fabrics of differing opacities to determine if differences exist: (a) casements—transparent, of any combination of yarn size, low yarn count, any fabrication; (b) sheers—translucent, low yarn size, high yarn count, any fabrication; and (c) draperies—opaque, varying yarn size, medium to high yarn count, any fabrication.

Thirty fabrics were obtained directly from textile manufacturers that were representative of what is currently available on the retail market. No attempt was made to select fabrics with specific parameters. Therefore, statistical techniques were applied to large samples so as to isolate the effects of the parameters of interest. Measurements of fabric weight, yarn count, yarn size, yarn structure, and fiber content were completed for each sample using ASTM and AATCC standard test methods. A guarded hot plate apparatus was used to measure the thermal transmittance of each sample. Draperies were mounted on a conventional rod installed over the window and were tested in a randomized order with three replications in both a flat and draped configuration at a temperature difference of 30°F. Data collected from the nine replications for each drapery sample were used to determine the mean thermal transmittance.

Analysis of variance, t-tests, and regression analysis were used to investigate the influence of the textile parameters. The results indicated that with no edge seals, the flat or draped configuration had little impact on the thermal transmittance of the drapery samples. Fabrics constructed with both filament and staple length provided more insulation than fabrics containing only staple length or only filament length fibers. Fabrics with high warp yarn and medium filling yarn counts performed better than any other combinations of yarn counts studied. High warp yarn size and medium filling yarn size also contribute to better insulation. Regression analysis indicated that fabrics with higher warp count and yarn size in the warp direction are the better insulators.

Preliminary analysis indicates that weave may have a significant influence on thermal insulation; further analysis is underway to investigate this finding. Opaque fabrics (draperies) provided better insulation than did transparent fabrics (casements) or translucent fabrics (sheers).
ACTUAL VS. PERCEIVED RISK OF PESTICIDE EXPOSURE AND RELATIONSHIP TO WORK-RELATED-APPAREL PRACTICES

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The risks involved with exposure of agricultural workers to pesticides has become an issue of national concern. Much of the work to date has studied actual risk and less has been done on perceived risk. There is a need to determine the relationship between perceived risk and factors affecting actual risk such as work-related apparel practices.

Farmers in a southern state were surveyed to determine actual and perceived risk of pesticide exposure and work-related apparel practices. The 195 respondents (25% return) were well distributed in age and educational categories.

High levels of actual risk of pesticide exposure were indicated for the majority of farmers by these results: 84% of farmers use some method of ground application of pesticide, 75% of farmers report applying pesticides themselves, 90% were present in the field during application, and 90% walked through fields shortly after spraying. Each farmer listed pesticides used on his crop during the 1987 growing season. The largest portion (45%) of pesticides listed by farmers were of high toxicity, 33% were moderate in toxicity and 23% were low in or free of toxicity. Only 4% of the respondents had ever been diagnosed as having illness due to pesticide exposure; however, 15% of respondents had experienced illness which they attributed to pesticide exposure.

Apparel practices which would increase actual risk included not wearing protective apparel (90%), never wearing long sleeved shirts (38%), always wearing short sleeved shirts (64%), never washing contaminated garments separately (22%), and never pre-rinsing or pre-soaking contaminated clothing (48%). Apparel practices which would lower actual risk included always wearing long sleeved shirts (11%), always wearing long pants (73%), never wearing shorts (90%), always wearing two shirt layers (32%), and never washing contaminated garments with family laundry (62%).

Farmers' perceptions of their level of risk from pesticide exposure was "none" (7%), "low" (32%), "medium" (32%), "medium-high" (20%), or "high" (10%). Indirectly, perceived risk was measured by comparing actual toxicity levels of pesticides with toxicity levels attributed to the same pesticides by respondents. Over half of the respondents rated pesticides lower than actual toxicity, 34% rated them accurately, and 12% rated them high.

Chi square analyses were conducted to determine relationships between perceived risk and factors related to actual risk. Results indicate strong relationships between perceived risk and farm practices contributing to pesticide exposure, but not between perceived risk and garments worn into treated fields or use of protective apparel. There were significant relationships between perceived risk and laundering of contaminated garments and between history of pesticide-related illness and willingness to wear long sleeved shirts.

In summary, farmers make appropriate associations between practices related to pesticide use and risk level. However, perceived risk is not reflected in work-related apparel practices. Risk communicators need to emphasize the positive effects of clothing as a barrier to pesticide exposure.
**EFFECT OF AGITATION TIME AND LEVEL UPON RADON RELEASE FROM WATER:**

CONTINUED INVESTIGATION

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Recent attention has been given to radon, a colorless, odorless naturally occurring gas acknowledged to be the largest dose of ionizing radiation that most people are likely to receive in their lifetime (UN-SCAR, 1982). EPA estimates that radon accounts for between 5 thousand and 20 thousand lung cancer deaths a year, second only to smoking (EPA, 1986). When radon or its daughter products are inhaled, particles may adhere to the lung tissue where radioactive decay continues. It is more harmful to breathe radon than to ingest radon dissolved in water (Douglas and Brown, 1987).

Earliest concern had focused on radioactive radon gas in soils and rocks entering homes and buildings through foundations. However, recent questions have been raised about radon entry from water supplies. Ground water supplies have the largest potential for harm, while surface water supplies such as lakes and streams allow any radon gas to easily escape and become diluted in the air. If water supplies contain dissolved radon, then any activity aerating water releases the radon. The purpose of this study was to continue the investigation of variables associated with the laundering process (Simpson, 1988), since laundry is the major household activity aerating water (Kreissl, 1973).

Radon losses from water due to degree of agitation and length of agitation time were investigated in a laboratory study simulating laundering. The Prichard and Gesell (1977) method of liquid scintillation counting was used to measure amount of radon loss. A student's t-test was used to compare the average of similarly treated replicate specimens collected on different days. Since differences did not exist, \( t_{12} = .01, p = .992 \), replicate values were pooled and utilized in further statistical analysis. Analysis of variance was used to analyze data on agitation time and agitation level. Both were significant factors \((F_6, 47) = 11.1, p < .001\) in the amount of radon released into the air. Multiple range analysis showed that low agitation caused little decrease to the original radon count, although medium and high agitation levels influenced radon loss greatly (60% and 90% respectively). Radon losses due to agitation times of 3, 5, 10 and 15 minutes were 30%, 42%, 60% and 63%, respectively. The highest level of agitation seemed to have more impact in releasing radon from water (90% radon loss) than did the longest agitation time (65% loss at 15 minutes).

Implications for laundry procedures which release a lower level of harmful radon into the laundry environment include the selection of a longer wash cycle at gentle setting, rather than a more vigorous agitation for a shorter time period. Further research is continuing on other laundry variables, such as temperatures and detergents relative to the change of surface tension.


RESEARCHERS have investigated the behavioral and demographic characteristics of fashion innovators, opinion leaders, and innovative communicators in samples drawn from populations residing outside of Oregon. Therefore, the purpose of the present study was to examine differences between innovative communicators and non-innovative communicators in a sample of Oregon women in their shopping behavior and demographic characteristics. This study was conducted to compare these two segments of Oregon women with samples drawn from other populations.

Based on diffusion theory and life-style literature, a number of hypotheses were developed that examined store patronage, form of payment, annual amount spent on apparel purchases, and demographic characteristics in relation to level of fashion leadership. Data used for this study were taken from a larger study, Agricultural Experiment Station Western Region Project W-175, that was conducted in 1987. From this questionnaire, items that asked about retail store patronage, clothing expenditures, fashion leadership, and demographic characteristics were used for the present study. The sample consisted of 234 adult Oregon women. Subjects were classified as innovative-communicators, medium innovative communicators, or non-innovative communicators based on summed scores from the fashion innovativeness and fashion opinion leadership items from the questionnaire.

Because past literature discussed fashion leaders and fashion followers, this study compared the innovative communicator and the non-innovative communicator categories. Result of chi square indicated that more innovative communicators purchased apparel at specialty stores ($\chi^2(6, N = 234) = 28.77, p < .001$) and fewer purchased apparel at discount stores ($\chi^2(6, N = 234) = 13.48, p < .05$). No significant differences were found between the two subject groups in relations to purchases of apparel at department or off-price stores. Findings revealed no significant differences between the groups for usage of cash, check, or national credit card to purchase apparel. Results indicated that more innovative communicators used store credit as a form of payment for apparel purchases than non-innovative communicators ($\chi^2(6, N = 234) = 12.25, p < .05$). The results of a one-way analysis of variance indicated that innovative communicators spent more annually on apparel than non-innovative communicators ($F(2) = 6.83, p < .001$). There were also significant differences between the two groups in relation to their income with innovative communicators having a higher income than non-innovative communicators ($\chi^2(6, N = 234) = 18.54, p < .001$), but not in relation to their age, education, employment or residence.

Profiles of Oregon women emerged that were similar to the Oregon census bureau sample of women. Therefore, this research advances diffusion theory by investigating a new sample of fashion leaders. Women in Oregon were similar to other samples previously studied with regards to store patronage, clothing expenditures, use of store credit cards, and level of income.
The increasing number of home based businesses (HBB), including sewing services has brought about an awareness of the problems that exist which can eventually lead to business failure. The lack of business skills, such as establishing a profitable pricing policy, has been identified as one of these problems (Smith, 1983). This problem may be related to the self esteem of the person rendering the service and that person's perception of her clothing construction skill level and the value of that skill.

The purpose of this study was to examine the relationships between self-esteem, self-perceived clothing construction skill level (CCSL), and the prices charged for sewing services in home based businesses (HBB). Sewing services are defined as the use of clothing construction skills for personalized clothing construction, alteration and repair of at least six garments in one year where they received pay for the services. Data were collected with a questionnaire consisting of Rosenberg's (1965) self-esteem measure, a 51-item CCSL measure in which each participant rated her own clothing construction skills, and three garment case studies in which the participants quoted a price and the time it would take to construct each garment. Demographic data were also collected. The researchers used descriptive statistics, multiple linear regression, and Pearson's product moment correlations for analysis.

The sample consisted of 46 female HBB owners, identified through Virginia Cooperative Extension. Eighty-seven percent of the respondents ranged in age from 30 to 59, none were under 29 years of age. Seventy four percent of the sample had over 20 years of sewing experience and 54% over 10 years sewing for pay experience. Approximately three fourths of the sample had constructed over 20 garments in the past year, indicating there is a demand for sewing services. Sixty-one percent rated their skill level as average or above, 98% had moderately high to high self-esteem. Prices per hour ranged from $0.75 to $25.00. Urban price estimations were slightly higher than rural prices.

When the three variables, self-perceived CCSL, self-esteem, and prices charged, were tested by multiple linear regression no significant relationship was found. However, the relationship, tested by correlation, between self-esteem and self-perceived CCSL was significant ($r = .59; p < .01$).

The conflicting findings between the extremely broad range in prices per hour and the significant positive correlation between self-esteem and self-perceived CCSL indicated that HBB owners had problems pricing sewing services. A number of the respondents attached notes to the surveys in this study requesting information on pricing of sewing services; several explained why their prices were low. The research findings indicated that the seamstresses need help in setting price policies and in increasing personal selling skills.

These findings also have implications for establishing a formal network/guild for the women offering sewing services through HBB.


The role of fashion opinion leadership in fashion adoption and diffusion is well documented by several researchers for various population segments. However, limited work is reported for the operation of this phenomenon among older consumers. Because the size of this group as a percentage of population is expected to increase in the near future, the study of relationships among fashion-related variables for older people is important. Therefore, the reported study was undertaken to identify socio-psychological and demographic variables that differentiate fashion opinion leaders from fashion non-leaders among older consumers (65 and older).

The concept of adoption and diffusion of innovations provided the theoretical framework for the study. Based on prior work on fashion leadership, media usage (sources of fashion information seeking), self-esteem (feelings of self-worth), age perception (psychological feelings about one's physical age), apparel significance (importance of clothes to an individual), social participation (involvement in individual and group activities) and selected demographic variables were identified as independent variables. Fashion opinion leadership (degree to which an individual serves as an informant of new styles for other people) was the dependent variable.

The instrument included six established measures with demonstrated reliability and validity, and the demographic sheet was developed by the researcher. Dillman's (1978) Total Design Method was adapted to conduct the mailed-in survey. Eight hundred elderly males and females were randomly selected from the list of voters obtained from the County Voter Registration Office; the return rate was 63%. Chi-square analysis, descriptive statistics, least square differences and multiple regression were computed to analyze the data. Chronbach's alpha was used to test the reliability of the selected measures.

The responding sample consisted of 70% females and 30% males. Age of respondents ranged from 65 to 88 years with a mean of 72.8 years. Fifty-one percent of the respondents were married and 41% were single/divorced/widowed/separated. Only 3% of the population was non-white. The monthly income of the sample was $1739.27. Sixty-six percent preferred to wear stylish clothes and 73% wished to see elderly models in television commercials. The reliability coefficients for the selected measures ranged from 0.69 to 0.93. Based on frequency percentage distribution of the cumulative scores from the fashion opinion leadership measure, 13.5% of the respondents were identified as fashion leaders. The number is almost half of that reported for the younger consumers in the prior work on fashion leadership.

The inferential analysis indicated that the selected variables explained 54% of the total variance. Demographically, the fashion opinion leaders differed from fashion opinion non-leaders by gender, marital status, percentage clothing expenditure, desire to wear stylish clothing and wish to see elderly models in television commercials. With regard to socio-psychological variables, the fashion opinion leaders could be differentiated from fashion opinion non-leaders on age perception, apparel significance, media usage, self-esteem, and social participation for the total sample. However, differences were observed for the older males and females.

The concept of fashion opinion leadership was evident among the older consumers. However, fewer leaders were found among this older consumer population than previously reported for its younger counterparts. The results can be useful for manufacturers, retailers, caregivers and older consumers with regard to identifying their markets, placing their advertising strategies, making selection decisions, and finding role models, respectively.

The existence of individual differences in shopping attitudes and behavior is well-documented. These individual differences in shopping attitudes and practices are believed to be due to consumer socialization, "the process by which young people acquire skills, knowledge and attitudes relevant to their functioning as consumers in the marketplace" (Ward, 1974). The present study investigated the effect of consumer socialization on attitudes toward clothing shopping and clothing store patronage. Because young people shop more often with their mothers than with anyone else, it was predicted that mothers and daughters would have similar attitudes toward clothing shopping and store patronage. Eighty-six female university students who were raised by their natural mothers completed a shopping attitudes and store patronage questionnaire. A parallel questionnaire was sent to the mothers of these students. Seventy questionnaires were returned for a response rate of 81%. The final sample consisted of these 70 mother/daughter pairs. The shopping attitudes measure consisted of 18 clothing shopping attitude items (Slama & Tashchian, 1985) to which the responses were made on a 5-point Likert scale. Questions regarding clothing store patronage and methods of clothing acquisition were also included in the questionnaire. Factor analysis of the 18 clothing shopping attitudes generated three factors which accounted for 78% of the total variance: 

- $F_1$: Fashion Involvement;
- $F_2$: Wardrobe Management; and
- $F_3$: Comparative Shopping.

T-tests for correlated data were performed to show similarities and differences between mother and daughter pairs in their attitudes toward clothing shopping and store patronage. Results indicated similarities between the mother and daughter pairs for two factors, Wardrobe Management and Comparative Shopping. In addition, mothers' and daughters' likelihood of constructing clothing at home and acquiring clothing at used clothing stores, rummage sales, and department stores were similar. Mothers and daughters differed significantly ($p < .05$) in their fashion involvement, use of mail order to acquire clothing and patronage of specialty stores, discount stores and off-price stores. These dissimilarities may be due to differences in age or previous shopping experiences of mothers and daughters. Generally, consumer socialization processes affected attitudes toward clothing shopping to a greater extent than store patronage. Past studies on consumer socialization have focused primarily on the ways children and adolescents acquire and learn consumer skills. By investigating mothers and adult daughters, this study has taken the work on consumer socialization one step further by demonstrating possible outcomes of consumer socialization between mothers and daughters.

References


Of importance to marketers and retailers is the relationship between store image and the consumer. This relationship can be influenced by the consumer’s perceptions of the retail store’s image and how this image relates to his/her self concept. Previous research suggests that consumers prefer and select stores with images congruent with their own actual and ideal self-images. Sirgy (1985) theorized that consumers tend to purchase products congruent with their actual/ideal self-image. He suggested that self-esteem may explain any differences between one’s actual and ideal image congruity. He proposed that individuals with low self-esteem would purchase products more congruent with their ideal self image than their actual self-image. Sirgy's Model of Image Congruity has been empirically tested using consumer products. The purpose of this paper was to test Sirgy's model using store image rather than specific consumer products, and to determine the relationship of self-esteem with image congruity in consumers' selection of retail stores. It was hypothesized that variance in self-esteem scores would exist between consumers who selected stores with images congruent with their actual self and consumers who selected stores congruent with their ideal self.

A research instrument which measured store image, self-image (ideal and actual) and self-esteem was completed by 203 members of an organization selected on the basis of the demographic diversity of the membership. Respondents identified up to three stores at which they purchased apparel within one year’s time prior to their participation in the study, and the number of items purchased. A unidimensional semantic differential scale was developed to measure store image (of those stores in which the apparel purchases had been made), ideal self image and actual self image. Sirgy’s method for instrument development was replicated. The Karmas (1979) Sliding Person Test of Self-Esteem (validity .81, reliability -.57 to .95) was used to measure self-esteem. The 5% level of confidence was chosen to determine statistical significance between/among groups.

A store image/self image congruity score was calculated for each respondent. Subjects were classified into one of three cells according to their congruity score: Actual (n=144), Ideal (n=51), Equal (n=8). Analysis of Variance determined that there were no significant differences in self-esteem scores among the groups. The t-test procedure was used to determine if there were differences between self-esteem scores of those in the Actual cell and those in the Equal cell. No significant differences were found. The null hypothesis was accepted.

Further statistical analysis revealed that neither store type, gender, age, income, nor marital status accounted for differences among the groups or between the Actual and Equal group. Self-esteem was not a significant factor in relation to image congruity. It is suggested that further work be done with Sirgy's model using a determinanot other than self-esteem. An implication for retailers is that the consumer-store relationship may be more significantly tied to specific brand/product offerings than overall store image.


ARE WE TEACHING REAL OR IDEAL BODY PROPORTIONS?

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Body proportions establish limits for visual manipulation of appearance. It is therefore critical that textiles and clothing professionals understand real variation in body proportions. A common approach in curricula nationwide is use of head lengths to map relative proportions. Individual proportions are compared to reference measurements which have come to be labelled average. (Horn and Gurel 1981, p.92). Understanding reference proportions helps students evaluate other people's proportions and generate ideas for manipulating apparent proportions toward visual goals.

However, historical examination of head length analysis suggests that average proportions are aesthetic ideals rather than empirical reality. When questioning validity of reference dimensions, a standard statistical procedure is to estimate the true population means with estimates generated by calculating means from a sample drawn from the reference population. Photographs and head length measurements of 250 women aged 18-35 were taken using procedures described by Salusso-Deonier and LaBat (1986, 139). Sampling was non-random but does represent three locations with 74 subjects from Minnesota, 100 from Iowa and 76 from Montana. All subjects were textiles and clothing students. Similar means and distributions were obtained when analyzing groups separately as well as pooled. This indicates the variation is stable due to large sample size and thus estimates of the true population are consistent despite non-random sampling.

Results show sample means very close to reference proportions for: total number of head lengths; hip length; bust depth; waist depth; and hip depth. Close approximation of total head length provides verification that the head length procedure used in this study is consistent with that used for the reference form. In contrast to the areas of similarity, several dimensions were considerably larger in the sample than respective reference dimensions. These include: waist length; shoulder width; waist width and hip width. As demonstrated in our poster, these differences are of a magnitude that is visually obvious when mapped in head length units onto a body form drawing. Essentially, differences in shoulder, waist and hip width result in a reference form that is narrower in frame and shorter-waisted than the sample average. Labelling the reference form average infers that these are typical proportions. Students from this study's sample would classify themselves and most of their peers as more lateral (thicker) than average. Are students being taught unrealistic reference proportions? And, sadly, are students with already fragile self-images from growing up in a 'thin is in' society taking this result as verification of their own inadequacies and that of most of their peers?

Because the three groups pooled for this sample yielded comparable results, the authors believe there is evidence to suspect that reference dimensions are in fact inaccurate. We propose they be relabelled ideal. Then, when conducting body form analysis, consideration could be given to the American culture's fascination with thin, linear (narrow) figures. Revised empirical average dimensions reflecting empirically derived means from this and subsequent studies could be used for comparison with typical proportions. As the data base expands, empirical averages could be refined for the 18-35 age range and extended across the lifecycle. (There are no reference dimensions for persons younger or older than the 18-35 age range.) When an adequate data base is established, the authors intend to sort photographs into body types and calculate empirical averages per body type. This approach would expand understanding of body proportions and add precision to individual comparisons with reference forms.

Although numerous researchers are involved in the study of dress and its effect on human behavior, much of this research has focused on the impact of articles of clothing to the exclusion of other aspects of dress. Dress, as defined by Roach and Musa (1980), consists of the total arrangement of all outwardly detectable modifications of the body itself and all material objects added to it. Utilizing this definition of dress, any specific modification of the body, such as use of cosmetics, is included as an element of dress and is worthy of attention. Existing research suggests that use or non-use of cosmetics may be important in impressions concerning another's seriousness, attractiveness, morality and interest in the opposite sex (Hamid, 1972; McKeachie, 1952). Based on these findings, and utilizing a theoretical framework for impression formation developed by Livesley and Bromley (1973), the purpose of this research was to investigate the effect of cosmetic use on impressions of other personality traits and confirm the use of cosmetics as a cue in judgments of morality.

Method. The study was a single factor experiment with three levels of cosmetics (heavy, moderate, none). Each subject viewed one of three colored photographs of a professional model wearing either heavy, moderate or no cosmetics and formed impressions of her personality and morality by checking 7-point Likert-type scales. Characteristics included in the 26-item personality scale included competent-not competent, friendly-not friendly and intelligent-not intelligent, among others (scale reliability = .88). Characteristics included in the twenty-seven item morality scale were: pure-not pure, modest-not modest and chaste-not chaste, among others (scale reliability = .84). As a manipulation check, subjects were asked to indicate, on a 7-point scale, the amount of cosmetics worn by the model.

Subjects. Eighty-nine undergraduates volunteered to serve as subjects in the study (female=85; male=4). Subjects ranged in age from 18 to 26 with 98% of the subjects under age 24.

Results. The mean ratings of amount of cosmetics worn by the model for all three conditions indicated that the experimental manipulation of this variable was successful. The model in the heavy cosmetic condition was rated highest on amount of cosmetics (M=5.53) followed by the moderate condition (M=5.26) and the no cosmetic condition (M=4.95). Analysis of variance revealed no significant difference on impressions of personality traits based on cosmetic use. However, analysis of variance resulted in a main effect for cosmetics, $F(2,82) = 18.17$, $p<.001$ for impressions of morality. The model in no cosmetics was rated highest on morality (M=140.75) followed by moderate cosmetics (M=127.47) followed by heavy cosmetics (M=117.62). The Newman-Kuels test for post hoc comparisons indicated all of these means were significantly different from each other, $p<.05$. Results indicate cosmetics may be used as a cue in forming impressions of another's morality but not necessarily other more general personality traits. Impressions of morality may influence the nature of subsequent social interaction and may influence attributions of responsibility for certain behaviors, for example, sexual harassment.


CHILDREN'S CLOTHING AS IT RELATES TO BEHAVIORAL EXPECTATIONS

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Introduction  Appearance—including facial expression, gestures, physique and style of dress—is a form of nonverbal communication which is found to influence relationships and expectations (Dion, 1973; Elovitz and Salvia, 1982). While other factors of children's appearances—such as attractiveness and facial expression—have been studied for impact on perception and behavioral expectation, limited study has been done on the impact of children's clothing. Peers and teachers may select and interpret clothing cues to determine behavioral expectations. To understand the social dynamics of relationships, there is a need for understanding the role clothing plays in behavioral expectations.

Purpose  The purpose of this study was to determine the impact of children's clothing on peer and teacher perceptions and behavioral expectations of the child. Specifically, the study sought to: 1) investigate the effects of fashion (fashion initiator versus fashion acceptor) and gender variables on children's behavioral expectations; 2) compare the behavioral expectations of male and female respondents for fashion and gender variables; 3) determine the effect of fashion and gender variables on teacher behavioral expectations.

Methods  A 2 x 2 research design was used in which the independent variables were gender (male and female) and fashion (fashion initiator and fashion acceptor). Dependent variables were social (liking, leadership, friendliness, and teasing) and personal (neatness, cheating, kindness, talking, selfishness, braveness, niceness, happiness, forgetfulness, and intelligence) behavioral expectations. The extraneous variables of facial attractiveness, color, physique, and gestures were excluded with the use of line drawings. Using Lerner and Korn's Verbal Checklist, a pretested questionnaire was developed to determine the personal and social attributes of two boys and two girls dressed in clothing rated either as fashion initiator or fashion acceptor. The questionnaire was administered to 42 fourth grade teachers and 208 fourth grade children in California. Statistical analysis included Cronbach's alpha, to measure internal consistency, and a 3-way (respondent gender x stimulus gender x stimulus fashion) analysis of variance on the data collected. Significance was set at p<.01.

Results  Primary significance for the children sample focused on the gender variable. Fifteen of the 18 behavioral variables had a significant stimulus gender by respondent gender interaction. Girls favored girls with no clear pattern for fashion significance. Boys favored boys with the most favorable ratings given to male fashion initiator and least favorable ratings to the female fashion initiator. For the teacher sample, fashion was a significant variable, with a main effect in 10 of the 18 behavioral expectations. Fashion initiators tended to be rated less favorably on negative characteristics and most favorable on positive characteristics. This data indicates teachers viewed fashion initiators as more interactive on both positive and negative expectations. Gender tended to be far less significant with teachers, with only one gender main effect and one two-way interaction.

Significance  It was interesting to note that, in this study, children were far more influenced by stimulus and respondent gender than teachers, who were heavily influenced by the fashion variable. As teachers interact with children in the classroom, their behavioral expectations, influenced by dress, could impact on the socialization and self esteem of the children and possible direct the children toward specific behaviors based on role expectations.


The major objective of the study was to further the understanding of psychological functions of dress by exploring and testing the relationships between moods, selection of clothing and self-consciousness for males and females. A considerable amount of research indicates that there is a relationship between one's feeling about one's self-concept and the choice of clothes one chooses to wear. The studies which investigated the effect of depression on the clothing interest indicated that those in mild depression showed a higher level of clothing interest than those not in depression and the outfits and fabrics chosen by depressed individuals enhanced their self presentations. (Compton, 1962). Other studies support the assumption that self-confident individuals show less interest in clothing than those who were less secure; depressed individuals used clothing as a tool to boost morale and to fight depressed feelings (Dubler and Gurel, 1984). The self-consciousness theory (Buss, 1980) states that the state of objective self awareness may be directed toward the external environment (public self-consciousness) or directed toward the internal aspect of self (private self-consciousness). The public self-consciousness reflects awareness of the self as a social object whereas private self-consciousness involves a focus on the covert aspects of the self such as one's beliefs, moods and feelings.

The purposes of the study were to (1) investigate the male and female difference on the effects of mood on the selection of clothing, (2) test the hypothesis that the private self-consciousness plays more important role than the public self-consciousness on the effects of mood on clothing, and (3) test the hypothesis that those high in private self-consciousness would indicate the greater degree of effects of mood on the selection of clothing than those low in private self-consciousness, thereby those high in private self-consciousness tend to utilize clothing more to control one's mood than those low in private self-consciousness.

The three components of the survey instruments were (1) general questions related to mood and clothing developed by the researcher, (2) questionnaire on the effects of positive and negative moods on the selection of clothing which were developed by utilizing class of 74 students (41 female, 33 male students), and (3) public and private self-consciousness scales developed and tested by Buss (1980). The subjects for the main survey after the pretest were 141 female and 113 male students who were enrolled in the college of business, liberal arts and science, and home economics.

The results of frequency distributions, Pearson's correlation, T tests and analysis of variance indicated that (1) females were more sensitive to different mood states than males, and this in turn affected their choice of clothing, (2) females scored higher correlations between private self-consciousness and the effects of mood on clothing than males, especially the negative effects of mood on clothing, (3) the private self-consciousness played a more important role than public self-consciousness on the effects of moods on selection of clothing for females while there was no significant level of importance of private self-consciousness on the effects of mood on clothing for males, and (4) those high on private self-consciousness were affected more by the effects of mood on clothing than those low in private self-consciousness among females. In the final analysis, the female group consistently indicated the importance of private self-consciousness on the effects of mood on clothing while for the male group, the effects of mood played an insignificant role on their selection of clothing.


Collecting is a pervasive human behavior. The urge to collect ranges from a child's simple treasures collected daily in a pocket to the calculated choosing using specific criteria, known as connoisseurship. One might ask, why do people collect? The answer may lie in the meanings people attach to their collections. Much research has been conducted on the meanings people give to individual objects in their homes. Meaning associated with collections of objects has received limited attention. Preliminary observations (Belk, Wallendorf, Sherry, Holbrook, & Roberts, 1988) suggest several hypotheses: 1) Collections are often not intended; they are accidental; 2) Collections are a method of self-expression and relationship to other people; and 3) Collections tend to remain incomplete.

An exploratory study was conducted to examine these hypotheses and to generate others about textile and costume collections and collecting. A case study approach was used that incorporated key assumptions of naturalistic inquiry as outlined by Guba (1981). Ten case studies were conducted with informants who ranged in age from early 20s to middle 50s (3 males, 7 females). A purposive sampling method was employed to obtain a range of collectors with varying collecting interests within textiles and costume. Informants collected rugs, American, Dutch, and other ethnic costume; Hmong textiles, costume jewelry, needlework, baskets, and other flat textiles. Case studies were conducted in the participants' homes; data were collected through interviews, observations, and photodocumentation.

Detailed profiles of single collectors were developed and conclusions were drawn across collectors. Two major types of collectors seemed to be present: object/item-oriented collectors and process/holistic-oriented collectors. Object/item-oriented collectors took pleasure in specific objects and viewed their collections as a series of individual treasures. Process/holistic-oriented collectors were enamored with the sport of collecting. These people explained their collections as a way of life and an integral part of their homes. Two informants expressed a desire to "surround myself with my collection."

In contrast to differences, several similarities emerged among collectors. Most collectors did not have a focused plan to follow in their collecting. Most informants chose to add to their collections when they traveled. Only two cases consistently referred to price as a salient feature in developing a collection. Collectors recognized the need for proper storage and record-keeping and were aware of ideal systems, but often did not have the resources to pursue this further. Objects that reminded collectors of family or friends provided not only a link to the past but, in many cases, served as a starting point for collections.

Belk, et al's hypotheses were supported and further hypotheses proposed related to use of leisure time; expression of individual, social, and cultural identities; and object vs. holistic orientations to collecting. Findings from research on collectors provide valuable insight to museum personnel about the mindset of collectors and about how people view and interpret collections. Craftspersons can benefit from information about why people collect and the qualities and characteristics they look for in specific product categories.


CULTURAL INFERENCES AND ETOWAH TEXTILE REMAINS FROM BURIAL 57

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One of the richest graves in the Etowah Mound C mortuary complex (in Northwest Georgia) is a log tomb burial of an adult male (Burial #57). Included among its contents were such non-utilitarian goods as copper axes and conch shell bowls (Larson 1971:64). Also excavated were numbers of fabric fragments of varying sizes; they were clustered around the upper torso, arms, and head of the skeletal remains in conjunction with copper fragments. Although the largest of these, a "crumpled" fabric found under the head, has been the subject of previous research efforts (Sibley and Jakes, 1989), its relation to the other Burial 57 fragments has not been explored.

The purpose of this research is to infer former cultural use for the Etowah textiles from Burial 57. Not only does the study expand our knowledge of an important prehistoric native American cultural group, but it also contributes to our understanding of cultural decision-making concerning the manufacture, distribution, and utilization of textiles and apparel.

Initial fabric structural classification of the Burial 57 textiles yielded two distinct types of fabric, each of which had a distinguishable color. Group 1 textile fragments, composed of brown yarns, exhibited compact twine with or without oblique interlace/oblique twine. Group 2 fragments incorporated interworking of widely spaced green and brown yarns. Since textiles in both groups were subject to the same diagenetic mechanisms, one can assume that other factor/s in their histories caused the distinct differences. Analytical investigations undertaken to explore the differences included such techniques as phase contrast and differential interference contrast photomicroscopy as well as scanning electron microscopy, energy dispersive analysis of x-rays, and infrared microspectroscopy.

Analysis of the data collected underscores basic fiber and yarn similarities between the two groups, despite the color differences. The current findings suggest that the Etowah people utilized the same raw materials to prepare at least two different textile structures to serve different functions within the burial. Whether the fragments within the groups were originally part of only two textiles is another question. The ethnohistorical evidence does indicate the possible wrapping of the body with a blanket and matting (Holmes 1894).

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The Appalachian Region is a wide expanse of territory which is economically and commercially depressed. Raine (1924) noted that craft programs which take into consideration the community, finances available, and personality and resourcefulness of the workers are ideally suited for the Appalachian Region. Studies of craft programs which identify criteria responsible for enhancing the cultural and economic prosperity of the citizens of a community are virtually unavailable.

The purpose of this research was to document the history and analyze the weaving program at the Quicksand Craft Center, and to assess the success of the program in the local community. Data on the handweaving program were compiled and analyzed in four key areas.

The history of the craft center from its conception in 1961 to present was documented from primary sources including letters, articles, photographs, and interviews with persons involved with the program. The continued success of the Quicksand Craft Center is largely due to the benevolence, perseverance, and cooperation of the founders, directors, and community members.

The business organization and financial structure was analyzed from yearly financial statements for the years 1984 through 1987, the only years which information was available to the researcher. Tables and graphs were developed to help illustrate the non-profit organizational structure of the craft program which was financially stable and met federal guidelines for tax exemption.

Traditionalism of the overshot weave patterns in goods produced and sold by the craft center was determined through comparisons with older documented overshot woven textiles. Of the four patterns examined, all could be traced to popular 19th century overshot coverlet patterns. Analysis of the weave patterns revealed that traditional patterns and methods of construction remained, but adaptations were made in fibers and end products. Handweaving, traditional as well as modern, is influenced by consumer needs, availability of materials, and popular perceptions of handweaving.

To emphasize the success of the craft program, three weavers were interviewed, noting any influence, positive or negative, the program has had on their lives. In each case, increased self-reliance and self-esteem was directly correlated to the economic return from weaving.

The cultural success of the Quicksand Craft Center has been due to the perception of the founders in understanding the needs and characteristics of the local people the program was designed to help. The economic success can be attributed to a sound financial structure and the directors' awareness of consumer demands in adhering to traditional weave patterns with the incorporation of minor adaptations.

Many "Pacific Rim" countries circling the Pacific Ocean are seen as major global regions for expected economic development in the twenty-first century. Already, urbanization and industrialization have led many of the labor-intensive traditional arts and skills toward oblivion. Land that historically supported resources needed for them, and time and talent of craftsmen are focused on newer pursuits.

The Philippines has been known historically for production of certain natural fibers including versatile abaca, ramie, and pineapple fiber. Of these, only abaca has been produced in enough volume to be considered a significant textile export fiber as listed in FAO Trade Yearbooks over a number of years. Some cotton fiber is grown and fabric exported, but much more is imported. Some indigenous fibers have gained interest more because of their novel uniqueness and delicate beauty rather than ease of care or durability that current consumers have come to expect. Competition from more convenient fibers and from other needs for land, resources, and labor have contributed to the decline of much traditional ethnic fabric production. In the Philippines, the fragile fabric known as pina is one such example.

Pina is usually a plain weave, narrow, sheer fabric woven from the inner fibers of pineapple leaves. Just as different varieties of a plant are cultivated for different purposes, the indigenous variety of pineapple used for pina is cultivated for its long leaves, and has a very small fruit. It is often interplanted with other low crops in rolling, hilly areas of Aklan Province on Iloilo in the Visayas, or central Philippine islands.

Traditional production uses leaves about eighteen months old and twenty-four to thirty inches long, each leaf harvested by hand. They are then processed using simple tools to remove outer spines and coarse fibers. The fine, inner fiber is then stripped out, beaten, washed, and dried. The processed fibers are left unspun, knotted into lengths, and sold by weight as pina yarn which is woven on an overhead frame loom into sheer fabric.

All photographs and extant specimens viewed by the researcher during a year and a half in the Philippines were dyed with pastel colors. As stronger, sheer, synthetic fabrics became more popular for functional uses, pina use became more decorative. Since the 1960's, tiny, swivel or inlay motifs in low-twist, white silk or rayon have made the fabric even more decorative than functional.

Pina cannot withstand stress or hard wear; it is brittle, and cracks with repeated creasing or folding. While it makes a filmy appearance, it wrinkles easily and needs careful treatment. The loose weave discourages use in garments which involve stress at seams and constant creasing. It is often made into stoles, a decorative, non-stress use. These are often from eighteen to thirty-six inches wide and up to two yards long, with warp at each end knotted into a fringe. Other uses include decorative handkerchief, head scarves, and doilies, often for the tourist trade.

Because of its brittle fragility, pina should be stored rolled between layers of acid free tissue on an acid free roll with no pressure from weight of other fabrics or objects. The tissue helps avoid snagging. Very little has been written about specific Philippine textiles inside or outside the Philippines, including pina. Most Philippine ethnic textile writing deals with abaca and its variations, palm, cotton, and grasses (Casal, 1981; McReynolds, 1982; Newman, 1977). Information for this topic was collected during residency in Mindanao and travel throughout the Philippines, discussions with local informants, observations, and collecting extant specimens.


McReynolds, P. J. (July-August 1982). Sacred Cloth of Plant and Palm. Arts of Asia, 12, 94-100.

The intent of the research was to investigate what role the twist direction in yarn spinning played in the Late Woodland prehistoric communities of central Ohio. Previous hypotheses asserted that the twist direction could be used for tracing ethnic relationships between communities. It is proposed that one type of twist direction in hand spinning will predominate for the entire site and that the twist direction will be characteristic of that ethnic group (Maslowski, 1984; Petersen and Hamilton, 1984).

In studying cordmarked pottery the procedure has been to consider all sherds from a site as a whole. The Water Plant site offered the opportunity to study pottery within the cultural, spatial matrix of the site. Dancey indicated that this site represented an enclosed village composed of at least eleven residential units occupied for a short time around A.D. 500. The sherds or fragments of ceramic vessels occur in spatial relationships with the artifact types of stone flakes and discarded biface blanks and appear to represent the household clusters.

An earlier study of 405 feature-derived sherds provided data that had nearly equal distribution of S (92 or 54%) and Z (73 or 43%) twist. Four percent of the sherds had both types of twist on the same sherd. These data suggested that the question of twist direction use required further study by household cluster.

A second period of data collection analyzed the 433 sherds obtained from two controlled surface collection. An even more nearly equal distribution of S (16%) and Z (33%) twist and a smaller amount of S and Z twist on the same sherd (2%) was found. In locating the twist direction characteristics along with artifact clusters, S and Z generally appear together, with Z predominating in three clusters and occurring alone in two. It appears that no single twist predominates strongly either by percentage or by cluster.

For comparison the researcher then analyzed sherds from two other Late Woodland sites, one within the same drainage area and cultural time period but chronologically later and a second in the same cultural period but different drainage area. The Zencor sherds (406) were distributed with S twist clearly predominant (70%), but 3% with S and Z twist on the same sherd did occur. In the different drainage area, the Lickliter site 320 sherds showed a nearly equal S (31%) and Z (29%) distribution. No sherds had both twist directions on the same sherd.

In conclusion, the finding that Water Plant and Lickliter have Z twist nearly equal to S twist cordage and Zencor has Z greater than 5-10% levels, indicates that the meaning of twist direction occurrence and frequency is more complex than the original hypothesis recognizes. The occurrence of sherds with both directions on them further weakens the hypothesis. The fact that distribution percentages differed from site to site would be predicted if the twist utilized was not culturally determined. The question is complicated by the absence of any textile remains being found at these sites or most Late Woodland sites in central Ohio. The research summarized here strongly suggests that the correlation of twist direction with ethnicity or cultural tradition needs to be thoroughly reexamined.


REVOLUTION AND RIBBON: GENERALIZATION
IN THE STUDY OF HISTORIC DRESS

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The French revolution of 1789 has been linked with the rise of ribbonwork dress among American Indians (Underhill, 1953, and Marriott, 1958, are two of at least seven authors who make this claim). According to this persuasive argument, restrictions on the use of luxury textiles, such as silk ribbon, resulted in stocks of ribbon merchandise being "dumped" on the New World market and made available to American Indians. The purpose of this research was to trace the connection between European-produced ribbon and the ribbon utilized by American Indians as decorative borders on garments and personal accessories, and to investigate the claim of the relationship of a "great event" to change in dress in another culture. The sources for the study included books on the history of the French ribbon industry (library resources of the Bibliotheque Nationale, Paris) and primary documents on eighteenth and early nineteenth century trade and gift between Europeans/Americans and American Indians (archival resources in the United States and Canada).

Historical evidence has shown that the French silk ribbon industry was highly unstable from the mid-eighteenth through the mid-nineteenth century. While the revolution of 1789 had repercussions on ribbon production, the critical factors cited have been the ruin of the merchant class, the disruption of silk fiber trade, and the depreciation of money, not dress regulations issued by the revolutionary assembly of France. There is no corroboration for an over-supply of ribbon in this period. Furthermore, evidence of non-elite use of ribbon in French dress (e.g., the tricolor cockade) coupled with the skepticism of costume historians regarding the effect of the revolution on the course of dressing practices do not support the linkage of revolution and ribbon oversupply.

Regardless, the North American market has never been listed as a significant sector for French silk ribbon imports. French merchants were deprived of a North American base for trade when in 1763 the French relinquished their claim to territory east of the Mississippi River to the British (having already ceded the Louisiana Territory to the Spanish in 1762). Thus, British suppliers controlled the objects of trade and gift reaching the American Indians developing ribbonwork. Strict protectionist legislation limited the entry of French silk textiles into England, thus rendering highly unlikely the possibility of French ribbons being transshipped to North America via British merchants. Even after the American Revolutionary War, British traders dominated the trade to ribbonworking Indians.

The search for interrelationships and causes are two types of generalizations pursued by historians (Gottschalk, 1963). The claim of ribbon "dumping" provides a case history that demonstrates the dangers of: 1) assuming the validity of a statement because of its repeated publication; 2) reducing interrelationship to one-way action (ignoring the dynamics of the demand for ribbon by American Indians and the supply of British silk ribbon (produced in Coventry and London); and 3) searching for a key cause (ignoring the effect of the Industrial Revolution on the production and thus the supply of ribbon).

References

The overall purpose of the research was to investigate dominant patterns of apparel restrictions, as they pertained to Canadian civilians during World War II. The study centered on the work of the Canadian Wartime Prices and Trade Board (WPTB), which issued the Administrative Orders that controlled the type and amount of supply of all textile products obtainable by the consuming public.

Primary archival sources including the restrictions and orders published by the government, quarterly reports, and office files of the WPTB were used as a data base. Using techniques of content analysis, details of the involvement of the federal government in controlling clothing supplies of Canadians immediately before, during, and directly after WW II were investigated. A standardized data collection form was used to quantitatively record the specifics of the WPTB's Administrative Orders from 1939-1946.

The results showed that the civilian clothing Administrative Orders issued by the WPTB peaked in 1943, and slowly were lifted through 1947. Although not instituted, a complete clothing ration system for the Canadian public was planned and printed, ready for immediate implementation. Of the published orders, restrictions were enforced for men's, women's, and children's clothing; inner and outerwear; and in several dozen garment categories from hats to socks.

For women's wear, fabric type and colour were restricted. Many design details were eliminated, such as pocket flaps, and the clothing dimensions of over-all garment length and sweep were strictly regulated. Extra fabric required for matching ensembles was forbidden. These orders gave rise to the "make-do and mend" campaigns of the period.

The research provides an account of recent Canadian clothing history that goes beyond existing consumption statistics and fashion narratives. Learning of the involvement of the Canadian federal government during WW II in the day-to-day lives of the public helps us to understand the relationship between essential services and societal regulation. The period of time studied is only two generations past and yet the degree of research knowledge about civilian practices is minimal. The outgrowth of the WPTB's Orders pertaining to civilian clothing was furtherance of the push for garment labelling and the development of consumer organizations.

This study represents the first part of a larger research work, the overall goal of which is to identify the Wartime Prices and Trade Board public education initiatives that informed Canadians of apparel restrictions.
Wardrobe consulting and personal shopping are new and rapidly expanding services which assist customers in the decision-making process for apparel. The purpose of this project is twofold: (1) to identify and profile present and potential users of shopping services with respect to demographic and lifestyle characteristics, and (2) to identify the functional symbolic benefits sought from surrogate shopper usage.

Surrogate shoppers have played an increasingly important role in serving as the interface between the consumer and the market. Surrogate shoppers, agents employed by the store or the consumer to assist consumers in the decision-making process are evident in a wide range of roles. The need for assistance with purchase decisions is intensified by role changes (i.e. new job), multiple roles, and the increasing complexity, and diversity of goods in the marketplace. Consumers may relinquish some control over the purchase decision in exchange for an enhanced probability of arriving at the correct choice or to reduce the time and effort associated with an unpleasant or time consuming task. Thus, surrogate shopping services may be viewed as offering two broad (but not mutually exclusive) classes of benefits which may be termed functional and symbolic. On a functional level, surrogates can facilitate the purchase function by minimizing the time and effort expended by the consumer. On a symbolic level, surrogates can provide subjective benefits such as confidence of a correct choice.

A significant increase in the number of career-oriented women in the workforce, coupled with the increased emphasis on career dressing, has created an important market for surrogate shoppers, however, the use of personal shoppers among career women specifically has not been investigated.

A questionnaire was developed which included several scales adapted from previous research to identify the factors related to usage of surrogate shoppers for apparel purchases. Variables measured included both functional and symbolic benefits. Principal component factor analysis with varimax rotation showed that all items in the instrument loaded on the factor scale which they were designed to measure and that none of the items loaded on another factor. Pearson product correlations showed that each item was highly correlated (.70 or greater) with the other items on the scale. Thus, reliability of the instrument was established.

Mailed surveys were used to collect data from 475 employed women in the Cincinnati, Ohio area during the summer of 1988. Fourteen percent of those responding indicated they had used or would use a surrogate shopper.

Surrogate usage was significantly related to clothing instrumentality, time consciousness, and shopping enjoyment. Respondents who perceived clothing as more instrumental and those who were more time conscious were more likely to use surrogate shoppers, whereas those who enjoy shopping were less likely to use surrogate shoppers. Also surrogate users have higher incomes and spend more on career clothing. No significant relationship was found between surrogate usage and price consciousness, shopping confidence, confidence in dress or in clothing involvement.

Both symbolic and functional benefits were identified as important reasons for using surrogate shoppers. Overall, the functional benefits of surrogate usage were perceived to be more important than the symbolic benefits (mean=3.54 vs 3.07 respectively, T=3.4, p<.001). The most important symbolic reason was to insure appropriateness.

As the number of consumers who seek professional assistance in making apparel and other purchase decisions increase, the need for an understanding of (1) the factors related to surrogate usage and (2) the functional and symbolic benefits sought from surrogate usage will become increasingly important. The intervention of surrogate shoppers in the consumer decision process has important implications for marketing strategies and consumer behavior theory.
This study examined the importance of apparel manufacturing to rural areas in Missouri experiencing economic difficulties. Investigators anticipated that apparel manufacturing often represented one of the few sources of off-farm employment in these communities.

According to a 1987 study, Rural Economic Development in the 1980s (U.S. Economic Research Service, 1987), rural areas are experiencing a period of extended economic stress. Declining agricultural incomes, along with reduced manufacturing employment, have been devastating to fragile rural economies.

This study began out of concern for the state's rural economy. Aware that a large portion of farm households have at least one individual who works in non-farm employment to "subsidize" the farm household (Sander, 1986), investigators anticipated that apparel manufacturing provided these jobs in many cases. Because of the apparel industry's competitiveness problems, investigators anticipated that a declining apparel industry caused compound economic difficulties for rural economies.

Objectives of the study were: (1) to understand the contributions (particularly in jobs provided) of the apparel industry to rural economies; (2) to analyze apparel manufacturers' perceived needs for making their firms more viable or competitive; (3) to determine if the perceived needs of manufacturers located in rural areas differed from those in non-rural areas; and (4) to analyze reported industry needs in terms of how the university might be of assistance.

The entire population of the state's apparel manufacturers (SIC 23) was included in a needs assessment survey. The mailed survey followed the Dillman (1978) method. A 70% response rate (93 apparel manufacturers) came from the upper level management persons to whom the mailing was directed.

Findings helped to establish the importance of apparel manufacturing to the state's rural economies. Results indicated that 64.3% of the respondents' firms were in small towns; 69.4% said their towns had been hurt by the farm crisis; and many represented a major (sometimes only) source of non-farm employment. Apparel jobs appear to be subsidizing farm incomes in many cases.

Manufacturers identified marketing and increased productivity as primary needs in improving competitiveness. Manufacturers' needs varied by locale (rural or urban). Respondents whose region was affected by the farm crisis and whose plant was the major (or only) employer in town identified government policy and improved management as greater needs than did other manufacturers.

Responses for improving competitiveness varied in some cases by size of the company. Smaller firms placed more importance on government policy and advertising/promotion than did larger firms. Larger firms placed more value on research and development and management. Firms of all size rated marketing as the top priority. Size did not appear relevant in rating increases productivity, competitive pricing, and innovative product lines.

Results have implications for resident and extension faculty in providing expertise to apparel manufacturers to enhance the industry's competitiveness.

References:
The purpose of the study was: 1) to investigate factors that might influence students' satisfaction with their majors/departments; 2) to examine the differences among four groups of undergraduate students; and 3) to derive implications for departmental planning based on students' initial expectations of and current satisfaction with their majors/departments. This paper views students as "consumers" of educational services with specific needs and wants and corresponding satisfactions. Satisfied consumers could eventually lead to more effective recruitment and higher retention. The study attempts to understand: 1) the student market that we are serving, 2) how successfully we are satisfying our student consumers' needs, and 3) what we can do to enhance departmental planning.

The variables investigated were expectations of and current satisfaction with one's major/department, attitudes toward one's major, academic/career influences, social and self influences on choosing a major, overall satisfaction with the university, and occupational orientations. Data (n=718) were collected from sixteen major universities across the nation and included majors in merchandising (62%), interior design (20%), apparel design (19%), and consumer science (4%). The great majority of students were single (95%), upper division (84%), female (93%), and caucasian (91%).

Prediction of current satisfaction with one's major/department. Based on multiple regression analysis (R²=.40, p <.001), those who were overall highly satisfied with their majors/departments: 1) were more likely to perceive the course offerings as interesting and useful, 2) tend to be satisfied with their universities, 3) tended to have enterprising occupational orientations, 4) were more likely to have a favorable attitude toward their major, 5) tended to have higher initial expectations of their major/department, 6) were more likely to perceive the workload/difficulty to be low/easy, and 7) considered the image of their career to be favorable.

Differences among four majors. Based on a series of one-way ANOVA analyses, students differed only slightly in their initial expectations of attributes related to program quality/status and did not differ significantly in their initial perceptions of career opportunities/services or program enrichment. However, there were significant differences in current satisfaction with the department among the four groups of students (F=15.48, p <.001). Students also differed across the majors in the areas of attitude toward one's major, academic/career influences, social and self influences, overall satisfaction with one's university, and occupational orientation.

Satisfaction-Expectation Grid. In order to derive implications for departmental planning based on the results of both the expectation and satisfaction data, a satisfaction-expectation grid (adapted from Martilla and Jones, 1977) was utilized. The plot of the intersections of mean satisfaction scores and scores of change from initial expectations identifies areas in need of improved performance, as well as departmental strengths. The areas on the grid suggest strategies as follows: I. keep up the good work; II. try to improve some so that students' expectations are more nearly met; III. concentrate here; there is room for improvement in satisfaction and meeting expectations; IV. serious reevaluation and improvement needed. Although there are obviously many ways to enhance student satisfaction, some implications for departmental planning, recruitment, and retention are suggested.

Reference
Major United States apparel executives are increasingly looking to globalization in the search for new markets and future profitability. Entering the international marketplace as a global firm requires a commitment and adaptation to the market. As with domestic markets, an understanding of customer expectations and buying behavior in global markets is critical. Research on the factors influencing the textile and apparel preferences of international consumers has important implications for both the United States and international markets. The purpose of this study was to examine international consumers' buying patterns for apparel produced in the United States. The textile and apparel industries are so closely related that information regarding both sectors is needed to present an overall perspective. According to the consumers' country of origin, identifiable buying profiles concerning (1) preference of fibers, (2) utilization of fiber content and care labels, (3) patronage of stores, (4) perceptions of garment quality, (5) interest in fashion, (6) adoption of products, and (7) sociodemographic characteristics of participants were determined.

The female and male consumers represented in the investigation consisted of registered undergraduate and graduate students at two state-supported universities. A mailing list of international students from three Pacific nations (Japan, South Korea, and Taiwan) were obtained from the International Student Advisor's office on each campus. Questionnaires were mailed to 401 pre-selected international students. Nine questionnaires were returned stamped "no forwarding address on record." A total of 189 questionnaires were returned, of which 177 were useable, yielding a 45.2% response rate.

Profile data of the participants were analyzed using basic descriptive statistical methods. A total of 97 females and 80 males participated in the study. Gender distribution within country of origin was not significant. Forty-seven percent of the subjects were from Taiwan, 29% from South Korea, and 24% from Japan.

The results of the ANOVA tests disclosed that gender and tactile fabric selection for specified apparel items had a significant influence on consumer's fashion interest while country of origin was insignificant. Country of origin, store patronage, and fiber preference were significant in explaining buyer behavior. Age, fashion interest, years residing in the United States, gender, country of origin, and buyer behavior had a significant influence on participant's fiber preference.

Market potential is italicized by the 1990s growth projection of apparel consumption worldwide. Two parallel trends emerge: a slow growth domestic market and a fast growing world market. The underlying thrust of these implications is the need for U.S. manufacturers and retailers to gain a deeper understanding of the diversity of the international consumer market, and to personalize to a greater degree more detailed marketing strategies directed at reaching key international market segments.
Introduction: Textile and apparel specialists are continually seeking greater understanding of consumer satisfaction. The confirmation/disconfirmation model is frequently accepted in marketing as a representation of the process by which consumers develop feelings of satisfaction or dissatisfaction, but it has not been applied to apparel products.

Objective: The objective of the study was to determine if a disconfirmation model of consumer satisfaction could explain consumer behavior toward the purchase of an apparel product as it did toward restaurant patronage.

Hypotheses:

H1: Expectation is correlated negatively with disconfirmation.
H2: Performance is correlated positively with expectations.
H3: Performance is correlated positively with disconfirmation.
H4: Disconfirmation is correlated positively with satisfaction feelings.

Instruments: Two questionnaires were used to gather data with the initial measure occurring at the time of purchase and the follow-up measure occurring after usage of the item. An instrument was developed in which expectations regarding eleven desired attributes were measured on a five point scale. The same eleven attributes were used to measure the consumer's perception of performance several months after the purchase. Disconfirmation was measured by two items while general satisfaction was measured by four Likert-type items.

Data Collection: The initial questionnaires in "hang tag" form were attached to 4,798 insulated jackets and gloves for men, women, and children in eight retail stores. After purchasing a tagged garment, 749 customers filled out initial questionnaires, and received a dollar. The return rate of 15.6% was much higher than the typical rebate response rate of 8-10%. The follow-up questionnaire concerning performance, confirmation, and satisfaction was mailed to each respondent, and resulted in 525 usable questionnaires being returned for a response rate of 69.6%.

Data Analysis: The data were analyzed by principle component factor analysis without rotation factor analysis and Pearson correlation.

Findings: Two factors were extracted from the perception of garment performance on the eleven attributes. Factor I represented good performance while Factor II represented neutral to poor performance. The attributes which contributed most to the perception of good performance were: (1) durability, (2) breathability, (3) comfort, (4) fit and (5) no bunching or thinning. Hypothesis 1 was rejected, hypotheses 2 and 3 were partially accepted, and hypothesis 4 was accepted.

Conclusions: The disconfirmation model of consumer satisfaction was not totally correct in representing the behavior of the respondents regarding insulated apparel. Two problems with the model were evident: disconfirmation in relation to expectations and Factor II - Perceived Performance. These problems may arise from: (1) an error in the disconfirmation step of the model, (2) some difficulty in Factor II, or (3) the nature of apparel products.

Implications: If the problems are due to an error in the disconfirmation step to the model, it basically negates the value of the model. Any problems resulting from difficulties in Factor II could stem from random variation within the factor or from lack of conceptual clarity (neutral to poor performance). If the problems are due to the nature of apparel products as opposed to other products, then the implication is that consumers develop feelings of satisfaction for various products through different processes.
Youth have had an important influence on American fashions and they compose a sizable segment of U.S. consumers who seek trendy and fashionable clothing. A similar phenomenon is evident in Japan where high discretionary incomes combined with fashionable youth movement have produced a growing fashion market. In this latter case designer fashions play a significant role as the most important customer in the designer market in Japan is the college student. In Japan lifestyle is more formal and also more group and status oriented. In the United States, particularly in California, a casual lifestyle is reflected in students' fashions which tend to be informal and individualized. It may be that these cultural differences are reflected in attitudes about and purchases of fashion apparel. The purpose of this study was to compare California and Japanese students' fashion purchase behavior and their perceptions of apparel produced in countries around the world.

Method. Female students enrolled in five California (n=220) and three Japanese universities (n=152) served as the samples. Both metropolitan and small cities were represented in each country. A survey instrument was developed in Japanese with the assistance of a Japanese student, pre-tested by 10 Japanese adults residing in California, and refined by a clothing and textiles university professor in Japan. A parallel instrument was developed in English and pretested with U.S. students. Nationality served as the independent variable. Dependent variables included: 1) clothing purchase behavior (designer clothing purchases, proportion of income spent on clothing and number of outfits purchased per season); and 2) perceptions related to country of origin of apparel. Data collected in Japan were returned to the U.S. for comparison with the U.S. data using t-tests and Chi-Squares.

Results. A t value approaching significance (p<.06) indicated a higher percentage of the U.S. sample purchased clothing from designers than the Japanese sample. There were many differences in the degree to which individual designer fashions were purchased with a higher percentage of Japanese students purchasing from European designers. Striking differences appeared between purchases of Japanese and American designer goods. A larger percentage of the Japanese than the U.S. sample purchased goods from Japanese designers in all instances but one. Similarly, more U.S. than Japanese students purchased more American designer goods with the one exception of Kamali. There was no difference between the two samples on the proportion of income spent on clothing; however, the U.S. sample purchased significantly more outfits per season than the Japanese sample, perhaps at lower costs per outfit. Attitudes regarding the country which produces the best quality and most high status clothing differed between groups. The Japanese sample felt that Japanese clothing was the best quality; while the American sample felt that Italian and French clothing was the best quality. Both samples felt that French and Italian clothing held the highest status; however, the Japanese sample felt that Japanese clothing held the next highest status while the American sample felt that American clothing held the next highest status.

Implications. There do appear to be ethnocentric attitudes regarding attributes of domestically produced fashion for both samples in addition to more purchases of domestic designers. Consumer attitude barriers may be more detrimental to increased trade than government actions.
THE INFLUENCE OF FASHION OPINION LEADERSHIP ON CATALOG USE AMONG URBAN SHOPPERS

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Previous research (Seitz, 1984) has shown that urban catalog shoppers are more fashion conscious than rural shoppers. Hence, the purpose of the present study was to examine the relationship between dollar amounts purchased via mail-order apparel catalogs and fashion opinion leadership among urban shoppers. Research of this nature will assist marketers in the development of catalogs targeted to urban professionals.

The Howard-Sheth model of consumer behavior (Howard & Sheth, 1969) was used as the underlying theoretical framework and suggests that shoppers' buying habits are influenced by external environmental factors such as fashion. Fashion opinion leadership was operationalized using the Fashion Opinion Leadership Inventory developed by Schrank and Gilmore (1973). The inventory consisted of twenty statements regarding fashion and were measured using a modified-Likert scale ranging from definitely true to definitely false. Scores were summated and ranged between 21 to 97 with a mean score of 56.50. The sample consisted of 209 Oklahoma female catalog consumers of apparel, drawn systematically from a pre-selected population frame purchased from a direct marketing brokerage firm. Data were collected through mailed questionnaires. A 45 percent response rate resulted from two mailings. A major portion (33%) of the respondents were age 65 or older and had graduated from high school. Furthermore, a majority of the respondents were employed outside the home (63%) and were married (71%). In addition, a majority (60%) of the respondents spent $100 or more on apparel purchases through the mail.

The research hypothesized that a relationship existed between fashion opinion leadership and the dollar amount spent for apparel in mail-order catalogs. Results of analysis of variance yielded no significant relationship between the variables (p > .05); hence, the null hypothesis could not be rejected. However, an analysis of cell means indicated that as the degree of fashion opinion leadership increased so did the amount of money spent in the apparel catalogs. Overall, findings did not support results found in earlier studies. Future research should examine this relationship using alternative methodological approaches to determine significance.

Fashion marketers must realize that consumers residing in different geographical regions possess varying demographic and psychographic characteristics that influence buyer behavior.


The importance of "value" to today's consumer cannot be underestimated. Garda (1988) has suggested that the field of marketing re-orient itself to an understanding and delivery of value to consumers. As such, the value concept should increasingly play an important role in apparel marketing research. The purpose of this study was to construct an apparel value model based on the theoretical model as proposed by Zeithaml (1988). The second purpose of this study was to use the model to analyze the influence of country-of-origin on the value images of apparel retail stores.

A telephone survey using a national probability sample of 325 consumers was conducted. Systematic random sampling procedures were used and a 68% response rate was achieved. The dependent variable, value image, was based on Zeithaml's (1988) definition of value as the tradeoff between quality and price. Quality was measured on a four-point scale where four was equal to excellent quality and one was equal to poor quality. Price was also measured on a four-point scale where four was equal to high price and one was equal to low price. Three types of apparel retail stores were included in the study: department stores, discount stores, and off-price stores. Apparel from five countries of origin were evaluated. These included United States, Italy, Korea, China, and Costa Rica.

Multi-dimensional scaling was used to construct a four-quadrant value model based on quality and price scores. Quadrant I represented "excellent" value where the quality/price ratio favored quality over price. Quadrant II was labeled the "fair but expensive" value quadrant as apparel products from these stores and countries of origin were perceived to be of higher quality but also of a corresponding higher price. Quadrant III represented "poor" value where the price/quality ratio favored price over quality. Quadrant IV represented "fair but cheap" value in that apparel products in this quadrant were evaluated as being low in both price and quality. T-tests were used to measure at what point the ratios identified significant differences between price/quality scores.

It was hypothesized that the retail store's value image would change based on product country-of-origin information. Analysis of the data revealed that the department store's association with apparel products from Korea, China, and Costa Rica moved the value image from the "fair but expensive" quadrant into the "poor" value quadrant (lower quality, higher price). All value images for the discount store were in the "fair but cheap" quadrant except for U.S. made apparel products sold in discount stores. The discount store's association with the U.S. moved these products into the "excellent" value quadrant (higher quality, lower price). The off-price store's association with U.S. made products moved the value image from the "fair but cheap" to the "excellent" value quadrant. The off-price store's association with apparel made in Italy moved products into the "poor" value quadrant (lower quality, higher price).

Implications from these findings include consideration of the positive or negative impact on a store's value image through country-of-origin associations. While these images may not always reflect reality, results from this study should not be ignored, especially in light of a multi-million dollar industry advertising campaign designed to promote the image of U.S.-made apparel products. Further work on and use of the apparel value model is recommended.

References


Mail-order sales are increasing at an annual rate of approximately 11% while in-store sales are increasing at a rate of only 4%. Seventy-four percent of all U.S. households make catalog purchases each year. Apparel catalog companies are required by law to include country-of-origin information in the written description of their products. The Textile Fiber Products Identification Act states that a textile fiber product shall be considered to be falsely or deceptively advertised in any mail-order catalog which is used in the direct sale unless such description states in a clear and conspicuous manner that such product is manufactured in the United States, imported, or both. One of the interesting aspects of this act is that it does not require the identification of specific countries-of-origin for imported products. This study will investigate whether or not it is to the advantage or disadvantage of catalog companies to label imported merchandise by specific countries-of-origin.

The purpose of the study was to analyze consumers’ likelihood of purchasing apparel from catalogs and how the labeling of specific countries-of-origin affects purchasing. The framework for the study was reasoned action theory which attempts to link attitudes with behavior. A sample of 400 men and women was drawn on the basis of a systematic probability sample of households in a midwestern city and interviewed by telephone. There were 300 interviews (75% response rate) obtained. Variables in the study consisted of perceived quality, perceived price, five countries-of-origin, and likeliness of purchase. Quality perception was measured on a four-point scale (excellent, good, fair, poor) as was price (very high, moderately high, moderately low, very low). Consumers were asked how likely they were to purchase apparel from catalogs and each country-of-origin (very likely, likely, unlikely, very unlikely).

Correlation and regression analyses revealed that for the United States, Korea, China, Italy and Costa Rica, price perceptions were not related to likeliness of purchase. However, for all countries-of-origin, quality perceptions were significantly related to likeliness of purchase. There was a significant positive relationship between quality ratings and likeliness of purchase for all countries-of-origin with the U.S. having the strongest positive correlation. Among foreign countries-of-origin, Italy had the strongest correlation with likeliness of purchase. T-tests indicated that price perceptions were significantly higher than quality perceptions for Italy, China and Costa Rica.

Based on these findings, some catalog direct marketers might consider the advantages and disadvantages of listing specific country-of-origin information when selling imported products in catalogs. Further investigation into why quality rather than price was more strongly related to likeliness of purchase is recommended.
EFFECTS OF U.S. BILATERAL TRADE AGREEMENTS ON THE GROWTH OF TEXTILE AND APPAREL TRADE FROM DEVELOPING COUNTRIES

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World trade in textile products involves all of the developed and most of the developing countries. For many of the developing countries, textile and apparel exports are one of the chief sources of employment and foreign exchange earnings. Developed countries, including the U.S., generally are supportive of the idea that increased trade is a powerful force for promoting economic growth in developing countries. They are, therefore, willing to permit developing countries to have some access to their markets; they are not willing, however, to have their markets "disrupted" by real or potential gluts of imports. Given this situation, trade in textiles and apparel is negotiated as an exception to the General Agreement on Tariffs and Trade (GATT) under the Multi-fiber Arrangement (MFA). The broad purpose of the MFA is to allow development of trade in exporting countries while at the same time avoiding disruptive effects in importing countries.

The U.S., with the world's largest and most lucrative textile and apparel market, is a highly desirable outlet for developing countries' exports. To counteract the disruptive effects of sharply rising imports, the U.S. has negotiated bilateral agreements with 43 countries under the MFA. These agreements set quantitative restraints on textile and apparel exports. Each U.S. textile agreement provides for assured market access, flexibility to adjust restraint levels in response to market changes, and consultations to resolve questions and disputes.

Given the significant role these bilaterals play in the growth of trade from developing countries, the purpose of this research project was to identify the extent to which bilateral agreements have in fact been effective in promoting the growth of trade from developing countries. Theoretical and applied aspects of the theory of comparative and relative trade advantage provided the general framework for analysis.

A multimethod approach was used to achieve the research objective. First, attitudes and opinions on the effectiveness of the MFA in promoting trade from developing countries were collected by direct interviews with trade officials from leading exporting countries and the U.S. government. In order to get additional in-depth data, India was selected for a case study analysis; attitudes and opinions were collected by direct interviews with Indian exporters and export promotion executives in India. These respondents provided industry-level data. Next, both bilateral agreements and trade statistics of textile and apparel exports from India to the U.S. were analyzed to measure the degree of change within restrained categories and groups between 1974, the year the first MFA was signed, and the present.

Results showed that while the general consensus among individuals was that the MFA provided useful trade guidelines, its effectiveness in terms of trade promotion for exporting nations received more mixed reviews. Most officials from exporting nations were in favor of phasing out the MFA, but for differing reasons. Included among these are that the MFA has, over the years, built up a bureaucratic system requiring too much time and money and that protectionism is hindering industries in exporting nations from achieving the high levels of competitive efficiency of which they are capable. Analysis of data of U.S. imports from India indicated that percentage fill of categories with specific restraints has been low as compared to extremely high group fill levels for each bilateral agreement period. This seems to indicate that while India is attempting to utilize fully its trade potential, the group restraints placed on its exports are providing a barrier to growth.

The results of this research have value for policy-makers in both exporting and importing nations, especially in terms of their negotiations on a phase-out of the MFA and plans for moving textile trade back to GATT guidelines with a minimum amount of global disruption.
Most international textile trade operates under the auspices of the Multi-Fiber Arrangement (MFA) which allows quantitative restrictions (QRs) on the export side. These are known as voluntary export restraints (VERs). VERs, established through negotiations between two governments, result in the exporting country limiting its export supply to the importing country; in the case of textiles, the exporting country agrees to restrict its supply to an upper limit or quota determined by the importing country. The importing country also defines the commodity categories, the volume rather than value terms, and the time period in question. In all cases of U.S. textile trade policy, the rights to the agreed-upon quotas are given rather than sold to the governments of the importing countries. The importing country then internally allocates the rights to fill this quota to manufacturers and exporters within that country.

This research reports on internal allocation policies in Malaysia, one country with which the U.S. has a bilateral agreement. The framework for the research is provided by a standard theoretical model of QR effects. Malaysian quota allocation policy is examined in relation to 1) distribution of quota "rents," 2) international structure of the textile industry, and 3) social effects. Data were collected in Malaysia and Washington, DC in 1987 and 1988 primarily from two sources: 1) personal interviews and 2) government statistics and policy statements.

Quotas agreed upon by Malaysia under its bilateral trade agreements are allocated to manufacturers by the Ministry of Trade and Industry. Allocations are based on past performance of manufacturers, a policy similar to that of many other countries. Unused quota cannot be sold to other manufacturers as is possible in Hong Kong, but must be returned to the Ministry, where it is reallocated. Actual allocations are decided by Ministry officials, though a working group composed of representatives from industry and government develops policy guidelines.

The QRs agreed to by Malaysia, which are complex and worsened when the bilateral agreement with the U.S. was amended in 1987, produce a number of economic advantages to the country. Examples are guaranteed market access, receipt of quota rents by Malaysian manufacturers, product diversification and upgrading, and encouragement of increased Malaysian foreign investment. However, disadvantages such as increasing cartelization of the Malaysian industry and excessive reliance on too few export markets also are evident. While these economic relationships may be consistent with the relatively simple model employed for their analysis, there is no model that provides a comparable template for the understanding of administration of quota policy in countries such as Malaysia. The value of the case study is that it permits extension of the analysis to this phase of what inevitably is a political process. Both the political and social problems that have accompanied the economic effects of Malaysian quota allocation policy are discussed.

The advantages that exist for Malaysia become disadvantages for the U.S. These disadvantages have received relatively little attention in terms of the implementation of U.S. policy. The U.S. continues to administer its quota allocation policy in a manner that is costly both to consumers in this country and to the government itself, and which has the effect of subsidizing foreign industry. This would not be the case were the U.S. to adopt a system of quota auctioning, an option that may become more widely discussed as U.S. leaders consider policy and administrative alternatives necessitated by their recent Uruguay Round agreement to phase out the MFA.
FACTORS CONTRIBUTING TO THE SUCCESS AND ADVANCEMENT
OF WOMEN IN RETAILING

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The slow advancement of women into the upper level retail hierarchy is of concern to faculty who strive to prepare students for these highly competitive career positions as well as to women presently employed in retail managerial positions. Extensive literature exists which identifies barriers to women's advancement but little is known about factors that contribute to and aid women's advancement.

The purpose of this study was to determine which specific factors had contributed to the success and advancement of women functioning in middle and upper level retail positions. Female retailers who were studied 1) appeared in 1987 department, discount, and specialty store directories; 2) were identified by gender specific names or titles; 3) were employed by retailers that listed 10 or more executives; and 4) held a position not visibly due to family ownership.

Questionnaires were mailed to 466 women employed in retail establishments in the southwestern region of the United States using a systematic random sample selection procedure. The 205 usable returns (44%) revealed that the average participant in this study was 37.5 years old, married with one or two children, college educated and earning between $15,000 and $35,000 a year as a retail executive.

Using Vaudrin's (1983) measure of Career Success and Advancement, participants were to rate the importance of 28 factors in contributing to their success and advancement in retailing using a five-point scale ranging from none (1) to essential (5). Responses of upper level executives were compared to middle level executives.

Data analysis identified seven areas which received ratings of "high" to "essential" for both upper and middle level executives. These areas included "Self-confidence/Self esteem," "Intelligence/Ability," "Demonstrated competence on the job," "Interpersonal/People skills," "Hard work," "High aspiration level/Drive/Motivation," and "Taking advantage of opportunities."

Significant differences were found between upper and mid-level participants in only five areas. Specifically, upper level executives attributed more importance to "Interpersonal/People Skills," "Hard work," and "Willingness to take risks" than did mid-level respondents (P<.05). Mid-level executives attributed significantly more importance to "Support from friends/colleagues," and "Being at right place at right time" to their success and advancement than did upper level executives (P<.05). The lowest rated factors for both managerial levels were "Feminist Movement," "Affirmative Action Legislation," "Organized Women's Networks," and "Professional Organizations."

Further study is needed to identify how specific areas have enabled a select group of women to advance into upper managerial level. Such research can benefit future generations of graduates and professionals by providing stepping stones for women striving for advancement into the higher organizational echelons.

References
Outreach to business and industry and securing outside sources of research funds are priorities for many apparel and textiles educators. Apparel and textiles businesses often provide financial support for education, but their trade associations broaden the opportunity for interactions between the two groups.

A trade association is a nonprofit, cooperative, voluntarily-joined organization of businesses or business executives that works for the unified promotion of its members' common interests (Kunz & Lewis, 1989). Over 111 apparel and textiles trade associations (ATTA) are listed in the 1989 publication National Trade and Professional Associations of the United States. A review of literature related to trade associations revealed general services and organizational structures. Better understanding of ATTA services, their membership, and their willingness to cooperate with educators can assist faculty with outreach efforts.

Objectives of this study include a) gaining a better understanding of services to members and membership of ATTA, b) determining the willingness of ATTA to cooperate with apparel and textiles educators, c) assembling a list of association names, addresses, and telephone numbers, and d) making the list available to apparel and textiles educators as a resource.

A telephone questionnaire was developed, pretested, and administered to executives of ATTA listed in the previously mentioned directory. Questions pertained to purposes, sources of funds, membership, services to members, history, and willingness to cooperate with educators.

The study found ATTA to be organized around six fundamental services: support of production workers, management's relations with labor, development of interests and skills of individuals and entrepreneurs, political influence and lobbying, and standardization of products and processes. Most trade association executives expressed interest in working with apparel and textiles educators depending on the program or research proposed, but educators must take the first step to cultivate relationships. ATTA executives emphasized that relationships should be mutually beneficial. Interactions suggested were providing scholarships, internships, research information, and funding for research projects. A list of apparel and textiles trade associations was compiled that included information about ATTA fundamental services, contact person, ATTA resources available, and possible interaction with educators. The few association executives who were not willing to cooperate with educators stated their association was too small, educators did not adequately prepare students to work in industry, or a previous experience with education had been unsatisfactory.

Benefits resulting from this outreach effort include increased awareness of the diversity of employment in the apparel and textiles business, contacts with possible sources of funding and other support, addition of the department's name on mailing lists, ATTA increased awareness of the educator's interest in cooperation, and receipt of association's publications.

Even though quantities and prices of U.S. pigskin exports have increased in recent years to $16,276,116 in 1987, exports represent an extremely small portion of total pigskin produced, given 80-85 million hogs slaughtered annually in the U.S. (Foreign Agricultural Service, 1988). Pigskin appears to be a huge national resource whose value is not maximized. The Pigskin Council of America was formed to promote pigskin but was overwhelmed by the complexity of the market. What is the need for a trade association in the pigskin market? What elements of the U.S. pigskin market can benefit from the efforts of a trade association? How should the efforts of a trade association be directed? This paper is based on qualitative analysis of three technical reports related to the pigskin market; research articles related to roles and functions of trade associations; examination of Pigskin Council of America (PCA) records; interviews with pigskin market participants; discussions with United States Department of Agriculture statisticians; and visits to packing plants, tanneries, leather goods manufacturers and retailers.

A trade association is a nonprofit, cooperative, voluntarily-joined organization of businesses or business executives that works for the unified promotion of its members' common interests (Kunz & Lewis, 1989). Trade association services to members include accounting and statistics research, education and communication, government relations, human resource management, market development and public relations, and product development research. Most trade associations have a board of directors with elected officers, a system of committees, and a permanent association executive. The skills of the permanent association executive are probably the association's most critical resource.

The PCA began in 1982 as an organization of pork producers, packers, hide brokers, tanners, and end products manufacturers committed to making genuine pigskin leather a major factor in U.S. and world markets. Services to PCA members included research and education, product identification, marketplace promotion, and communication. The PCA was funded primarily by active members (packers, tanners, and pork producers) on an equal basis for a total of 3 cents per skin. Associate members paid $300 annually. The PCA was successful in becoming known as an association providing information about pigskin leather. Problems of the PCA included lack of increase in membership, misdirected marketing efforts, lack of available supply of pigskin and pigskin leather, lack of a statistical data base, and the inability to collect dues from tanners.

Pigskin market potential remains a promising challenge for economic development. However, the PCA will thrive only if meat packers and hide brokers provide the core of financial support; the association efforts are carefully channeled; and new dynamic leadership is found. To be successful, pigskin market participants must develop an understanding of the nature of the market, improve the quality and image of their product, and learn to manage the market's volatility.

The Effects of a Women's Management Training Program on Female Retail Management and Interior Design Students' Attitudes

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Traditionally, Retailing and Interior Design have been major employers of women and show a high percentage of women administrators and managers (Hymowitz & Shellhard, 1986). Yet, even in these career fields where women sought employment and have advanced, women are still predominantly in the lower management levels and have not advanced as far or as fast as their male counterparts (Hymowitz & Shellhard, 1986). Curricula in the past has focused on providing specialized content pertaining to Retailing and Interior Design and not necessarily placed emphasis on managerial effectiveness or unique problems which may confront women managers.

Training programs, offered as part of college and university curricula, are one method that has been suggested to address factors identified as hindering women's career advancement, namely sex-role stereotyping, lack of self-confidence and assertiveness, and role expectations.

This study investigated the effects of a women's management training program (Ames & Heide, 1982) on female Retailing and Interior Design students' attitudes of self-confidence, assertiveness and views on the role of women and women managers. Subjects were 24 (13 treatment and 11 control) juniors and seniors randomly assigned to groups. The treatment groups received the training program (Ames & Heide, 1982) designed to provide effective training for women to enable them to address issues, barriers and problems confronting women in their career advancement. The control group participated in training designed to prepare students to obtain career positions. Sessions lasting six weeks were conducted as a training program format with discussions, role-playing, gaming, simulation, exercises, and lecture used as the strategies for both groups. Attitudinal measures of subjects' self-confidence, assertiveness, views on the changing role of women and women managers were given on a post-test basis for both groups. Analyses indicated there was a significant program effect on students' attitudes on changing role of women in the treatment group as measured by Attitude Toward Women Scale. However, there were no significant program effects on students' attitudes of self-confidence, measured by Texas Social Behavior Inventory, assertiveness, assessed by Adult Self-Expression Scale, or women managers, measured by Women as Managers Scale. Based on pre- and post-test scores on Brookover Self-Concept of Ability and Achievement Scale, students were interviewed to further investigate program effects. Students in the treatment group indicated feeling more self-confident which could be attributed in part to the training program. However, the issue of sex-role stereotyping and role-conflicts emerged in interviews regarding the assertiveness attitudes as it relates to women. Students' reaction to the program was positive in terms of career preparation for barriers and problems that may confront them as women. The results of these analyses are discussed in terms of future research on training program framework as part of curricula to prepare future women managers as well as implications for further development and implementation of training programs aimed at increasing women's preparation to face issues, barriers, problems which confront women in their quest for career advancement.


The apparel industry has begun utilizing telecommunications and computer technology in an integrated system known as Electronic Data Interchange (EDI). With EDI, sales information is transmitted electronically from the retail point-of-sale back to the manufacturer and manufacturer's suppliers. As EDI is implemented, all types of retailers face the task of incorporating the technologies into their stores, yet limited information is available regarding the impact of these technologies on retail employees. The required use of new technologies may alter employee role perceptions and may even contribute to role ambiguity and role conflict (Lyons, 1971). Role ambiguity and role conflict increase the probability that a person will experience job dissatisfaction and less organizational commitment (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Retail buyers are likely to be directly affected by the implementation of new technologies since their jobs require interactions with many components of the apparel complex.

The purpose of this study was to investigate retail apparel buyer perceptions and use of new technologies; the presence of role ambiguity and role conflict experienced by buyers; the relationship of ambiguity and conflict to buyer perceptions of job satisfaction and organizational commitment; and relationships among buyer perceptions of new technologies, role ambiguity, role conflict, job satisfaction, and organizational commitment. A questionnaire was developed to determine buyer use and perceptions of new technologies, the presence of role ambiguity and role conflict, and perceptions of job satisfaction and organizational commitment using a five point Likert-type scale and forced choice responses. Buyers were identified through store contact, 90 questionnaires were distributed, and 51 usable questionnaires were returned. Data were analyzed using frequency tabulations, factor analysis with a Varimax Rotation, and correlations. Factor loadings were set at a minimum of .50, and significance was set at .05.

A majority of buyers were employed by a large, multi-location department store, had salaries over $30,000/year, had college degrees, were 35 years of age or younger, were responsible for buying for more than seven stores, and had 15 years or less buying experience. Buyers indicated they were experiencing little role ambiguity or role conflict and tended to be satisfied with their jobs and committed to their organizations. Role ambiguity and conflict were significantly positively correlated to each other and negatively correlated to organizational commitment and job satisfaction. Six factor scales were generated to describe buyer perceptions of new technologies and were titled: Success Through Computers, Computers Aid Business Realism, Computers and Vendor Relations, Personal Computer Use, Computer Performance, and Computer Confidence. Role ambiguity and role conflict were significantly negatively correlated with all factors except Personal Computer Use. Job satisfaction was positively correlated with all factors, though not significantly. Organizational commitment was significantly positively correlated with Computers Aid Business Realism and Computer Confidence. Usage findings indicated that buyers in larger stores were using new technologies. Buyers in most smaller, specialty stores had never heard of EDI, much less used the new technologies. Information is needed to aid all retailers in coping with industry changes and to assist them in successful implementation of EDI.


Enrollment in fashion merchandising programs in higher education has exhibited steady growth during the past two decades. However, limited information has been available regarding the status of fashion merchandising programs at the secondary level (grades 9 through 12). Program assessment is essential for developing curricula to strengthen secondary fashion merchandising programs. Home economics supervisors are the individuals most knowledgeable regarding the status of high school fashion merchandising programs within home economics. They are employed by departments of education to provide statewide leadership for home economics.

The objectives of this study, funded by the New Mexico Department of Education, Vocational-Technical and Adult Education Division, were to assess the perceptions of home economics state supervisors regarding a) current enrollment trends and b) the future of fashion merchandising in home economics programs at the secondary level. Forty-seven of the 53 supervisors (about 89%) responded to a survey during Spring 1989 requesting information about programs in their state.

State supervisors were requested to indicate which of 14 specified clothing concepts were currently covered and which concepts should be covered in secondary home economics classes. "Clothing construction" was identified as being covered by 96% of the respondents while only 64% of the supervisors stated it should be covered. "Buying clothing", "wardrobe planning", "clothing care", "clothing selection", and "influence on fashion" were concepts associated with the purchase of ready-to-wear which supervisors indicated should receive somewhat less coverage than was currently practiced.

"Fashion merchandising", the lowest rated concept, was reported as being covered in 24 states while 27 supervisors (57%) reported it should be covered. Almost 32% of the supervisors indicated "fashion merchandising" was not covered, and furthermore, it should not be covered in secondary curricula. Only 8 supervisors reported they were in favor of introducing fashion merchandising into their state's curriculum.

An increase in the inclusion of fashion merchandising in secondary home economics over the past five years was reported by more than one-third of the supervisors. About 15% reported a decline, whereas almost one-half specified the status of fashion merchandising classes "remained the same". Inclusion of fashion merchandising was predicted to increase over the next five years by 41% of the respondents while only 5 respondents indicated it may decrease. Almost one-half predicted the inclusion of fashion merchandising would remain the same.

Nine respondents indicated an increase occurred in the enrollment of students in fashion merchandising in secondary home economics classes during the past five years, however, 13 respondents (36%) indicated a decrease. On a more affirmative note, over 45% of the state supervisors predicted an increase in enrollment over the next five years in secondary fashion merchandising programs, yet a few respondents (16%) were negative about future enrollment in their state. The option, "remain the same", was selected by nearly 38%, possibly implying an attitude of uncertainty toward the future. Interestingly, over 75% of the supervisors indicated fashion merchandising was covered in an area outside of home economics.

Literature has indicated that fashion merchandising is often neglected in secondary home economics programs. Results from this study support that contention and suggest that fashion merchandising, as part of secondary home economics, may not experience the growth witnessed in higher education. Limited support by supervisors for the incorporation of fashion merchandising into their state's secondary home economics curriculum may result from their observation that merchandising is often included in marketing and distributive education instead. Perhaps state supervisors of home economics view fashion merchandising as better fitting in other vocational areas.
Apparel Purchase Decisions: A Cross-Cultural Comparison of Chinese and American Consumers

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The dramatic growth in international marketing over the last 25 years has not been accompanied by a commensurate increase in cross-cultural research on consumer decision-making. The most serious dearth of information involves consumer decision-making in developing countries, such as the People's Republic of China (PRC). The PRC is of particular interest because of its commitment to market socialism, a system of economic reform that has been described as "...the largest field experiment in consumer behavior ever undertaken" (Belk 1989, p. 6). One manifestation has been a dramatic increase in the consumption of fashion goods (Belk 1989). Little is known, however, about either how Chinese consumers make purchase decisions involving apparel, or how those decisions may differ from the decisions of American consumers. According to Thorelli (1988) and others (Sheth 1977), cross-cultural research is necessary, not only to build a cross-cultural theory of consumer decision-making, but also to improve the competitiveness of American firms in the international market. Therefore, the purpose of this study was to compare the apparel purchase decisions of Chinese and American consumers.

This study was administered in the summer of 1988. Subjects were 100 Chinese undergraduates (50 females and 50 males) from a university in Xi'an, PRC, and 100 American undergraduates (50 females and 50 males) from a university in the Mid-Atlantic region of the U.S. Each subject was presented with a research instrument composed of a set of 40 conjoint profiles, describing either a blouse, for the females, or a shirt, for the men. The profiles were developed using a 2 x 2 x 2 1/16 fractional factorial design, with full replication. The between-subject variables were country (PRC or the U.S.) and gender (male or female). The within-subject variables were 7 apparel attributes, varied at two levels each, which were borrowed from the Sproles (1979) model of fashion-oriented consumer decision-making. Subjects were asked to read each profile, and make a decision involving the likelihood of purchase. The profiles were translated into Chinese and back-translated to ensure that parallel stimuli existed between the English and Chinese versions of the task.

The purchase decisions of both the Chinese and American consumers were analyzed using an individual-subject analysis of variance (ANOVA) and Hays' omega square (\(\omega^2\)). The results showed no differences in the decision-making strategies of Chinese and American consumers. For male and female subjects from both countries, the most important attribute was style, followed by quality, ease of care, durability, price, fiber content, and origin. Post hoc ANOVA's performed on the \(\omega^2\) values demonstrated that style was more important to the females than to the males.

According to Sheth (1977), building a theory of cross-cultural consumer decision-making must begin by identifying similarities among consumers from different countries. The dominance of style in the apparel purchase decisions of both Chinese and American consumers lends support to the Sproles (1979) model, and suggests that it is an appropriate framework for future research on cross-cultural decision-making.

REFERENCES


Apparel buyers are perceived to be experts at satisfying company purchase objectives. In attempting to satisfy these objectives, apparel buyers may become uncertain about a purchase objective. In response, apparel buyers may require additional information to decrease this uncertainty. Little research, however, has focused on uncertainty in decision making among retail buyers.

The purpose of this study was to examine retail apparel buyers' use of information sources when uncertain about product characteristics. Sheth's (1973) model of industrial buyer behavior guided the formulation of research questions and the selection of variables for study.

Two subcomponents (information sources and active search) of the expectations component in Sheth's (1973) model were considered. Information sources included upper management, buying offices, another buyer/peer, sales representatives, trade publications, and competition. Active search represented the buyers' selection of information sources when uncertain about five product characteristics (quality, anticipated margin, expected sales, consumer demand, and aesthetics). The information sources and product characteristics used in this study had been rated as highly important decision factors in previous research.

A self-administered questionnaire was mailed to 442 retail buyers located in the West South Central region of the U. S. Buyers employed by department stores with sales greater than $1 million and with more than one store unit were selected for study. Buyer names and addresses were obtained from Sheldon's Directory (1988). Two hundred six usable questionnaires were returned yielding a response rate of 48.13%.

Buyers were asked to rate the importance of six information sources when uncertain about each of the five product characteristics. Thus, five questions specifying one product characteristic and six information sources were asked. A Likert-type scale where 1 was "not at all important" and 5 was "extremely important" was used to rate information source importance. Analysis of Variance tests and Tukey post hoc comparisons were used for data analysis.

There were significant differences in the degree of importance buyers placed on each information source when uncertain about specific product characteristics. When uncertain about the product characteristics -- "anticipated margin," "expected sales," and "consumer demand" -- results revealed that upper management was significantly more important to buyers than the other sources. The information source "another buyer/peer" was significantly more important to buyers when uncertain about "quality" and "aesthetics."

Product characteristic uncertainty does influence how buyers use information sources. Results support Sheth's (1973) proposition that buyers will conduct the information search process differently based on their expectations. Further research might focus on additional product characteristics and information sources.

References


The U.S. apparel industry is based on regular fashion change; therefore, the adoption of new styles is a major factor in determining success. Because consumers are not always prepared to adopt the new styles introduced, risk is inherent. The rejection of the short skirt by female apparel consumers during 1987 and 1988 was used as a case study for the examination of the interrelationships between fashion theory, research and practice. The short skirt was introduced in 1987 and heavily promoted through the spring of 1988. By the fall of 1988, however, it was clear that consumers had rejected the short skirt. This study examined the fashion adoption process for the short skirt, based on Sproles’ (1979) fashion adoption model, and identified consumer characteristics influencing the adoption process.

A questionnaire was developed to measure the adoption of the short skirt and to identify variables (Sproles' concepts of adopter identity and adopter motivations) which may be related to fashion adoption for apparel. Age, income, time spent in present position and amount of money spent for apparel were used as measures of adopter identity. Perceived importance of clothing, clothing involvement and self-confidence in dress were used to measure adopter motivations.

Questionnaires were mailed to 960 employed women residing in a midwest urban area during the late spring of 1988; 373 usable questionnaires were returned.

Principal component factor analysis with varimax rotation showed all items loaded highly on another factor. Pearson product correlations showed high item to total correlations (.70 or higher) for each scale. Reliability coefficients for each scale were calculated; coefficients for the scales ranged from .80 for clothing importance to .90 for confidence in dress.

Thirteen percent of the respondents indicated they already owned or would purchase a short skirt to wear to work during the 1988 summer season. Only 10.5% of respondents believed an above the knee length was appropriate for work. Logistic regression analysis showed that only perceived appropriateness of the clothing style for the job (p. ≤ .0001) and age of the respondent (p. ≤ .05) were significant variables in determining fashion adoption. Younger consumers and those who perceived the short skirt to be appropriate for work were more likely to adopt the short skirt. The model used in this study correctly classified 96% of the nonadopters but only 45% of the adopters, suggesting that consumer variables other than those examined in the present study may be contributing the fashion adoption process.

The findings of this study showed that an overwhelming majority of the sample had not purchased nor planned to purchase a short skirt. Perceived inappropriateness of the style for work was the major reason for the failure of the short skirt. It may be that fashion adoption among employed women is guided by utilitarian and/or rational considerations. That is, while working women are still influenced by the dictates of fashion, they may perceive that adoption of the latest styles of dress must occur within the constraints of what is perceived as appropriate in their occupational positions.

These results suggest a number of implications for apparel marketers. First, apparel marketers should more carefully gauge the opinions and needs of their market before introducing a new style, particularly high risk styles. Secondly, they should identify potential consumer resistance to a new style and consider possible style modifications that would increase acceptability. For example, this research showed "at the knee" skirt length was perceived as acceptable by the majority of the respondents. In summary, market research is increasingly important in determining potential consumer reaction to new styles and thus reducing the risk associated with marketing fashion apparel.

A Method for Evaluating Retail Training Programs

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While organizational management skills have become highly-evolved, there are indications that the potential for enhancing human resource skills is virtually untapped. The threat of quick obsolescence due to the dynamic nature of the Retail Industry discourages many trainers from detailed T&D program design. Success can be achieved, however, if T&D is viewed as a process and includes the following stages: Need Assessment, Behavioral Objective Definition, T&D Program Development, Implementation and Evaluation. Evaluation should also occur at each stage to ensure that the discrepancy-resolving effort is well-focused.

The purpose of this study was to evaluate the accuracy of a retail department store's entry-level Management T&D program by considering the perceptions job-holders (subject-matter experts) have about the content offered for them.

The questionnaire was comprised of a comprehensive set of job tasks or Critical Success Factors (CSFs) which were grouped into six content area categories. Respondents (N=66) were asked to indicate on a 5-point Likert Scale, the importance of each CSF item to the successful performance of their respective positions (5 indicated most important).

To consolidate the responses for the CSF items, "... a Content Validity Ratio (CVR) score [was] calculated by taking the number of experts who stated that a [CSF was] important (N1) minus the number of experts who stated that a [CSF was] not important (N0) divided by the total number of experts (Nt): CVR = N1 - N0 / Nt." Further, six composite scores were calculated by summarizing into a mean statistic the CVR scores for each content area. Meanwhile, the Training Director was asked to distribute points across the content areas to demonstrate the degree each was emphasized in the current program. The Ford and Wroten (1984) Matching Technique was then used to compare the emphasis score with the composite importance score.

The results of the technique as applied in this study are shown in Figure 2. While hits are considered accurate emphasis in content as compared to the perceived need, misses are interpreted as training excesses or deficiencies.

The implications of the study are that the technique is useful for: a) it illustrates which content areas need more or less emphasis; b) the method can empirically justify to top management the need for program redesign; and c) the use of employee perception when evaluating and/or restructuring program content may positively impact overall organizational success.

In recent years, catalog shopping has been continually capturing an increasing share of general merchandise retail sales. According to recent statistics, mail order sales exceeded $40 billion in the U.S. in early 1980, and it was estimated that mail order marketing had been growing at an annual rate of 15%, which was twice the rate of growth of retail sales in the same period (Lumpkin and Hawes, 1985). Therefore, apparel catalog shopping has become a significantly important mode of shopping behavior. It is known that catalog shopping in general entails a greater degree of perceived risks than regular store shopping due to the consumers' inability to adequately evaluate merchandise attributes. In order for the catalog retailers of apparel to be able to continually implement the marketing and promotional strategies, they need to better understand the segmentation variables of the apparel catalog market, and behavioral correlates of consumer applicable to their competitive retail environment.

The study was designed to further the understanding of catalog and non-catalog shoppers' perceptions on purchasing apparel from catalog. The main purposes of the study were to test the hypotheses that (1) non-catalog shoppers of apparel were higher risk perceivers than catalog shoppers for the following risk categories; (a) social risk, (b) financial risk, (c) time risk, (d) performance risk, (e) overall risks related to catalog shopping; and (2) the shopping orientations of non-catalog shoppers were significantly different from those of catalog shoppers.

The three components of the survey instrument contained questionnaire on perceived risk, shopping orientation and demographics. A portion of the perceived risk section was adopted from the study conducted by Carroll, Siridhara, and Fincham (1986). The shopping orientation section which was developed by the researcher contained items on shopping enjoyment, and shopping method preferences. After the pretest, data were collected from 69 working women in two companies specializing in financial business service and 62 non-working women in residential areas of a midwestern city. The sampling was done on a voluntary basis.

The T tests for non-catalog and catalog shoppers resulted in significant differences for all five types of perceived risks (3.10 to 2.10 p<0.05) indicating that non-catalog shoppers were higher risk perceivers than catalog shoppers. When the regression analysis was performed to test the level of influence of perceived risks (independent variables) on catalog purchasing behavior (dependent variable), the magnitudes of regression coefficients of independent variables (0.84 to 0.34 at p<0.05) were significantly higher for non-catalog shoppers than for catalog shoppers (0.20 to 0.02 at p 0.05) supporting the hypothesis that non-catalog shoppers were significantly higher risk perceivers than catalog shoppers. However, there was no significant difference between non-catalog and catalog shoppers related to shopping orientations. Results of the study suggest important strategies to catalog retailers of apparel. For instance, the catalog retailers of apparel would benefit by providing consumers risk handling tactics, especially those found to be of greater importance, money-back guarantee, clear return policy, and guarantee on price/quality.

Recognition of the growing need
to maintain curriculum relevancy for
students supports the essential nature
of research relating the spheres of
clothing studies and education for
all levels of learners. The purpose
of this project was to examine a group
of secondary home economics teachers
as agents of change in identifying
relevant content for clothing studies.

A census survey using a mail
questionnaire was conducted on a popu­
lation composed of junior and senior
high school anglophone home economics
teachers in New Brunswick, Canada,
N=132. Subjects were asked to read
a stimulus document regarding the
future, and then to respond to a
questionnaire that contained six
measures: important clothing studies
topics for inclusion in the curriculum
in 1990-1995, likelihood of the topics
to be included in the curriculum, re­
spondents' future perspective, relative
importance of sources influencing cur­
riculum decision making, respondents'
attitudes about home economics and
clothing studies, selected personal
and professional characteristics, and
respondents' interest in clothing.
The response rate was 89.23%. The
average teacher was 35-44 years old,
and had been teaching for 15 years, worked
in a junior high school with 740 stu­
dents, taught clothing studies, belonged
to the provincial teachers' council
and regularly read that organization's
periodicals. Correlation matrices
showed several significant coefficients;
generally the degree of association
between variables was not strong.

A ranking of important and feasi­
table topics was developed. Those topics
ranked highest included clothing care,
clothing labels, and purchasing
ready-to-wear. More traditional topics
such as clothing construction were
recognized but were not rated as highly
in level of importance.

In curriculum decision making,
students' needs and interests and
teacher influence were evaluated as
the most influential sources of input.
General attitudes about home economics
and clothing studies were positive;
however, relevancy of the subject matter
to today's youths was rated negatively.
Respondents had a wide range of clothing
interest and general perspectives about
the future.

Spearman rank correlations and
analyses of variance were used to test
two research hypotheses relating future
clothing topics to selected independent
variables. General futures perspec­
tives, perceived influence in curriculum
decision making, selected attitudes,
and interest in clothing did not signif­
icantly effect the rank listing of
important future clothing topics.

The results of this work imply
that the futures discipline measures,
when used to generate critical thinking
about curriculum change in clothing
studies for secondary schools, do result
in a futures oriented ranked list of
important and feasible clothing topics.
Topic relevancy to secondary school
learners must be addressed to ensure
future survival of clothing studies
in school curriculum. Teachers identi­
fied themselves as powerful agents
of change in education and should be
better utilized in the curriculum plan­
ning process.
The role of country-of-origin labelling in consumers' evaluations and purchase of products is of greater importance to business, government and consumer interests today than ever before. Increasing competitive pressure from imports from low-wage countries and the advent of freer trade between Canada and the U.S. make it worthwhile to explore the impact of the effect of country-of-origin information on clothing evaluations.

Survey researchers have reported that consumers tend to hold strong stereotypes about different countries as producers of goods and may use country-of-origin information in choosing products. A few experimental studies have been conducted to assess the importance of country as a quality cue but most of these have had limited samples and measures and have not controlled for differences in respondent characteristics.

The major objectives of this study were to determine experimentally (1) the effects, as revealed through normal labels, of three different countries-of-origin, Canada, the United States (developed countries with substantial trade in textiles and clothing products) and South Korea (a developing country from which considerable low-priced clothing is imported) on consumer ratings of quality, risk to purchase, perceived price and likelihood of buying a knit polo shirt; consumer demographics and personal characteristics were used as covariates; and (2) the effects of these same three countries relative to brand name (well known and unknown) and price level (high and low levels) using consumer characteristics as covariates. The data were collected in a Toronto, Ontario, suburban shopping mall using an intercept procedure to select 600 consumers balanced on sex and age distributions across the 15 experimental treatments (three single-cue and 12 multi-cue treatments).

A knit shirt was chosen in a style and color judged to be relatively neutral, although individual taste effects could not be entirely eliminated. Hence only the label information was varied across treatments. Each respondent examined one shirt labelled for the assigned treatment condition. Analysis of variance with covariates was conducted for each experiment (single-cue and multi-cue) on each of the four dependent variables: perceived quality, perceived risk, perceived price and likelihood of purchasing "this one" if they were buying this type of shirt.

In both the single-cue and multi-cue experiments country-of-origin information was found to be related to the evaluation of quality but was unrelated to evaluating riskiness in purchase and price. Likelihood of purchase was related to country in the multi-cue experiment only. In all cases there were no differences between Canada and the U.S. while South Korea was rated as significantly lower. Consumer characteristics of age, education and perceptions of ability to judge shirts were related to ratings such that older and more confident judges rated the shirt higher but higher educated consumers rated it lower. In the multi-cue experiment price was significant to assessing value and brand had an interaction with country such that a well known brand compensated for the low image country. These findings suggest that country-of-origin labels may have only a moderate effect on consumers' product judgements: consumer characteristics and other label information also affect judgements. Although only one clothing item was evaluated, the evidence suggests that consumers in Canada may not differentiate between Canadian and U.S. made clothing, at least on the qualities assessed in this study.
Models of consumer behavior recognize that consumers search for product information in order to make wise purchase decisions and to differentiate between comparable products. In addition, the market environment, which includes product labels, influences consumer search. The question concerning consumers' attitudes toward apparel imports and the importance of country of origin to consumers and the implications of these factors for apparel retailers and manufacturers has been raised by researchers. Although consumers say that country or origin is important to them, results of experiments and surveys have been contradictory. Relationships between attitudes toward imported clothing and stimulus properties of the environment such as the Crafted With Pride marketing program have not been examined. Therefore, this study investigated the effect of Crafted With Pride in the USA cues on evaluations of domestic and imported stimulus items, the price subjects would expect to pay for a stimulus item and the perception of that price as expensive or inexpensive.

A two-by-four complete factorial between subjects experimental design was employed. The independent variables consisted of two levels of exposure to Crafted With Pride in the USA stimuli (exposure and non-exposure) and four levels of country of origin labels (made in the USA, made in a developing country, made in a developed country and no identifying label). Exposure to Crafted With Pride cues was manipulated through the use of a display board containing Crafted With Pride marketing materials which was either placed in front of subjects or hidden from their view depending on the experimental situation. Country or origin was manipulated through the use of four identical sweaters labeled with one of four country of origin tags; all information was identical except the country of origin information. The sample for the study was comprised of 112 female college students. Subjects were randomly assigned to the eight experimental cells. Each subject evaluated one stimulus item.

Evaluation of each sweater was made on a seven-point unipolar semantic differential evaluative instrument containing 25 word pairs. Subjects also indicated the price they would expect to pay for the stimulus item and if they considered that price to be expensive, inexpensive, or neither expensive or inexpensive. Factor analysis was performed on the 25 criteria items. The analysis yielded six factors: Status/prestige, Fashionability, Objective Product Criteria, Subjective Product Criteria, Color, and Media Promotion. Subjects' evaluative scores on each factor and expected price served as the dependent variables.

Results of analysis of variance indicated there were no significant differences between prices subjects would expect to pay for the sweaters based on exposure/non-exposure to Crafted With Pride cues or based on the sweater's country of origin. Findings also revealed no significant differences among subjects' ratings of the sweaters on the six evaluative criteria factors for the exposure to Crafted With Pride in the USA cues variable or for the country of origin variable. Additional findings indicated an interaction between the exposure to Crafted With Pride cues and country of origin variable for the Objective Criteria factor. For the sweater made in the USA, exposure to Crafted With Pride cues resulted in lower scores on Objective Product criteria. For the sweater made in a developed country (Italy), exposure to Crafted With Pride cues resulted in higher scores on the Objective Product Criteria factor. Further study, possibly in a field setting, is recommended to better understand apparel-related marketing cues and their effect on consumers' evaluations of products.
Retail math and buying courses are extremely important for fashion merchandising students. A merchandise planning and control class was made more relevant through the incorporation of computer spreadsheets into the curriculum. Faculty at CSU, Chico believe that computer use brings realism into the classroom since many retail stores have computerized systems. The instructor wanted to present situations which paralleled reports used in the retail industry including sales goals, pricing, budgets, inventory, and merchandising reports.

Merchandise Planning and Control was offered for the first time at CSU, Chico during Fall semester 1986, and computer spreadsheets have been used since Spring semester, 1987. The course format was comprised of three lecture hours. The objective of this upper division course is to teach students analytical and technical skills needed as future buyers and store merchants. A portion of the course is taught with the use of computer spreadsheets that have been designed specifically for the class.

The primary objectives of the computer applications in the course are to:
1. Compute the sales analysis of merchandise division;
2. Gain an awareness of inventory control;
3. Calculate the various methods of discounts and open-to-buy;
4. Input information to create percentage calculations of merchandise mix and assortments; and
5. Analyze the stated assortments of each classification.

Computer templates were created to be used in conjunction with spreadsheet software programs to introduce the students to specific reports used in the retailing industry. Applework's software was selected for its ease of use and the availability of multiple Apple IIe computers at this institution. Later, with the increased availability of Apple Macintosh computers, Microsoft Excel spreadsheet software was selected because of its more powerful capability, wide usage, and ease of programming. Specific templates designed for the class were: sales analysis, purchase journal, open-to-buy, six month merchandising plan, merchandise mix, and assortment plan. The sales analysis report allows students to analyze departmental and divisional sales in relation to total store figures. The purchase journal is designed so students comprehend the importance of inventory control. Open-to-buy helps the student in calculating the formulae. The merchandise mix, assortment plan, and six month merchandising plan are used as part of the student's major project.

The goal of the final buying project is for the student to apply merchandise buying concepts by assuming the role of a fashion retail buyer in a hypothetical store. The student analyzes the contribution of the department to total store sales, creates a merchandise assortment mix, and determines purchases and discounts. The program is designed so the student can input variables of individual departments; and the numbers are calculated quickly allowing the student to have time to analyze their department's merchandise in terms of sales, stock, price lines, sizes, colors, styles and quantities. Ideally, the student will be able to transfer the knowledge gained through the final project to their future careers as merchants.

Traditionally, retail math courses have been taught through memorization and calculation of formulae. The instructor has observed that by the use of computer programs, students are able to visualize themselves in a hypothetical buying situation, and they are able to master the mathematical operations involved in the merchandising of products.

Recruiters at this institution have indicated that a strong background in retail mathematics and analysis is a strength for any person entering the industry. Feedback from students has indicated that buyers and recruiters have been very impressed with the final buying project and that the class reflects skills necessary for their management or buying positions.
Teaching a course in International Textiles and Apparel Marketing and augmenting this course with participation in an international trade fair, has resulted in providing positive and realistic experiences for students. Students survey of previous participants in the trade fair indicated they had an extremely valuable experience which has helped them in their understanding of the theoretical literature covered in the classroom.

The course content covers update on latest technological developments; linkages in the soft goods chain, domestic sourcing, offshore sourcing, international marketing, including exports and imports in the textile and apparel field. Students examine the problems faced by the American textile and apparel industries; some strategic initiatives used by industries to regain their share of the domestic and foreign markets, as well as the new developments and changes occurring in the international markets.

During the last two years, this course has been complemented by field trips to the International Bobbin Show. This show is held annually at the Georgia World Congress Center in Atlanta, Georgia, covering over 340,000 square feet of exhibits sponsored by more than 600 exhibitors. The exhibitors represent various dimensions of the textile and apparel industries, offering technology and services to the sewn products industry. Information provided by the exhibitors is usually directed toward manufacturers who are looking to improve their technology and communications with the rest of the industry. Over twenty thousand executives from some sixty countries around the world attend the show.

The main objectives accomplished by students attending the Bobbin Show include:

a) Awareness of the relationships and linkages between the textile producers, the design technicians, the apparel manufacturers, and the retail personnel.

b) Observation of the operations of the most advanced and automated machines utilized currently in the apparel manufacturing industry today.

c) Participation in seminars, workshops and conferences, organized and prepared by various businesses related to the textile and apparel field.

d) Interaction with other participants, business representatives, and management personnel during the show.

Participation, observation and interaction at the trade fair has exposed the students to the various facets of the soft goods chain. Students have felt that this type of experience provided them with useful contacts and a better understanding of the interdependence of the various businesses and industries in the soft goods chain.

Prior to their visit to the show the faculty member offering this course prepares the students about the various aspects of the show, arranges for students' participation in appropriate seminars and workshops, and introduces them to the various businesses in the area.
This project joined efforts of the Cooperative Extension Service with those of industry, specifically the American Home Sewing Industry, to pilot an educational program targeted to the sewing entrepreneur.

The objective was to train and assist sewing entrepreneurs in establishing and maintaining profitable home-based businesses to supplement family income. The program developed to meet this objective was a five day, intensive workshop, titled "Sewing As A Business."

The sessions included in the workshop were: Business Awareness (1 day), Marketing Directions (1 day), Update (1 day) and Using New Technology (2 days).

Business Awareness included basic management skills needed to establish and maintain a viable business. Topics included: financial records and taxes, zoning and licensing, bank accounts and securing loans, time management, and legal aspects of operating a business.

Marketing directions centered on the relationship of strategic marketing skills to the survival of a business. Topics included: advertising and promotion, pricing, networking, targeting markets, and projecting a professional image.

The update session concentrated on the types, sources and costs of new equipment and products available to the sewing entrepreneur. Using New Technology sessions focused on the development of competitive skills.

Seven "Sewing As A Business" workshops were conducted at five locations in the state. County Extension Home Economists promoted and advertised the workshops through news articles, radio programs, newsletters, home sewing retailers, and personal contacts. The response to the workshop was overwhelming, as over 400 applications were received. Based on the information contained in the applications and interviews, approximately twenty participants were selected for each of the seven workshops.

All participants completed three evaluation instruments: one at the beginning of the workshop, the second at the end of the workshop, and a third six month follow-up. The instruments were designed to record demographic data, and measure changes in behavior related to the operation of the business, knowledge gained, changes in family income, and other significant results. In addition, workshop content, teaching methods, timing, and sequencing were evaluated by participants.

Of the 123 men and women who graduated from the workshop, 97% rated the workshop as excellent. One hundred percent reported they could transfer information from the workshop to their business.

Preliminary follow-up data indicated that: 74% of the graduates are sewing for profit; 33% are teaching sewing for profit; 94% who started a business after the workshop said the workshop influenced them to do so; 98% who were already in a business said the workshop influenced them to make business changes; 78% who do not own a business plan to initiate one in the near future; 58% of those who attended the workshop have significantly increased their income; and 52% have at least doubled their income from their sewing businesses.

The success of the Mississippi Pilot Project in Textiles and Clothing Entrepreneurship has generated additional funding at the state level to continue the "Sewing As A Business" program at least through 1990.
In our undergraduate advertising and promotions course, a client-sponsored project is implemented. The project provides the student with practical experience developing an advertising campaign for an apparel industry client. The students benefit by having the opportunity to develop and present their promotion orally to a professional (client) in the industry and the client receives the benefit of the students' knowledge and capability. The benefit to the client is the use of the students' promotion. In the past, student promotion projects have actually been utilized by the client.

To conduct this advertising and promotion project, a potential client is secured prior to the beginning of the course. Clients may include apparel retailers representing small, independent stores, chain stores, department stores or off price organizations. Apparel manufacturers who are interested in developing cooperative retail advertising programs are also potential clients. The selection is based upon the client's advertising needs and how providing students with a situation comparable to what students will encounter in their careers.

For each client-sponsored project, the class is divided into three advertising teams and each team is assigned the same project. Students are required to compile written and oral reports. The written report includes marketing information regarding the client's line of business, competitive structure, target customer profile, company philosophies, product offerings and distribution. The bulk of the paper is comprised of a detailed advertising campaign consisting of specific plans and objectives that will correspond to the client's needs. An oral presentation is given by each advertising team to the client. The individual team's objective is to be selected by the client for developing the most appropriate and usable advertising campaign. This objective creates a spirit of competition among the advertising team members.

To determine the viability of the client-sponsored program, both the client and the students are given an opportunity to evaluate the project. The client evaluates the project on the basis of whether or not any benefits are derived from it and what these benefits are. The client offers recommendations regarding ways in which the project can be improved. The students are asked to evaluate the project in terms of its contribution to their knowledge of the material, in terms of its participatory benefits and in terms of its relative merit compared to learning methods implemented in other courses.

The client-sponsored project has been included twice in the apparel advertising and promotions course. Both student and client responses have been positive and enthusiastic and suggest that the client-sponsored project remain part of the apparel merchandising and promotions course. The success of the project is evident by the number of clients volunteering to participate in the project.

The university experience, while enriching and unique, is nonetheless taking place in a controlled environment. We as educators need to be responsive to the needs of students by providing experiential learning. The client-sponsored project provides a vehicle for students to apply concepts learned in the classroom to actual businesses within the apparel industry.
PRODUCT PROMOTION THROUGH VISUAL MERCHANDISING

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Visual Merchandising classes have typically focused on secondary markets for retail presentations, but merchandising students also need to develop an understanding of merchandising product lines at the primary market level. Merchandising for primary markets targets specific product lines to multiple retail outlets and merchandising for secondary markets focuses on the merchandise needs of a single retail store with multiple product lines.

A Product Promotion Project was developed to provide realistic experience in developing a merchandising strategy for a specific manufacturer's product line and target market. The secondary purpose of this project was to provide product promotion assistance to an apparel manufacturer thus strengthening the interaction among faculty, students, and manufacturers.

The objectives of this project were as follows: 1) To apply visual merchandising principles to the development of strategies for a specific manufacturer's product line and target market; 2) To formulate promotional strategies for marketing the product (counter presentations, brochures, packaging, trunk shows, celebrity endorsements, etc.); 3) To develop a potential retail presentation featuring signage, fixtures, props, suitable for multiple retail settings; 4) To develop a newspaper layout for the specified product line intended for cooperative advertising; 5) To synthesize the components of the Product Promotion Project into an oral presentation for a panel of educators, retail personnel, and manufacturer's sales representatives.

The specific product line for this project was three cape styles in seven colors designed and produced by an apparel manufacturer in the state of Maine. Items were sent to the university to give students direct access to the merchandise. The manufacturer of the product line provided specific information on the target customer (age range, income, occupational areas, education, social class, interests, etc.) and retail store (discount, specialty, department, store size, selling strategy, fashion focus, pricing strategy, etc.).

Working in groups of three, students developed promotional strategies, adaptable retail presentation, and specific promotional devices i.e. packaging, props, signage, and newspaper ad layout. Oral presentations of the projects were made by the student groups to a panel of judges composed of visual merchandising faculty, apparel retailers and manufacturers. The panel of judges identified the top three projects which were forwarded to the manufacturer for incorporation into their promotional plans. Monetary awards were provided by the manufacturer to students who developed the top three projects.

Modifications to the project can easily be made by changing the product line and manufacturer thus giving students an opportunity to work with other product categories. Positive student evaluations of this project assures its continuation in future visual merchandising courses.
Students enrolled in introductory textiles courses are provided with technical and scientific information concerning the production of fibers, yarns, and fabrics. They are frequently provided laboratory experiences to aid them in the identification of fiber properties, yarn structures, dyeing and printing processes, and finishing processes. These experiences enable students to develop skills for the evaluation of quality when visual and physical manipulation are possible. With the increase in direct mail marketing by retailers and the expanding growth of catalog sales, students need to develop skills in the evaluation of apparel products promoted and sold through these sources. The following term project, developed for an introductory textiles class served two purposes:

1) to evaluate the quality, quantity, and usefulness of textile information provided the consumer by mail order catalogs and promotional flyers and
2) to apply the knowledge from the course to a typical consumer activity.

For four semesters, approximately 200 students completed the evaluation of catalog descriptions for at least three (3) of the following garment categories: an upper body garment (shirt or blouse), a lower body garment (skirt, slacks, shorts), a knit garment (sweater), an outerwear garment (raincoat, windbreaker), and a nightwear or an underwear garment. The illustration and description of the product provided the consumer was mounted on paper and preceded the student’s evaluation of the information content of the description. The specific textile information content to be assessed included fiber content, yarn structure and type, fabric structure, finishing processes, dyeing processes, printing processes, product care, manufacturer, and country of origin. The student reported the specific information for each area contained in the description and identified what the information would mean to a knowledgeable consumer (an individual who had completed an introductory textiles course). Students also identified the specific points of textile information which they considered to be inadequate or inaccurate which could affect consumer purchase decisions. In addition, each description was evaluated in relation to textile fiber labeling acts, care label regulations, and flammability legislation which should be on garment labels, but would be inaccessible to the catalog consumer prior to purchase unless contained in the description. A final aspect of the project required students to rewrite each description in order to provide the consumer with adequate information for making a purchase decision.

Formal and informal evaluation techniques were used in the evaluation of the project. The formal evaluation consisted of a grade sheet which evaluated the activity on the following points - accurate and knowledgeable discussion of the textile information contained in the description, appropriate number and type of descriptions evaluated, and appropriate, accurate and adequate rewritten description. Informal discussions with students indicate the overall value of the project as providing an excellent review of textile knowledge and enabling the student to understand the interrelationship of the various textile processes for particular products. Another expressed value concerned the poor quality and quantity of some catalog and direct mail flyer textile descriptions.

This project is recommended as a culminating activity for introductory textiles courses and will continue to be used by this instructor when teaching textiles courses at that level.
One of the greatest difficulties in achieving "perfect" pants is found not in the area of construction, but rather in the area of fit. This is especially true when the clothing teacher is dealing with adult students whose figures have begun to feel the effects of gravity, child-bearing, health problems, etc. The assumption that one basic pattern can be satisfactorily adjusted to fit the innumerable curves that occur below the waist in a classroom of mature women is open to serious debate. At the very least, such a class requires a good deal of fitting expertise, patience, and sweat on the teacher's part; and may result in frustration and discouragement on the part of students who must wait while the teacher is busy dealing with individual problems.

Is there an easier solution?

As a teacher of Adult Education, it has been this writer's experience that almost every student has in her wardrobe at least one pair of pants that fits - even if they are out of date style-wise. In that pair of pants, then the student has (1) the correct crotch depth, (2) correct front and back crotch lengths, (3) correct placement of the inseam and sideseam, (4) correct dart/tuck size and placement, (5) correct pitch or angle of the front and back crotch seams and inseams, and (6) correct ease. In other words, in that pair of pants can be found her basic pant pattern. Even if the pants are a little off in places, they can still be used to draft the basic pattern and then the "fine-tuning" adjustments can be made by adding ease, moving a dart or tuck to a better location, repositioning the side seam a bit, raising or lowering the waistline as needed, updating leg width, etc.

Patterns From Ready-To-Wear: Pants is an instructional booklet that was developed after thirteen years of working with adult women and after experimenting with many pant pattern fitting and drafting systems. The booklet describes and illustrates step-by-step directions for 1) measuring a pair of ready-to-wear pants and 2) using those measurements to draft a pant pattern. Since switching from attempting to fit commercial pant patterns to drafting patterns from pants that fit, the overall classroom success rate has gone up and the frustration level (for both student and teacher) has gone down!

In addition to being successfully used as the text for formal adult education classes, many individuals have used the booklet as a self-study guide. Directions and illustrations are clear enough that experienced sewers can produce a satisfactory pant pattern on their own.

Those who have used this booklet tend to agree that using ready-to-wear garments as the basis for producing basic patterns is a viable solution to the problem of pattern fitting when working with adult figures.

King, Judith E. Patterns From Ready-To-Wear: Pants. Designing Lady Studio; 325 Maysfield Rd.; Dayton, OH 45419; 1988.
In the calendar year 1987-88, a Macintosh Computer lab was installed at the University of Rhode Island under a state Incentive Fund Grant. The audience targeted for the lab included students not normally exposed to computers in their college career. Textiles and Fashion Merchandising majors were named, as well as art, music and language students. The following year (1988-89), the authors obtained a state Incentive Fund Grant to purchase Macintosh computer equipment for their department, to purchase course authoring software and to provide funds for faculty summer recontracting. Faculty time was used to develop computer learning skills applications for courses including "Textile Science" and "Development of Contemporary Fashion" (20th century fashion history course).

The computer learning skills applications were developed to meet the following objectives:
1. Provide students an alternative learning experience
2. Help students master difficult subject matter concepts.

Software packages to help with the authoring of the learning skills applications were purchased. Course Builder (TeleRobotics) was used to develop interactive study guides and review exercises for basic chemistry, fibers, yarns, weaves, and knits for the Textile Science course. Each module runs separately and keeps track of student progress. Students may use the modules as reviews or self-tests to augment information from lectures and readings. Course Builder and Thunderscan (Thunderware) were used for the twentieth century fashion course. Eighty fashion silhouettes for menswear and womenswear from 1900-1980 were presented by using digitized graphic images. Through interactive exercises students are asked to identify social context, silhouette changes, fabrications, and appropriate accessories for men's and women's fashions.

The learning skills exercises are being used for the first time in the Fall of 1989. Approximately 90 undergraduate students are expected to be enrolled each semester in the courses involved. The effectiveness of these exercises will be evaluated through feedback from both students and faculty. Each student will be asked to respond to questionnaires distributed at the conclusion of each computer exercise. Faculty evaluations will utilize quantitative and qualitative measures including exam grades and informal feedback.

The computer exercises that have been developed will be demonstrated at the poster session. Advantages and disadvantages of working with course authoring software will be presented. Computer equipment will be available for hands on use and previewing of course authoring software. The possibility of making the diskettes available to the public through Kinko's Academic Courseware Exchange is being investigated.
Educators are expected to provide an environment in which students learn essential career skills in preparation for employment. Employers assume that entry level professionals are capable of integrating and applying their educational experience to the demands of the workplace. However, students frequently have little opportunity to simulate real-life occupational responsibilities in their college coursework. Opportunities should be provided within the curriculum so confidence and experience may be gained before entering the workforce.

In a traditional flat pattern class, the student is expected to become competent in manipulating slopers to create new style variations using the flat pattern method. Generally, a semester class is structured so that students learn how to produce basic slopers and execute design variations on the sloper as outlined in a text.

In an attempt to provide students with an industry-relevant learning experience, a design/production simulation was incorporated into beginning flat pattern design. Since basic drafting and flat pattern techniques must be learned, students followed the traditional format for half of the term. Students were then divided into teams and given the responsibility of designing and producing a children's sportswear apparel group. The purpose was to provide an opportunity for students to 1.) integrate and apply knowledge from several required classes in their curriculum and the first half of flat pattern 2.) become aware of industry responsibilities, limitations, and inter-relationships and 3.) learn the research, design, and development processes utilized in apparel production.

Students visited local manufacturers and retailers to learn about the industry through staff presentations and facility tours. A manufacturer's sample size model was observed to determine how physical and developmental factors influence design.

Each student design/production team was required to compile a trend analysis and design one apparel group appropriate for cost and production constraints of an identified market. Patterns for new designs were created by applying flat pattern principles to a sweat suit sloper donated by a manufacturer. Design teams utilized fabric overstocks from the same manufacturer's inventory. Apparel teams developed time schedules, made and tested sample garments on a Wolf form, and wrote operation sheets and pattern charts.

Design teams gave presentations on the completed apparel groups discussing costs, production expectations, and anticipated consumer response. The manufacturer's design staff evaluated and critiqued each apparel group for distinctiveness, marketability, mass production potential, durability, and function.

The children's design unit is an excellent project and will be continued in the beginning class. Patterns are simple and can be created with limited skills, garments are quickly and easily constructed, and occupational and interpersonal skills are integrated and applied to an industry problem. During the two years the children's unit has been assigned, approximately 30 students have participated. Students and manufacturers agree that classroom activities were relevant, skills and expectations for entry-level positions were learned, and valuable contacts were made. This industry/classroom simulation was a beneficial learning experience assisting in building a good foundation for a student's future employment.
INTEGRATING CAD GRAPHICS TRAINING WITH CREATIVE DESIGN TOPICS

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Increasing implementation of Computer-Aided Design technology by the apparel industry directly impacts upon the educational requirements of students majoring in apparel design. Apparel designers predict that entry-level designers will need prior hands-on experience with computerized design/illustration, pattern making, grading, and costing equipment.

When an academic institution acquires an industry-equivalent CAD system, faculty are faced with implementation planning and instructional designing, course integration, and instructional evaluation and revision.

The goal of this project was to optimize CAD instruction in a mid-level design course by designing an efficient mechanism for teaching students to utilize graphics technology as a medium for design research, development, and presentation. The course, Fashion Design, introduces students to various design-related experiences, including trend research, development of storyboards, and design of textile and apparel lines. A sophisticated color graphics system provided the medium for product exploration, development, and presentation.

Gehlbach suggests that the instructional tasks used in creative courses be controlled in such a way that students will utilize the creative opportunities afforded them. These controls can be accomplished by 1) providing systematic introduction to the knowledge and skills to be learned, 2) providing practice with the knowledge and skills, and 3) providing constant feedback. In this course, systematic introduction to design topics was provided through tutorials and instructor demonstrations. Design-related exercises and projects ensured that students practiced and became self-sufficient users of the technology. Feedback was provided immediately after completion of the exercises and projects through written comments or class critique.

The course has been taught twice to classes of approximately 12 students utilizing different instructional tutorial and exercise sequencing. The tutorials were originally developed to integrate graphics tools introduced in the exercises, but were later revised. They have become the primary tool for simultaneously introducing CAD tools and course topics; the exercises now follow the tutorials and cover the tools in greater detail. Introductory tutorials immerse the students in the technology and illustrate how the graphics tools and menus may be integrated to accomplish a variety of design tasks. Later, they provide a means for self-review. The tutorials and exercises, as well as graphics tools summaries and other relevant materials, have been combined in a Computer-Aided Fashion Design Workbook.

Student evaluations indicated that early immersion speeded acquisition of fundamental technological skills, fostered positive learning experiences, and freed students to explore and experiment further with their design concepts as they sought solutions to various design problems. Two additional tutorials are presently being developed to introduce students to procedures for using modes and two-dimensional texture mapping.

The instructional design may be implemented in creative courses—either traditional or those using computers. Creative apparel design courses can be planned to effectively integrate instruction on computer functions and tools with relevant design experiences.


The past two decades have seen increasing numbers of students coming to college with serious weaknesses in basic reading and writing skills. Since basic skills programs alone do not adequately prepare these students for the demands of various disciplines, the subject area teacher often becomes responsible for teaching basic skills as well as content. Integrated Skills Reinforcement (ISR) is a faculty development program offered at selected colleges in which participants work in small interdisciplinary groups to examine ISR strategies for incorporating basic language skills into specific courses (Anderson, Eisenberg, Holland, Weiner, and Rivera-Kron, 1983). Under the direction of a team leader, each faculty member develops a learning guide for a course he/she will be teaching the next semester. Then, while the guide is being field-tested, group members meet to discuss findings and plan revisions.

In this case, a learning guide was developed for Apparel Development and Evaluation, a lower level course required of all Clothing and Textiles majors and Consumer and Family Studies Teaching majors at Framingham State College. This guide, which includes specific course objectives, syllabus, instructions, assignments, vocabulary, and other printed course materials, leads students through the apparel production process from drafted pattern to completed product. In Unit I, students use drafting and flat pattern techniques to create the working pattern. They describe in writing the production sequence they plan to follow and the criteria for product evaluation. Finally, they complete a written evaluation of actual product quality. In Unit II, selected design details are examined, duplicated, and the results evaluated. Unit III involves the use of simple mass production techniques to complete a series of garments. Primary emphasis of the course is now product knowledge and evaluation rather than construction skill. There are study guide questions from each assigned chapter in the text to help students focus on important concepts and terminology.

The first draft of the learning guide was reviewed by the team leader and other members of the college faculty who participated in the project. The revised draft was then field-tested in two sections of the Apparel Development and Evaluation course (N = 32) and has recently undergone its second revision. The guide will be ready for use fall semester 1989. Pre- and post-tests are being developed to evaluate teaching effectiveness. Results of the field test have been encouraging. Students in both classes were delighted to receive such comprehensive course materials. They felt that the course was well organized and that they had become much more knowledgeable in the areas of product quality and analysis. Students took more responsibility for planning and evaluating their work. Study guide questions from the textbook have encouraged students to read more carefully, apply textbook material to practical situations, and use appropriate apparel production terminology.

Participation in the ISR project has increased the visibility of the clothing and textiles program across campus and stimulated campus-wide interest in the need to incorporate basic skills throughout the curriculum.

Reference

Apparel designers today need a working knowledge of the equipment available to them to produce a quality product. The sewing machine is the major piece of equipment used by the apparel designer, but there are many types of machines from traditional "needle and thread" machines to new "stitchless" machines. Educators in the apparel field need to prepare design students to make informed decisions when specifying machine types for a designed product. Because most apparel design programs do not have model apparel production studios, educators must work with the equipment they have and teach students about the variety of choices they will have when employed in the apparel industry. Several resources were developed to assist students in making informed decisions when designing an apparel item. An Industrial Sewing Machine Guide was developed to classify machines by stitch characteristic and use, a Specification Sheet was developed for students to use in specifying machine types to use in constructing their designed product and a slide set was developed to further illustrate machine types and stitches.

There are approximately 6,000 models of industrial machines currently available on the market (Solinger 1988, p. 189). The Industrial Sewing Machine Guide classifies needle and thread machines into 2 major categories (lock stitch and chain stitch) and 12 subcategories and the stitchless machines into 3 major categories. Each category is illustrated with examples of the appearance of the machine head and the stitch formed. Uses, advantages and disadvantages of each category are explained. Students use the guide as a reference when designing garments to decide what types of stitches are appropriate for the fabric and garment type. Criteria for selection of stitches can include quality levels, appearance, time to produce and cost.

Stitch specification sheets are included with the guide. Students use the sheets to specify the stitches they would select for the garments they design. The students may be required to fill out several specification sheets for one garment; e.g. one sheet specifying the actual stitches they will use for the sample garment (dependent on equipment available in the studio) and stitches they would select for optimum quality (if any machine were available for use).

The slide set is used by the instructor to illustrate the varieties of machine types in each classification. Slides also illustrate the formation of thread stitches and "stitchless" stitches. A new resource has been developed to assist students in studying industrial machine types. Stitchstack © uses the flexibility and easy access of Hypercard software on the Macintosh computer. Stitchstack © allows the student to flip through a stack of electronic information cards on the computer. Each "card" or screen contains information about a machine or stitch category. The student can study all of the information in the stack of cards or concentrate on information in one area.

Various forms of the Industrial Sewing Machine Guide have been used in 3 different apparel design programs for 8 years. Although sewing equipment available at each school was limited, students were able to understand the many choices available to them, select the best machines based on cost and quality and specify a machine or stitch for each seam of the garment they had designed. Pre-tests administered in class before a unit on machine and stitch types showed that most students were familiar with the operation of domestic machines, but were not familiar with the variety and performance of industrial machines. Post-tests indicated that students had learned appropriate terminology for machine and stitch types, could determine appropriate uses for machine and stitch types and could apply the knowledge when designing garments.

Plans are to expand the guide from machines and stitch classifications to industrial seam types, industrial garment construction and flow charts. The guides will be written for the student apparel designer.

Reference

A Hands-on Approach to Teaching Apparel Production

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Because apparel production entails so much information, a hands-on approach was developed to help both merchandising and design students to understand the production process. The course objective was for students to research, make a sample for, and prepare a production plan for a garment that was to be produced at five price points—designer, better, moderate, popular, and budget. The class of 13 was divided into five groups, each producing the garment at a different price point. A group approach was selected because of the necessity for team work in the industry. To emphasize the importance of translating a designer’s rendition of a garment into a model that could be mass-produced, a student-designed dress from the pattern-making course was selected for the project.

To ascertain a general manufacturing sequence, this author visited several manufacturers and asked them to relate the exact steps that their companies follow in producing apparel, from the design stage through packaging and shipping. Manufacturers also shared report forms, which were modified for class use. Students received information through lecturers, class exercises, video tapes, and plant visits.

Students began by learning about the research process that designers and manufacturers follow to get information about products and consumers. They then presented market reports, which included information about the target customer’s lifestyle and buying habits; color, fabric, and style trends; available fabrics; and information about competitors’ garments. They also developed size specifications from government anthropometric charts.

Each group sketched, presented, and explained its version of the dress. Students then made patterns and markers for the dress and constructed it. Those without pattern-making and/or sewing skills were assisted by student mentors. Each dress was presented and evaluated by the class on fabric choice, production ease, style, and fit. Recommendations for changes were noted. The resulting production plan and report included cost analyses and specifications for sizing, fabrics, notions, spreading, construction, quality control, and packaging. The final reports were presented to faculty members and local manufacturers.

Students said they considered the learning experience valuable because of the hands-on approach. They were also pleased to have the bound report and garment as part of their portfolios. Visitors reported that they were impressed with the student’s analytical thinking and knowledge about all aspects of the process. Student tests grades also support this approach. While students missed some exam questions based solely on lecture material, all gave correct responses to questions related to the skills and information needed to prepare a production program. Because of its strong task orientation, the course was easier and more pleasant to teach than those with a traditional lecture format. Future courses will include computer components for activities like costing, plant layout, and marker making.
The correlation of price and quality is more evident with basic products than with fashion goods. Basic products have little variation in style, appearance, or end use over extended periods of time. Therefore specific features can be examined to compare materials, structure, and performance of similar components and finished garments in different price ranges without influence of fashion features and variations in styling. The basic product category, men's dress shirts, lends itself to quality-price analysis due to similarities in structure, styling, production techniques, and automation used in production.

Men's dress shirts were selected as the focus of the slide set, "P's and Q's of Shirt Production" which was developed to illustrate the concepts of production sequences and quality differences between budget and better garments. Close examination of products is important in analyzing and evaluating garments, but difficult to accomplish in a large classroom setting. A slide set supporting the visualization of these concepts provides all students an equal opportunity to see product details and features at the same time.

Goals established for the slide set were:
1. Explore merchandising features developed for customer appeal
2. Analyze specific quality characteristics of budget and better shirts
3. Examine the structure of various garment components
4. Examine the assembly sequence of dress shirts
5. Discuss the role of automated equipment and technology used in production of dress shirts.

Examining the materials, assembly methods, quality characteristics, and cost factors of specific mass produced garments enables students to visualize the potential variations and decisions required in developing specific types of garments. Illustrative materials that can define and visualize these factors are essential for better student understanding.

The slide set, "P's and Q's of Men's Dress Shirts," and accompanying cassette tape were developed for use as a teaching aid in Sewn Product Analysis classes. It features structure of components, assembly sequences, and comparison of quality features between budget and better shirts. It is designed to be shown prior to introducing individual garment analysis projects carried out by students.
Electron Microscopy As a Tool for Studying Fibers

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Funded by the University Council for Instruction, this project was developed to provide reference and visual materials for the study of textile fibers. The authors used the scanning electron microscope (SEM) to obtain photographs for: (1) the study of cross sectional and longitudinal structures of fibers; (2) analysis of damage to fibers from abrasion, acids, alkalis, bleach, sunlight, and perspiration; (3) identification of fiber content in historic textile materials; and (4) analysis of fiber damage in historic textile materials. Slides were subsequently made for classroom use.

The photographs were made on the JOEL JSM T-330A Scanning Microscope. Depending on the intended use and clarity of the fibers being photographed, the range of magnification was from 1500x to 7500x.

The cross sectional and longitudinal views are being used in Basic Textiles to introduce the students to fiber identification and function by shape and structure. In Advanced Textiles, the photographs are being used to enable students to more clearly analyze the internal and external structures of the fibers in relation to properties/characteristics.

Photographs of fibers that have been damaged in the laboratory according to AATCC and ASTM test methods are used for illustrating the microscopic fiber damage that may not be visible to the students in Textile Evaluation courses.

Many of the historical pieces in the departmental collection are damaged by light, insects, perspiration, mineral salts, abrasion, dirt, etc. Electron microscopy photographs provide the medium for assessing and illustrating the damage by allowing a greater depth of field and resolution than is available with a light microscope.

In addition, the identification of unknown fiber contents is enhanced with use of SEM photographic analysis. Close examination of some of the fibers taken from the historical pieces has revealed fiber combinations in yarns that were assumed to be 100% wool, 100% linen, etc.

The photographs are being used in graduate and undergraduate courses in historic costume and historic textiles to identify and assess fiber damage of selected pieces. Also, the photographs will be an invaluable resource for a proposed textile conservation course.

The following photographs show a similarity of damage from perspiration to a contemporary silk fiber subjected to the Colorfastness to Perspiration test - AATCC 15-1985 (Figure 1) and a silk fiber removed from the bodice underarm of a dress, circa 1890 (Figure 2).
This presentation will discuss an innovative videotape, "Textiles in Aviation." The objectives of the videotape are 1) to teach textile science concepts and 2) to illustrate industrial uses of textiles. This is a cooperative extension program targeted at older youth in schools and 4-H groups. The authors previously developed a videotape to teach basic textile principles. This second project presents polymer science concepts for more advanced students. The videotape is unique because it uses the enduring fascination with flight to stimulate interest and excitement in textile subject matter.

Historical Uses of Textiles in Aviation

Textiles have always been used in flight. The Chinese first flew fabric kites more than 2000 years ago. Later, balloons and blimps made of textile materials carried men and women aloft. The first airplanes had wings made of fabric. Fabrics are strong, light, and flexible, just the type of material needed for flight. Textiles made of cotton, linen, or sometimes silk fibers were the important structural components of these early aircraft.

Modern Uses of Textiles in Aviation

Today, kites, balloons, ultralights, and aerobatic airplanes are made of manufactured fibers, usually nylon, polyester, or绦纶. These fibers are stronger, but produce fabrics that are lighter in weight than the fabrics made of natural fibers used in earlier days. The differences in the polymer structures of these fibers that result in increased strength are explained in the videotape.

The videotape also discusses how the high performance fibers are used in the newest type of textiles in aviation, composite materials. These materials are increasingly important in airplanes and spacecraft because they are stronger and lighter than conventional metals used in aircraft production.

Research

This videotape has been developed through an extensive literature review, business and industrial contacts, and consultations with experts in historic and modern aviation. A week was spent in Smithsonian Institution, Washington D.C.

Visuals

Film and stills have been obtained from many sources. Historical footage includes the Wright Brothers flying in France, early blimps such as the Graf Zeppelin, and the take-off of a 19th century French balloon race. Modern footage includes the unusual kites at the American Kitefliers Association, the space shuttle, the Voyager, and a hang glider competition. Original filming was done to illustrate polymer structures, the laboratory testing of composites, and careers. Computer graphics were used to explain concepts.

Marketing

Strategies used to market the videotape include news releases, promotional brochures, targeted mailing lists, advertisements, magazine reviews, presentations, and the lending of preview copies to reviewers.

Evaluation

Evaluation of the project takes several formats. Hard data concerning number of videos sold and distribution areas are being collected. Survey forms were developed and distributed to evaluate content and educational value.

Need for Videotapes

Results from production of the two videotapes have demonstrated that educators are interested in this medium. However, these same educators have identified textiles and apparel as an area that has few available videos. ACPTC members may want to consider this need.

We acknowledge Vasudha Ravichandran for technical assistance.
Stain and Odor Removal for Washable Fabrics (Computer Program)

Bette Jo Dedic

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Consumers are resisting rising clothing prices by purchasing fewer garments. As reported by Courtless, consumers reduced their real spending during 1988 (in constant dollars) for clothing and shoes by 5.7% (Courtless, 1989). Since they are purchasing less new clothing, it is hoped that consumers will devote greater effort toward clothing maintenance in order to postpone new purchases and extend the life of their current wardrobes. The removal of stains and odors from washable clothing is an important facet of wardrobe maintenance.

Although clothing care and maintenance has always been a part of our clothing and textiles program, current resources available within the county extension offices were not adequate to quickly respond to consumer questions. With changes in care labeling, textile technology, and product development, consumers need access to updated information to properly care for and maintain their clothing. It was also hoped that consumers would use a computer information system, if it was available, to seek answers to their questions concerning the removal of stains. Our former computer program on stain removal (STAIN) was based on the old USDA Stain Removal leaflet which is no longer in print. Procedures were cumbersome and outdated and some supplies were no longer available. After the county agents participated in the ASTM Stain Survey, it became apparent that we needed to update our materials. STAIN2 provides agents and consumers with faster and easier methods of stain removal by utilizing new products and techniques now available in the marketplace.

The program gives general information on stain removal based on the care label of the garment. STAIN2 describes techniques for removing both known and unknown stains and suggests supplies to have on hand. The program offers the user a list of 54 stains and odors, allows the selection of one or more, and gives specific instructions for the removal of that stain or odor.

This program was made available to Cooperative Extension Agents for Home Economics in October, 1988 to be used with additional program materials in teaching stain removal lessons and as a resource for agents when answering phone calls.

Survey results for 1988 indicated that 111 leaders were trained in stain removal procedures and taught 2577 club members. Five hundred and seventeen of the 2577 Homemaker members that received the stain removal lesson were evaluated. Results from the survey indicated that all participants increased their knowledge; 72% indicated improved attitudes, and 66% changed one or more practices. During the 1987-88 program year, the Extension Homemakers reported successfully removing stains from 15,847 garments using information they received through Homemaker lessons. During the 1988-89 program year, the number of garments increased to 22,209. During the next program year, 278 leaders are scheduled to be trained to use this program. They will teach an estimated 5,719 club members. Each of these club members will share the program information with an additional 10 persons for an estimated total audience of 63,600 persons.

CLOTHING CARE: A NEW APPROACH TO AN OLD PROBLEM

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The area of clothing care continues to challenge consumers as evidenced by the requests for information received by county Cooperative Extension Service personnel. The local county office is frequently looked to as a ready source of reliable information. Many offices are called upon daily for solutions to problems related to the care and maintenance of clothing and household textiles.

During the recent 1988-91 four-year long range planning activity conducted by each state, the topic of care and maintenance of clothing surfaced once again as an important ongoing issue and concern to individual and family well-being. In preparation to address and program to this issue, a review of educational materials and literature was conducted. The search revealed a substantial amount of print material, although no complete piece of information or reliable reference compiled for quick, easy access. A County Extension Home Economist can spend several hours researching a clothing care problem which ultimately culminates in a telephone call to the land-grant university. Depending on the circumstances, an answer to the problem could lengthen into days. This unfortunate scenario can lead to misunderstanding and mistrust.

Having identified the same problem, two state Clothing & Textiles specialists, representing two regionally oriented states, decided to pool efforts and work toward finding a solution. A computer retrieval software program was identified as the most viable, efficient method and tool to address the situation.

Months of extensive, concentrated work followed to gather material and formulate a brief, yet comprehensive data base of information. The final product appeared as a three disk storage/retrieval computer program known as CLOCARE.

The easy to access software program has been specifically designed for use by professional and nonprofessional county Extension office personnel to answer questions on the care and maintenance of clothing. The program, however, is not limited to this environment or these individuals. Great care has been taken to make the information simple and easy to understand and use, yet factual and up-to-date. Eighteen professionals and subject matter experts from business, industry, research and teaching served as content reviewers.

The storage/retrieval computer program categorizes clothing care and maintenance into ten major topics. Each topic can be individually accessed to review a listing of related titles. Titles can be individually accessed and reviewed as needed or desired. According to the use by or need of the computer user, subject matter topics can be reviewed progressively as chapters in a book.

The program is currently being pilot tested in 36 county Extension offices in the two states, and is expected to be available for statewide and national distribution in the fall of 1989.
Most textiles and clothing programs have recognized the need for the study of ready-to-wear garments. But problems remain in developing resources for the course and effective means of organizing, assembling, and teaching the information. The first challenge, as a faculty member, is to remove oneself from role of consumer and become immersed in the business of apparel manufacturing, to attempt to see oneself as an apparel professional. Successful apparel manufacturers satisfy target customers' needs. The processes involved in merchandising, marketing, and producing product lines can be viewed as a system of interrelated management decisions. The success of these decisions is determined by the serviceability, producibility, salability and profitability of the resulting products.

We have developed a comprehensive approach to garment analysis over the past seven years that includes four major sections: introduction to apparel manufacturing, concepts for garment analysis, materials management, and garment production processes. These topics may each occupy about four weeks of a 16-week semester depending on the amount of background students have had on the apparel business and the amount of technical detail desired relative to production processes.

In Section 1, issues associated with the concepts of product performance and quality should be explored. Students must understand the functional organization of apparel manufacturing firms, including merchandising, production, marketing, and operations, as well as appreciate the difficulties involved in operating in the world market.

In Section 2, the process and purpose of garment analysis is developed. Related issues include the role of product design and pattern development, sizing and fit, development of product standards and specifications, understanding of Federal Stitch and Seam specifications, management of quality, and career opportunities.

In Section 3, issues related to materials sourcing, purchasing, and management are explored. Industry systems for measurement of fabric quality and performance, such as the Worth Street Rules, are discussed. Roles of support materials, closures, and trims and their relationships to piece goods are examined. A prerequisite of basic textiles class allows more applied analysis here.

Section 4 involves production planning and sourcing and examination of concepts related to production costs, costing, pricing, and profit. Preassembly operations including pattern and marker making, spreading, and cutting are analyzed. The influence of equipment and production technology on the costs and characteristics of finished goods are examined. Finally, the processes and decision making involved in management of garment production are analyzed. Throughout the course it is essential to give students hands on experiences, examining garment assemblies, seams, materials, costs. With this sequence of presentation, students' thinking moves from the general to the specific and from observation/exploration to application, analysis, and synthesis.

One complaint we receive from students is that the course is hard. But as faculty members gain confidence and resources are better organized, students have an opportunity to gain a broad understanding of the apparel manufacturing business.
AN INNOVATIVE PROGRAM TO RECRUIT UNDERGRADUATE APPAREL DESIGN MAJORS

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As college enrollments decline, the challenge of attracting qualified and talented students in design has become a problem for many institutions, a problem that could threaten the stability of traditional apparel design programs. Innovative recruitment strategies are necessary to attract potential high school students not yet aware of the exciting career possibilities that await them in the apparel and textile industries. To meet this need a special 6-week summer program in Fashion/Apparel Design was established to:

1. Identify and bring together young people who demonstrated an early interest in apparel design.
2. Help students develop basic skills needed for further study in the field.
3. Provide course credit incentives that could be used towards undergraduate degree requirements.
4. Encourage and mentor potential newcomers to the field.

Offering summer college experiences for bright and motivated high school students is not new and is featured at many major colleges and universities. Our institution has had such an arrangement for 27 years. However, this is the first time a program has been specifically targeted to the needs of future apparel designers.

In the mornings, all students enrolled in two regular summer school courses for college credit. A studio class, Introduction to Apparel Design, taught the basics of flat pattern, fitting techniques, and clothing construction. Classroom assignments encouraged skill development in these areas. Students sketched original ideas on croquis figures, created full-scale patterns using the slash and spread method, and constructed designs in muslin and final fabrics. Another course about historic dress gave students the opportunity to work with the college's costume collection and acquainted them with design research by using extensive library collections. Afternoons were designated for exploring the newly established computer-aided design facility which included hands-on introduction to elementary AutoCAD commands and using the software to execute simple drawings. Computer-aided design work, field trips to nearby apparel manufacturing firms, and interaction with design professionals were enrichments regarded as high points by the students.

Participants were required to live on campus and were encouraged to take advantage of a host of University sponsored cultural and recreational activities. The summer college experience gave young students a chance to establish their independence and to test their capacity for balancing the demands of college work and play while being part of an international, multicultural community.

The first experimental program in Fashion/Apparel Design given in 1988 was considered a success by administrators, faculty, and students and was offered again in the summer of 1989. College reports show that participants have expressed keen interest and are applying for admission to the apparel programs. It is hoped that these enthusiastic alumni of summer college will inspire others with similar interests to consider the field of apparel and textiles in their future plans. It is too early to predict what impact this program might have on future department enrollments, but in time this new recruitment program has the potential to attract a steady flow of eager and talented undergraduates to our apparel design major.
Research is normally not an integral part of the curriculum or activity in community college settings. Incorporating research methodology, experience, and results into student learning activities enhances student ability to retain and apply the information to which they are exposed.

A fitting and alterations class at a Northern California community college participated in a research project that was designed to: 1. Provide photo and computer graphic presentations of their bodies as a visual aid for body analysis, 2. Develop measurement techniques that could be entered into a computer or used manually in pattern alterations, 3. Develop microcomputer technology for drafting and altering patterns to individual body measurements, 4. Compare and contrast patterns that were altered manually and through the use of microcomputers.

During the first class meeting the project was explained to the students. Consensus was obtained from the class to proceed with the research mode of teaching rather than the traditional way. Students were assured that by the end of the class, regardless of method of presentation and participation, they would achieve the same results; a visual/graphic presentation of their body, a basic dress and pants pattern altered to fit their body, fashion patterns altered to fit the basic patterns, and two garments constructed from altered patterns.

The second class session was devoted to taking somatographs and body measurements. Standing in underpants and bras, with their hair raised off of their shoulders, students stood behind a photographic plexiglas screen on which a grid was drawn. The screen was lighted from behind, producing precise body silhouettes. Back and side silhouettes were captured on black and white print film using a 35mm camera. They were also recorded on a Macintosh SE computer using a video camera and MacVision software. The results of both somatographs were printed and compared.

The researcher developed measurement charts and directions for taking measurements. With one student serving as a model, another recording the measurements, and a third assisting the researcher, precise body measurements were demonstrated. Critical and secondary measurements, and a visual body analysis to determine balance and symmetry were noted. Students then divided into four member teams to measure each student. The measurements were recorded manually, and randomly selected student measurements were entered into the computer. Students altered basic patterns manually while microcomputer methodology was developed to alter basic patterns electronically.

Fashion patterns were manually altered to fit and test the basic pattern. The same methodology was adapted and applied to a male T-4 level paraplegic who used a sports wheel chair. Pants and jacket patterns were used to construct basic patterns for him. These were later tested in gingham and fashion fabric.

The introduction of research methodology in a community college fitting and alterations class was successful. Students were fascinated by the research process. Soon after the course began, they started contributing ideas and suggestions for improving the developing methodology.

The processes developed were successful. Computer alteration of patterns is a feasible alternative to manual alterations. With the availability of computer technology, individualized clothing manufacture is a feasible alternative for manufacturers, and particularly for entrepreneurs. This technology and methodology provides avenues for meeting the needs of individuals who require adaptive clothing.

The products developed include computer methodology for taking somatographs, drafting basic patterns, and creating patterns that have been altered to individual measurements. Microcomputer technology is now available to the masses. This methodology opens the way for individualized clothing design and construction.

Fitting is a major problem for consumers. This contribution to basic knowledge has potential for solving this problem.
One way to strengthen the academic viability of any department is to create programs that attract students who demonstrate outstanding preparation and strong, well-focused career aspirations. "Honors" programs benefit the academic life of a department in three ways. Successful honors programs enhance the academic reputation of the department, making it more attractive to prospective students and employers. They challenge faculty to try innovative methods of instruction and evaluation. Finally, they create a ready pool of bright, conscientious graduate students who have already been exposed to the rigors of intensive study and research.

Textiles and clothing programs nationwide can and often do benefit from offering honors programs. Two components of these programs that underscore personalization for the gifted student are the flexible program of study and the senior research project. For example, the regular program of study for our undergraduates in textiles and clothing includes specific courses and numbers of hours in basic education (25), home economics core (24), textiles and clothing core (29), option requirements (ex., merchandising, 31), minor (30), and electives; by comparison, the honors program of study requires a specific number of hours yet no specific courses in basic education (25), home economics core (8), major (49), minor (51), and electives. Therefore, the honor student is given much greater flexibility in structuring a personalized program that meets individual goals and career objectives. Most honor students have very clear goals and clear ideas about the types of courses they wish to take. Basic education requirements are often met through advanced courses in the sciences and humanities or through enrollment in small courses. Major coursework includes courses in textiles and clothing as well as in other disciplines if they are relevant to the student's goals. Minor coursework includes one or two focal areas (ex., business and journalism, computer science and art). Students can use electives to create yet another minor area or take additional statistics and research courses. An inherent advantage is access to more upper level courses, including those at the graduate level.

The senior research project is a required capstone experience. While honor students may have already had another capstone experience such as fieldwork, the research project is intended to engage the student in some type of quantitative or qualitative study, resulting in some product (intensive literature review and theory building, design collection, audio-visual teaching aid, market study, advertising campaign). The research project takes a minimum of two quarters. The format of reporting is the same as a thesis, and the student defends the thesis in an oral examination.

Honors programs are not without costs, although such costs can often be reduced with a little planning. Project advising is very time intensive, yet projects can be tied to faculty research or to other departmental endeavors (ex., internationalizing the curriculum, production of senior design show). Helping an honor student develop a meaningful program of study may require additional advising time, but if a network of honors students is set in place through group interaction, then upperclass students can share ideas with entering students. Identifying feasible research topics can be an intimidating prospect and one that sometimes discourages potential honor students; however, if students enroll in graduate level research courses or if they attend annual honors reporting day, they are exposed to both proposed and completed pieces of research that are judged as feasible. Benefits of an honors program to students and departments can thus far outweigh costs.
Over the last decade, the Minnesota Department of Education has been involved in evaluating and revising textile and clothing curricula for home economics programs at both introductory and advanced levels of instruction. Though not a new concern, this more recent effort has been in part motivated by changing attitudes toward the value of teaching textile and clothing education, both within and outside the educational community. Much of the support for alternate directions in textile and clothing education has surfaced as a result of prevailing stereotypes of predominately technically based programs and the financial means to support such programs.

This report represents the development and implementation of a state mandated textile and clothing curriculum and video program that is a creative teaching and curriculum strategy for textile and clothing education. It is a project that is based on a framework derived from the human concerns both within and external to the family. The project also reflects the innovative effort of specialists to integrate the topic of cultural pluralism with textile and clothing subject matter as well as to adapt dialogic methods of teaching and critical theory for the specialized area of textile and clothing education.

Given this orientation, the project initiates a partnership between educators and students as they explore the realities in which they live. Consequently, through our process educators and students collaborate to meet the following goals:

* Broadening the definition and conceptualization of textile and clothing subject matter to reflect problems of everyday life.
* Expanding the knowledge base and system of action associated with the use of textile and clothing items, from the technical/practical orientation to incorporate the interpretive/symbolic as well.
* Developing instructional materials that include written, visual, and verbal forms of discourse as they relate to the use of textiles and clothing.

Initially the project focused on the development of a curriculum model and provided in-service for educators implementing it. More recently a video program was introduced to be used in conjunction with the curriculum model and to facilitate both student and teacher education. The format of this program consists of ten concepts, each conceptually introduced by definition. Visual examples follow and include intra-cultural (both specific and general), sub-cultural, and cross-cultural illustrations. A final multi-cultural term summarizes each conceptual category. It is this aspect of the project that is presented at the conference.

In summary, the presumed valued end of this curriculum model and video program is that the purpose, meaning and significance in the use of textiles and clothing varies among individuals and families. A major assumption of this project, then, is that variations in related human thought and behavior affect all aspects of individual, family and community relationships. But it is also assumed that individuals and families who understand this valued end are able to make reasoned decisions that provide mutual socio-cultural satisfaction, encouragement, and enhancement of human growth and development and human potential.
One of the most important goals of educating students in the apparel and textile industries is to impart a thorough appreciation for the work of well-known, contemporary apparel designers. Much information about designers is given to students through routine historic lectures. Critiques by designer are often part of upper level apparel design courses. Sometimes, however, the opportunity to deepen any student's knowledge for apparel designs by living designers is overlooked by giving inadequate attention to the work of these designers.

As part of my apparel design teaching, I have established a three part Designer in Residence program in conjunction with a static exhibition of the designer's work. In 1988, I invited Jon Haggins, one of America's better-known black designers, and in 1989, Mary McFadden, the world-class designer, to be Designers in Residence in the apparel/textile curriculum. Each designer made his or her work available for a three week exhibition. These Designer in Residence programs, developed by the University's Council of the Creative and Performing Arts (CCPA), were part of the university-wide themes "Humanities, the Arts, and Race" and "Women and the Arts."

Both projects consisted of preparing the exhibition, mounting the exhibition, and holding classes with and without the designer in the environment of the designer's work. In addition, the designer critiqued the students' work, which in my freshman design classes consisted of garments, three-dimensional design concepts, and sketches of garment ideas. Other classes from various departments profited from the exhibitions and the Designers in Residence.

My class was involved during the preparation stage of the exhibition. The group examined and analyzed each apparel piece for style, function, methods of cutting, and construction. Freshmen apparel design and apparel/textile management students are fascinated to discover how name designers construct their garments. Discussions during this analysis ranged from ready-to-wear production to one-of-a-kind couturier construction, and from marketing and merchandising to retailing approaches. Student evaluation occurred by recording participation and level of questioning.

The program's second part, mounting the exhibition, consisted of garments, accessories, published materials, sketches, designer and production patterns, cartoons of embroidery and bead work, as well as a video tape. The video tape showed the garments in movement on the human form. In Mary McFadden's case, the tape provided further instructional material. It consisted of the complete spring 1988 collection. Student evaluation of this section was through final exam questions.

The two to three day designer visit began once the exhibition was mounted. In my class, we had two types of sessions with each designer. The designer spoke about his or her own work in the exhibition and the students presented their own work to the designer. The designer's public lecture was mandatory for all students to attend.

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The duration of these projects were about four or five weeks, although the planning stage took one year. The Designer in Residence program and exhibition were innovative because they bridged the perceived gap between apparel design and apparel/textile management or merchandising disciplines. Furthermore, the public presentation and exhibition provided an overview of the designer's work to students across campus in such diverse disciplines as interior design, architecture, and other art and applied art programs.

Follow-up or continuation of such Designer in Residence programs depends largely on available funds and faculty time. The scope can be varied according to geographic location and time available by the designer.
"Fashion" is both an object (tangible garment) and a process (information transfer). A fashion merchandising course designed to acquaint students with the nature of "fashion" requires a final project which can challenge a student to integrate these two types of information focusing on a single garment. The analysis should involve both evaluation of physical apparel quality and an understanding of the communication of the garment design to its wearer. Following class discussion, lecture, and preparation, 24 students in an upper division course were given the assignment to analyze a clothing article from this perspective. Students were directed to interview a person about a garment that he/she owned. To attract and hold student interest, the assignment required that the garment studied must have been owned/used by a member of his/her family (Morgado, 1981).

Prerequisites for this course provided necessary support. The beginning textiles course prepares the student to judge appropriateness of the fabric of a garment to its design, intended uses, and care restrictions. Knowledge of construction techniques allows the student to expand the evaluation to the level of longevity, performance, and serviceability (i.e., is the thread appropriate? stitch length? seam and hem type?) A course involving terminology of clothing design details (i.e. raglan sleeve, tubular silhouette, ballet length, etc.) gives the student necessary tools for a physical description of the garment. A background in historic costume helps the student place the garment in a period of history dictating societal norms. And finally, fashion theories taught in the current course give the student a framework for identifying the appropriate process of information transfer for the garment style.

Through synthesis of classroom study, the students discovered:

A. Techniques used in tailored and mass produced clothing construction. Susan's grandmother's 1941 wedding dress had been altered and reused in 1984. She pointed out differences in the seam finishes and thread used.

B. That social functions of clothing are as evolutionary as design. Ceely wore her mother's felt "poodle" skirt as a costume garment, then later as a fashion garment when circle skirts and tights became a popular trend in her high school. The design of Cindy's mother's prom dress completed a turn of the fashion cycle to be acceptable for Cindy's use at her own prom. Although she liked the fabric, color, and design of the dress, Cindy liked it even better backwards, which is the way she wore it.

C. The nature of fashion dissemination both past and present. As a nationally known opera singer, Jennifer's great-grandmother's 1911 concert dress showed a European influence that made her an innovative-communicator of her day. Surely as she traveled, this high fashion dress coupled with her professional status influenced the fashion opinions of those in her audience. Doug introduced the class to the history of his father's now fashionable, once military uniform, traditional style kahki pants.

D. Perspectives on fashion influentials in the lives of their family members. A response to social pressures was evidenced by Robyn's mother who was self-conscious in her 1948 sleeveless evening dress. Nechelle's grandmother's white cashmere sweater with fox collar was selected with the taste of a Hollywood idol in mind.

Presentations were made in both written and verbal form and included illustrations of related design details from print media before, during, and after the actual use of the garment. From observing the presentations and synthesis of ideas, students gained an appreciation for the whole "story" of clothing items. A day coat used in the late 1940's by Alan's mother told the story of a young working girl who extravagantly purchased her dream coat. The shortened hem, replacement lining, and stain removal/repair work traced the passage from young woman to housewife with children, multiple activities, and limited budget.

Students were enthusiastic about the project because they each had a personal interest in the garment selected. The instructor felt the assignment fulfilled its objective as students completed the class with a better understanding of the relationship between construction techniques and quality, the changeable and recurring nature of fashion, and avenues of clothing design communication.

In order to increase student awareness of the vast array of human relations issues confronted in the work environment, 40 students in a senior level merchandising management course undertook a case study analysis of a problematic human relations situation that emerged from their personal employment experiences. Working in groups of two, students discussed specific problems they had experienced in the work environment and selected one particular situation for case study analysis. The problem could address an individual worker, a superior, a subordinate, informal or formal group behavior, etc. and could relate to a variety of topics including motivation, behavior, communication, employee or organizational development, etc. Preparation to undertake the analysis included textbook and outside readings, lectures, guest speakers, films, small group and class discussions. Instructor approval of the selected situation was required before proceeding.

In an in-class oral presentation, students identified specific factors surrounding the situation, issues and problems from management's perspective, three possible solutions and a recommended "best" solution. An important element of the case study was the identification of a theory or model which supported the recommended solution. In addition, students prepared an executive summary of the analysis which was made available to other class participants. In some cases, students applied the recommended "best" solution to their work situation and followed up on the case by reporting the outcome in class.

The Personalized Case Study Analysis was an effective means of developing student abilities in solving complex human relations problems using a logical and theoretical framework. Other benefits of this project were that students were given an opportunity to 1) analyze a wide variety of problematic situations that frequently emerge in the work environment; 2) apply management models and theory in problem solving; 3) integrate coursework into actual job situations; and 4) synthesize the case study components into an oral and written presentation thus strengthening business communication skills. This project was of particular interest to students since it had a direct impact on their actual working situation through its personalized focus. Positive student responses to this assignment will enable the project continuation in the future.
A LOTUS MACRO FOR TEACHING ABOUT OFF-SHORE SOURCING ALTERNATIVES

Jane Craig, Maureen Grasso - The University of Texas at Austin, Austin, Texas 78712

How do you teach students to evaluate the types of "make or buy" decisions apparel manufacturers are forced to make today? What impact does wage rate, political risk or exchange rates have on the make or buy decision process? One innovative approach being taken at this university is the application of Lotus 1-2-3 macros in the Textile and Apparel Economics course.

Imports are a major concern to the textiles and apparel industries, and the evaluation of make or buy decisions is not always clear cut. One way we decided to help students grapple with the effects of different wage rates on the cost of manufacturing garments was to write a Lotus Macro for the problem. This enables students to set up "what if" situations and quickly see, for example, the effects of changes in wage rates on the costs of manufacturing in a specific country. This project effectively uses the 2 IBM PC's acquired through a competitive grant sponsored by IBM's Project Quest to be used in innovative teaching.

Dickerson and Hester's (1984) discussion of the way costing is done for foreign made garments was used as a reference in developing the macro.

Comparative Costs of a Shirt

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<td>Payroll cost</td>
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<td>$7.10</td>
</tr>
<tr>
<td>Mfg. overhead</td>
<td>$4.55</td>
<td>$1.42</td>
</tr>
<tr>
<td>(20% payroll)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total mfg. cost</td>
<td>$57.30</td>
<td>$38.52</td>
</tr>
<tr>
<td>Overhead and profit</td>
<td>$14.12</td>
<td>$9.63</td>
</tr>
<tr>
<td>(25% total mfg. cost)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff (25% ad valoreum)</td>
<td>---</td>
<td>$8.09</td>
</tr>
<tr>
<td>Freight</td>
<td>---</td>
<td>$3.65</td>
</tr>
<tr>
<td>Other importing costs</td>
<td>---</td>
<td>$1.00</td>
</tr>
<tr>
<td>Total cost</td>
<td>$71.62</td>
<td>$60.89</td>
</tr>
</tbody>
</table>

As we can see from the above example used by Dickerson and Hester, a change in the cost of labor does not translate into an equal change in the final cost of the product. The macro is written so that the student can input the material cost, the payroll cost, freight and other importing costs after which the macro calculates the total cost. An increase of 20% in Payroll costs in each country in the above example changes the Total cost in different ways as can be seen in the following example.

Comparative Costs of a Shirt

<table>
<thead>
<tr>
<th>Item</th>
<th>U.S</th>
<th>Hong Kong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material cost</td>
<td>$30.00</td>
<td>$30.00</td>
</tr>
<tr>
<td>Director labor hours</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Payroll cost</td>
<td>$27.30</td>
<td>$8.52</td>
</tr>
<tr>
<td>Mfg. overhead</td>
<td>$5.46</td>
<td>$1.72</td>
</tr>
<tr>
<td>(20% payroll)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total mfg. cost</td>
<td>$62.76</td>
<td>$40.22</td>
</tr>
<tr>
<td>Overhead and profit</td>
<td>$15.69</td>
<td>$10.06</td>
</tr>
<tr>
<td>(25% total mfg. cost)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff (25% ad valoreum)</td>
<td>---</td>
<td>$8.09</td>
</tr>
<tr>
<td>Freight</td>
<td>---</td>
<td>$3.65</td>
</tr>
<tr>
<td>Other importing costs</td>
<td>---</td>
<td>$1.00</td>
</tr>
<tr>
<td>Total cost</td>
<td>$88.45</td>
<td>$63.02</td>
</tr>
</tbody>
</table>

Students are asked to evaluate the cost of manufacturing in the various countries and then to make decisions based upon their analysis as well as the additional analysis, including political and social, of doing business in each country.

Other more elaborate models could be written which incorporate even more elements of the make or buy decision. For example, one such model could illustrate the effects of higher mark-up used by stores on imported goods and how this translates into higher profits for the store. This could help students understand more fully why retailers are opposed to legislation which would curtail the importation of textile and apparel products.

The Lotus 1-2-3 macro given above illustrates the importance of wage rates for such labor intensive industries as apparel in the evaluation of off-shore versus state side manufacturing. Finally, it also demonstrates how the computer can be used in the decision making process.

SUN-RA: THE IMPACT OF JAZZ ON FASHION

Renee Weiss Chase, Drexel University, Philadelphia, PA., 19104

From the Porkpie hat to the Zoot suit, clothing worn by noted jazz musicians has had substantial impact on the world of fashion. This idea formed the basis for a 1987 national design competition which challenged fashion designers to study the relationship between fashion and a particular jazz artist. The mission was to select a famous musician and design a garment reflecting the fashion statement made by that person. The jumpsuit shown here was an entry for this competition and won one of ten national prizes.

As a Philadelphian I was drawn to local jazz artists as sources of inspiration for my work. Sun Ra, a flamboyant and prolific musician, has been working in the Philadelphia area with his "Arkestra" since the 1950's. His costumes have reflected the futuristic leanings of his music as well as his philosophical groundings in cosmography. Sun Ra's belief that he descended from the planet Saturn provided the creative thrust for my entry.

The jumpsuit, or spacesuit, is made of black 100% wool doubleknit. Leather applique work in royal blue, gold, silver, red and gray form motifs that refer to space travel and the cosmos - stars, planets, rocket ships. At present the garment is housed in New York City's Black Fashion Museum at Harlem.
Inspiration for this work came from viewing a Chinese emperor's robe in the collection of the University of Oregon Museum of Art and from the Son of Heaven, Imperial Arts of China Exhibition in Seattle. In Imperial China, only emperors were allowed to wear robes of yellow with the image of dragons with five toes. With respect for tradition, the upper robe is blue, in cotton pique and this dragon has four toes. The technique of appliqué was used to attach the dragon's silk body to the robe. Sequins of varying sizes and colors represent the dragon's scale structure. Seed beads, bugle beads and metallic yarns embellish the body.

This is the second piece in a series exploring the incorporation of men's silk neckties into garments. The four ties used to embellish this garment had belonged to my father, and signify the Chinese reverence for one's ancestors. The ties, taken apart and used as fabric, are oriented diagonally on the lower robe, similar to the diagonal bands representing water (that symbolize the universal ocean) on Chinese robes. The tie strips are attached to the silk base cloth by a combination of machine-stitched strip piecing and hand sewing. Additional tie strips adorn the lower sleeves, in combination with pieces of antique Chinese trim. Metallic braids edge the seams joining the lower robe and lower sleeves.

Three Chinese carnelian beads with tassels decorate the back neck of the robe. Gold fabric and metallic trims form bands that finish the front and neck edges. Five antique carnelian buttons with fabric loops fasten the robe.

The robe structure is based on the male Manchu court robe. The Western closure of right-over-left was used rather than the traditional robe's left-over-right fastening. The horsehoof cuffs are vestiges of the nomadic horseman's sleeves which extended over the hands. For this robe, the sleeves have been shortened to a contemporary length. Underarm gussets are a modification from the original robe's structure to provide greater arm mobility. The robe's pattern was created using flat pattern design.

References


Having come from an artistic background with a mother as a tapestry weaver, and an architect father, I was raised among baskets of colored yarns and architectural books and drawings. The Venturi design combines the two disciplines of weaving and architecture using colored yarns to produce architectural shapes. The sweater was made on a standard knitting machine combining the plain and intarsia knitting methods.

The garment was designed for an architect friend who admires the great father of Post-Modernism, Robert Venturi. The purpose of the project was to mix Venturi's ideas with my own to create a unique design. The colors were carefully chosen to avoid confusion between the classic columns and the symbolic background. Neutral columns form a foreground for vibrant contrasting background colors, and the inky blue body resembles a Mediterranean night sky. Clothing should be an expression of who we are, therefore, the professional architect should wrap himself in architecturally inspired clothing. A garment should be individualistic, and stand on its own like an original painting in an art gallery.

The intarsia technique allowed me to knit multi-colored patterns and shapes without floats across the back of the work, making it the ideal method for this project. The sweater style played an important role in the design process. I chose a classic crew-neck style as I did not want a shoulder seam to interfere with the design. Traditionally, the front and back of sweaters are the same, but I have chosen to ignore this idea. I become bored with repetition, so for more impact I vary the designs. The design is carried to the back of the sweater for visual impact. The side seams do not break into the flow of the pattern work. Design unification comes from the common background color and the three borders which encompass the sweater. Natural cotton yarns were used to knit the sweater. Cotton is my favorite fiber to knit sweaters with due to its ease of care, year-round wearability, and hypoallergenic properties.

"Venturi" attracts attention due to the architectural shapes and strong colors. The design created on the sweater is much like a painting. Why hide artwork between the pages of sketch books? Be bold and WEAR your ART!
Kimonos, which traditionally have been considered as art by its designers, makers and patrons, functioned as a source of inspiration for The Emperor's Robe I (Picture A), The Emperor's Robe II (Picture B), and Kimono VIII. My intention was to design a contemporary interpretation of the traditional kimono. This project was also designed to a) explore the interaction of both various colors and various textures within the traditional kimono format and b) explore various diagonal lines within the silhouette.

The diagonal lines within the silhouette, that function as the main theme for the designs, are parallel repetitions of the V-shaped neckline, or linear continuations of the neckline lines. The V-neckline is repeated at the upper parts of the sleeves while the linear continuity of the neckline-lines extend across the lower parts of the sleeves. Piping and other trimmings are used to accentuate the diagonal lines.

The project served as a continuation of my previous work. This work focused on a) the relationship of vertical, horizontal, and diagonal lines respectively, within a more T-shaped silhouette, b) the relationship of the color red to the colors blue and purple, c) the interaction of different textures of the same color and the d) interaction of various colors and surface designs with similar textures. This project combined the separate variables explored previously and resulted in kimono coats. Previous projects resulted in kimono dresses.

Yvonne S. Karlsson
University of Wisconsin-Madison, Madison, Wisconsin 53706

Picture A

Picture B
"Kapuanani" or beautiful flower is the first of a number of hand-painted garments planned by the artist. The white ginger plant seen in the violet haze of early evening provided inspiration for the piece, and although the vest was first draped in muslin on a commercial dress form, the nature of the floral pattern was already firmly in mind. A more fitted silhouette was desired than normally found in garments of hand-painted silk, so princess seams were incorporated in the vest front and double ended darts in the back. The garment was draped from a single piece of muslin so that the princess lines and side seam markings were a maximum of 3/8" apart. The muslin pattern was transferred to paper so the floral motif could be sketched to fully fit the space. The one-piece pattern allowed the darts to be closed during sketching for a continuous pattern in addition to facilitating the painting process which involved stretching the silk tautly on a rigid frame.

Silk painting is a transparent medium and one must work very quickly before drying occurs. Because of this, the paper pattern was colored just as the finished fabric would be so that it could be used for quick reference during the painting process. After the silk was stretched on a raised frame, the pattern lines were traced in Gutta resist which also delineated experimental blocks along the border of the piece.

The silk paints are very much like watercolor paints in nature, meaning that it is very easy to obtain solid areas of pure hue, but that some skill is required to obtain shading and gradations of color. If the painter goes back over an area that has been painted, the color will "white-out" toward the center and leave a hard edge that looks very much like a waterspot where the brushstroke ends. This effect was used to advantage on the leaves which were first painted a light green and then retouched with successively darker shades of color to show veins and shadows. A dry brush technique was also employed to provide fine lines and texture. The artist also found that by using dyes mixed with a small amount of water, a fuzzy edge or blurred effect could be created as can be seen in the flower petals.

The silk fabric was hand basted to a layer of Thermo Lam batting after vest darts and seams had been sewn. The piece was then machine stitched to silk lining around outer edges, clipped, turned, and hand quilted through all layers. Self-covered buttons and hidden hooks and eyes from the obscure diagonally overlapping closure of the vest.
The design for "Night Games" was entirely dictated by the colorful 100% cotton Holland screen print fabric. The textile manufacturer exports primarily to Africa and fabric coloration and design character are indicative of that region. The coat was designed as a single flat block. The sleeves are separate folded blocks joined to slashes which extended down the depth of the armhole from the upper edge of the coat block after the body of the garment had been completed.

A paper pattern was made for the coat block on which the checkerboard pattern was drawn to scale so that the artist could observe the effect of the asymmetrical pattern. The checkerboard was made by strip piecing cotton fabric by machine and then hand appliqueing the shapes to the Holland print.

The lower section of the coat is the end product of evolutionary experiments. The artist wished to feature a gradual color change similar to the circular pattern in the Holland print, but found that the simple joining of color strips was visually too strong for the upper coat and did not tie together well with that part of the garment. The next step involved the horizontal separation of the color strips with graduated pieces of print ground fabric. This was an improvement; the lower section tied in with the upper coat, however, the line of the garment was horizontal and not as flattering to the figure as a vertical one might be. The final experiment involved interjecting vertical strips of ground fabric between color strips. The artist was pleased with the resulting windowpane effect.

A thin layer of quilt batting was placed between the outer fabric and lining, and the garment was hand quilted through all layers. Sleeves were sewn to the slashes in the coat body, shoulder seams were joined and a Japanese kimono style band/collar was attached to the front edge. The use of the print ground fabric on the band and the bright yellow piping served to both emphasize the vertical line of the coat and to bring the upper and lower sections of the garment together. A belt was constructed from covered cord to further emphasize the circular gradation of color seen in the print.
My fascination with Peru began in high school when I went to see my first international woman's volleyball match. It was the United States versus Peru. Lulled by the chants, of "pay'ru, pay'ru, pay'ru," from across the coliseum, I was immediately enthralled. More recently, my exposure to ancient Peruvian textiles has revived and redirected my earlier interests. Several of these textiles inspired the creation of this tapestry woven jacket entitled, "Peru in Bits and Chunks." This garment is the tangible reflection of my fascination with the artistry and refined craftsmanship demonstrated in ancient Peruvian textiles.

In ancient Peru, before contact with the Incas, a slit in the tapestry woven textile would be created each time a color change occurred. Sometimes they would go back and hand stitch the openings. On my jacket slits are used at many of the color changes. I like the subtle break in the solid fabric.

All of the design motifs used in this jacket are interpretations of those found on some of the ancient textiles. The single most intriguing piece to me is a mantle or ceremonial cloth, called Paracas Textile (dated 1 A.D.). It was found, in a tomb, covering a body and other valuables. This body was also surrounded by those of five infants. It is thought to be the grave of a priest or chieftain. I used a variation of the anthropomorphic motif found in the central portion of the textile for the ultrasuede applique' on the waistband. (Ultrasuede was also used for the facings, the buttons, and as piping.) I also incorporated metallic yarns. I often use bits of reflective materials in the garments I create because of the viewer participation it illicits. As people pass by the garment their changing point of view and their interruption of the light source alters the visual character of the piece. This seems to make the piece responsive to their presence and visa versa. This quality also gives the garment a heightened sense of motion. (The remainder of the garment is woven of 100% wool and wool blend yarns. The lining is 100% acetate.)
PLUMING IVORY

Lisa A. DeFrance

Oregon State University, Corvallis, OR 97331-5109

GARMENT DESCRIPTION
A jumper and blouse comprise this two-piece ensemble. The jumper has a very form-fitted silhouette with cut-aways in the bodice and back. It has long sleeves and reaches to mid-calf in length. Four front darts create a curvaceous fit through the bust, waist, and hips. The darts are released at the hip to allow for comfort and extra mobility. The front of the jumper scoops in a smooth curve and ends just below the bust creating a snug mid-riff fit and allowing the blouse to "plume" out from under the jumper in the chest area.

In the back, two half-moon shaped cut-aways that begin at mid-armhole and end at the waist also expose the blouse. A button closure begins where the cut-aways end at the waist. Seven 3/8" covered buttons run down the back of the jumper on both sides. This entrance allows for the snugly fitted jumper to be slipped on and off. From the closure to the hem runs a knife pleat.

The blouse has a high stand collar and a covered front button placket. The "pluming" effect is created by a pleated piece that is separate from the blouse. For both the front and back, a section of fabric was 1/4" knife pleated and then attached at the waist and shoulder yokes. This maintains the fit of the blouse while controlling the "pluming" effect in the desired areas. A waist peplum to which the pleated section and under bodice is attached eliminates extra bulk allowing for a smooth line when worn under the jumper.

MEDIA
A brocaded 100% linen piece was used for the jumper and a nylon organza for the blouse. The opaqueness of the linen and sheerness of the organza creates a subtle but interesting contrast. I chose an ivory monochromatic color scheme to further play up the differences in the fabrics. Organza was chosen because it was stiff enough to hold the pleats and create the effect that I wanted in the cut-away areas. The jumper is lined with a lightweight broadcloth, and therefore stiff enough to hold its shape, yet pliable enough to hug the body curves.

TECHNIQUES
The jumper pattern was draped on a personal body form. The blouse was also draped except for the collar which was flat-patterned. All but the hem stitching was done by machine. A serged finish was used on the jumper and the blouse, due to the sheerness of the organza, was french seamed. A hand overcast was used to finish the blouse armhole after discovering that a french seam was impossible with the degree of curve in the underarm.

INSPIRATION
Fashion magazines were my main source of inspiration. I was intrigued by the freshness that I saw in the sheer fabrics that were being used. It struck me as having a very distinct "newness" and element of surprise. The sheerness of the fabric does not prepare one for the stiffness of a fabric such as organza, and I felt it to be an interesting combination to work with. I had also seen a few cut-away garments and these two images came together as I began to design and select fabrics.

The technique used for the blouse was inspired by the costumes worn by male ballet dancers. An over-bodice is attached to a fitted bodice in the armholes, at the neck, and waist allowing the dancer to move freely while the garment stays in place. By making the pleated front and back bodice sections separate, I was able to add extra length in the body and thus control and emphasize the "pluming" effect in designated areas. The pleated section matches the armhole curve and side seam and center front lengths, therefore it lies flat. In the chest area, however, the extra length actually causes the stiff organza to stand away or "plume" from the fitted under bodice.
This eight harness summer-winter patterned rug was constructed with weft yarns of wool and a mixture of rayon and metallic yarns. Various parts of the wool yarns were hand dyed to formulate colors which would be compatible with the pattern as well as develop a balance between the weave structure and the other colors used. The summer-winter pattern had an assortment of possible diamond patterns available, and special considerations were taken to incorporate these designs into the overall color structure.

This was the second piece in a learning process to explore the block design theory and apply it to a fiber art creation. According to this theory, a block is a group of weft or warp threads which act together to form an area of pattern. Within a woven piece, groups of pattern which are the same are considered to be in the same block. In the summer-winter pattern, different blocks can be combined to create a more complex design. Summer-winter is a good weave for the experimenter and those who like to play with texture. The reason for this lies in the control one can have with the two tie-down system and the independent nature of the pattern blocks with their ability to combine for full pattern texture.

As this piece was being woven, layers of diamonds were created with assorted textured yarns so that it would give the rug a sense of depth as well as create a desire to touch the rug. There was not a set pattern for the depth of the diamonds, but rather to make a conscious effort to incorporate the novelty yarns into the base color. To add excitement, as well as to give the rug shots of light, gold metallic yarns were carefully woven into the rug in various stripes.

To finish the rug, the warp yarns were tied into simple knots and wrapped with gold metallic yarns. This was done to create a sense of balance with the other gold yarns, and to draw the eye back into the piece. Since the pattern is summer-winter design, it can be reversed and hung on the other side with opposite colors in view.
Lifted Basket

Barbara Trout - University of Nebraska, Lincoln

This investigation in fiber and mixed media was developed to experiment with forms of structure that would support a woven three dimensional form. The problem then extended into exploring the influence of the structure on the shape of the woven basket.

The initial form was woven from a center coil which through the technique of knotting developed into three separate planes. Each of these planes served as a canvas to experiment with geometric designs through regulating different colored yarns. The planes were then joined with the insertion of wooded stilts which joined to form a part of the supporting structure for the basket. The patterns were then each studied as they were influenced by the contouring of the planes once they were supported by the wooden structure. Metallic paint was then applied to enhance the contours.

The core of the basket is cotton, with a flax wrapping yarn. The supporting structure is of wooden sticks. Colored feathers serve as accents to the structure. The structure stands as an integration of materials where the shape and flexibility of a tightly woven form are examined.
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