acptc
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DENVER, COLORADO

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Rita Purdy, VPI and SU
The research on the issue of protection from agricultural chemicals through clothing emerged in the 1960's, and has been an area of emphasis in many laboratories throughout the nation and the world. We researchers may be better known in Helsinki or the Soviet Union, and in agricultural circles, than we are in textiles and clothing. The work has made an impact on public policy at the state, federal and international levels, through OSHA and the World Health Organization.

There were several divergent expectations about the content of this lecture. The objectives that I see as pertinent are: to place the work in its historical, theoretical, scientific and applied contexts. The goal will be to meet these objectives simultaneously, working toward analytical and synthetic understanding of the contexts.

Human pesticide exposure continues to be a problem for those who use chemical tools. The three routes of chemical entry into the human body are respiratory, dermal, and oral. The dermal route accounts for about 90 percent of the total human pesticide exposure. The chemicals are absorbed through the skin where they spread throughout the body. The skin differs in its permeability to chemicals with some areas more permeable to dermal absorption than other areas. Yet, until recently dermal exposure has received limited attention perhaps because the older pesticides were more poorly absorbed through the skin. Most occupational poisonings today are dermal. For example, Kansas farmers who did not use protective clothing while handling herbicides had higher risk of cancer than those who did. The literature contains a report of the death of an adult male, attributed in part to wearing laundered clothing with residues of methyl parathion.

A recent (Clifford & Nies, 1989) example is the multiple pesticide intoxication case. A plant worker became ill and required hospitalization. Within a two-week period, two other workers required hospitalization for similar symptoms. Reconstruction of the incident showed that the first worker had accidentally spilled methyl parathion on his coveralls. He had taken the required safety measures of an immediate shower followed by placing the plant-issued uniform in a disposal bag to be burned. Instead, the plant laundered the worker's uniform and reissued it to him, leading to a second hospitalization. Meanwhile, the launderers washed the coveralls, then reissued the garment to a second worker, who also required hospitalization for acute pesticide poisoning. After yet another laundering, a third worker wore the coveralls, then required medical attention for pesticide intoxication. The plant launched a thorough investigation of practices before discovering that the culprit was the often-laundered coveralls.

In general, the pesticide products used in agriculture, homes and commerce are formulated products. The hazards associated with the active ingredient ranges from acute toxicity to cumulative effects or chronic toxicity, as well as the mutagenic, teratogenic or carcinogenic potential of these chemicals. Generally, a full strength formulated product poses more significant a problem, although for pesticides that are very high in toxicity, diluted mixtures may be just as great a concern.

Minimum protective clothing is described as cotton overalls, a long-sleeved shirt, and trousers. Accidental spills of concentrated diluted pesticides may be absorbed by fabrics such as cotton and cotton polyester blends worn for work clothing. OSHA Standard 1910.267a (1973) suggests that protective clothing include a "washable fabric." We see how potentially important protective clothing is; yet, contaminated work clothing may act as an occlusive dressing that aids in dermal absorption of insecticides. Researchers at Arkansas
found that individuals who wore obviously contaminated clothing showed greater levels of exposure than did others. Completeness of pesticide removal in laundering is essential if the garment is to be worn again. But after-laundering residues occurred in all the pesticide intoxications just mentioned. Historically, the recognition that pesticide residue was very difficult to remove from fabric surfaced with the use of cotton pads in the 1960's as collectors to monitor worker exposure in sprayed fields to decide on safe reentry periods. The earliest work on laundering to remove residue was that ACPTC member Lucille Finley of Louisiana State University. Finley and associates explored whether workers' clothing could be removed by laundering. Over the last two decades, excellent and extensive research has addressed laundering protective apparel (Laughlin & Gold, 1988). Others have addressed the propensity to wear protective clothing using risk-assessment models, perceived risk of pesticide use, thermal comfort and hazards associated with use of elevated temperature, limited mobility/dexterity while wearing protective clothing and restriction in vision, the development of functionally designed protective clothing using patterns of deposition on clothing and the increasing accumulation of residue on clothing over the growing season.

The laundering pesticide contaminated clothing research program strives to take a macroscopic look at a complex, dynamic, turbulent system, by examining a set number of variables in a homeostatic state. The chemical nature of pesticides as soil complicates our knowledge of the processes of soiling and mechanisms of soil removal from textile substrates. Soiling depends upon: the chemical nature of the textile; geometric characteristics of the fiber, yarn and fabric; chemical treatments of the textile; and type of soil; whether oil-base or water-base.

Properties of the fabric substrate, soil, cleaning method and interactions among all three factors affect the extent of soil removal in refurbishment. Pesticide soiling of textiles not only occurs during wear, but also may occur due to redeposition during laundering. Researchers report retention of pesticide residue in laundered fabrics despite elevated temperature, detergent type, additives, such as bleach, fabric softener, starch, pre-rinse, wash cycle, pre-wash treatment, fiber content, textile finish, yarn size or weave of fabric (Laughlin & Gold, 1988). Research is the process of trying to gain a better understanding of the complexities of interactions of variable of interest. The research gathers information (data) about those interactions, reflects on meaning, arrives at and evaluates conclusions, and then puts forward an interpretation of those interactions.

Journal articles display research as supremely sequential and objective, but real research is often a confusing mess, intensely frustrating and fundamentally non-linear. Bargar & Duncan (1982) describe how "through such highly standardized reporting practices, scientists inadvertently hide from view the real inner drama of their work, with its intuitive base, its halting timeline, and its extensive recycling of concepts and perspective (p. 2)." Just as important to understanding of the research, and the ability of emerging researchers to replicate it in the context of "good" science, is the solid rationale or intuitive reflection processes that the research team use to make decisions to enhance the reliability and validity of the work, and the ethical underpinnings of the studies. Research design is a result of a series of decisions made because of knowledge of methodological literature.

Consumers of the research need to be in position to consider the variations among the results of different studies. There may be a distribution of results for studies sharing a particular procedural characteristic, but vary in other characteristics. Research users need to be able to conclude accurately whether this is due to procedural variation or whether the variability in results are due to variables under study.

While it is not possible within the constraints of this paper to complete a meta-analysis on laundering pesticide protective clothing, the method and model of meta-analysis will be used to examine the scientific/experimental context of the work. The use of prototype methodologies from the primary research and discussion of their characteristics will be used to facilitate the analysis.

The research protocol involves contaminating a fabric with a known quantity of a known substance, laundering the fabric in a controlled environment and then determining the residue remaining after the refurbishment. There are many decisions that contribute to making the work worth doing, or render the resources spent a wasted investment. Although many clothing behaviorists appreciate experimental laboratory work as being rather clear and precise, the researcher may make inappropriate choices that mean, even if we rattle test-tubes and slosh around chemicals, the results are muddy and imprecise.

The research process can begin at any one of the stages in the research cycle. Theory may not be formally labeled as theory, but we are operating
from a set of assumptions. We need to know that a priori assumptions exist. These all may not have been acknowledged by the researcher, but they arise from the researchers' theoretic approach. Findings from one study may not be applicable to another study if the set of assumptions are different. If we are truly to understand the linkages between theory, research and practice, we have to start with understanding the impact on research and methodology.

To meet the purposes of the study an appropriate approach is specified, then the experimental design structured. Contingent upon the statement of purpose and the approach, there may be alternative designs. A recent example (Laughlin & Gold, CTJR 1990) could have been factorial or split plot or RCBD design, contingent upon the stated purpose. In that instance, the purpose was model testing, so a factorial design with testing of models was selected.

A prototypical methodology would include factors such as selection of representative fabrics (including the specification of the fabrics), pre-treatment of specimens, spiking the specimen, establishing controls and baseline levels of contamination, determining recovery rates, treatments, extraction and analysis. For the purposes of illustrating these decisions, I'll share what we do in our labs at Nebraska, and caution you that the results may be similar or different contingent upon decisions other labs make.

Fabrics

Fabrics should be representative fabrications in that fiber content if inferences attributable to fiber content are to be made about response variables. Exploratory work can be done with one fabrication with caveats stated; but, be careful of the research that draws fiber content conclusion based on an n of one. Information can be extended if several laboratories use the same fabrication and if the specification of that fabric are clearly delineated.

Researchers should exercise caution about inferring that the results are attributable to fabric weight when only one (or two) fabric weight(s) were included in the research design. This applies to any other morphological characteristics of fabrics (a parallel is to study only Jim Smith's clothing behavior, and then infer that all Jim Smiths (or all people) exhibit this clothing behavior for these same reasons).

Spiking the Fabric

Technical material may be used full strength (EPA standard), dissolved in solvent, diluted to approximate the strength of packaged products. Agricultural workers commonly handle, or appropriate for aerial applicators, or what home gardeners purchase, or diluted to approximate the strength of field application strength. Lots create a fictitious compound, we'll call it Methyl Ethyl Awful or MeA for short. MeA might be applied to a test fabric at 99.9%, 45%, 10%, 4% or 1.25%. Does it matter? Yes. The more concentrated the active ingredient, the higher the level of soiling and the more difficult the chemical is to remove in refurbishment. The research may be modeling the worst-case-scenario, or modeling manufacturing of pesticides, or modeling aerial application or modeling home gardening. The research user needs to know the approach relative to residue remaining after treatment versus residue removed. The underlying theoretical context and impact (or operational and constitutive definitions) are important for research consumers. Given that x amount of MeA is inoculated on a fabric specimen, and x amount is empirically measured on the specimen after treatment, which data are reported, analyzed and discussed? The amount removed by the treatment? Or the amount remaining in the specimen after treatment? The later is the complement of the former, but one is not certain whether the residue removed was due to treatment or due to other factors, such as dissolution, evaporation, or transfer. At Nebraska we chose to deal with the concept of residue remaining while measuring a full "budget" of the pesticide. Other researchers spike a like volume into a specimen bottle, then measure the active ingredient. We choose to use baseline specimens that we spiked, then extracted and analyzed, with a similar spike into specimen container to determine recovery rate (or extraction efficiency). Previously, the protocol used in all the Nebraska studies included: (1) three control specimens for each treatment, with an inoculation of field strength dilution (this ranged from 0.05 to 1.25% MeA contingent upon pesticide of interest, (2) treatment specimens and (3) baseline recovery spike into specimen container. We routinely calculate a percent of chemical extracted from fabric and express it as a recovery rate (after doing an extraction study as technical procedure development) then use the recovery rate to calculate percent residue remaining.

A word about replications and use of standard error of means in determining the power of the experiment. A complete replication is essential to these laboratory studies. A complete replication means that we repeat the whole experiment, from mixing solutions through analysis. Some laboratories chose to run "in-replication" studies,
meaning that a number of specimens, say three or five, is treated as replications. Again the clothing behavior of Jim Smith analogy is appropriate. How does one decide from a n if one whether the observations are anomalous or an actual representation of the phenomena of interest? Specifying control in the protocol is as important as defining variables, but frequently overlooked. Controls to avoid confounding variables may in fact be variables in other studies. Understanding how the data are summarized is a critical part of the understanding research protocol. Because our work dealt with fabric variables such as functional finish, we decided to use a data normalizing technique of calculating "percent residue remaining." However, when we do the experiment using efficient refurbishment procedures or soluble chemicals, the percent residue remaining are not normally distributed, often ranging from 44% to 94%. Therefore, we applied data manipulation techniques, specifically are nine conversions to normalize the distribution. Other normalizing techniques could be used, such as natural logs.

SUMMARY

From these studies, we disseminated conclusions; however, some inappropriate recommendations based on earlier and incomplete research remain in the literature. Appropriate recommendations for pesticide exposure reduction include: personal hygiene, frequent handwashing, particularly before eating or smoking; wearing protective apparel over usual work clothing when air blast spraying, mixing or loading concentrated highly toxic pesticides, or inspecting recently sprayed fields; removing protective clothing before entering enclosed cabs of tractors; using soil repellent finishes on usual work clothing worn for other tasks; changing clothing daily; storing pesticide contaminated clothing separate from other items of family laundry; pre-rinsing, presoaking or prespotting contaminated clothing; washing items separate from family laundry; laundering only one pesticide-type soiled garment at a time; using as high a wash temperature as possible; using two full rinses; and line or dryer drying. Clothing should be washed the day of contamination, and the automatic home washer should be cleaned following washing of contaminated clothing. Although many have recommended dedicated protective apparel, cost, comfort and availability probably will result in continued use of conventional clothing by agricultural workers.

The problems of providing adequate protection to all who work with pesticides continue. Of increasing concern today are the chronic and acute effects from pesticide exposure. Since exposure can occur in a wide variety of settings and activities, work must continue about functional design of protective clothing, especially design based on known patterns of exposure, risks associated with toxicity of the product, and benefits such that workers will be motivated to accept the protection. We need more information on maximizing protection while minimizing unacceptability of the protection. We need more research on the care and refurbishment of clothing worn during work with pesticides.

Because of the importance of this specific area of research as it relates to human health and protection from pesticide, demand for accurate information on protective apparel will increase. Providing answers will involve both basic and applied approaches. Therefore, adequately funded interdisciplinary efforts will be needed to answer these questions. In addition, the development and utilization of "good laboratory practices" adequate replication and statistical analysis are needed.

REFERENCES


Clothes really do make the man—you seldom see a naked person in a position of authority.

ACPTC is now a national organization—a going concern. Are its best years already behind it?

We have a journal; we have a newsletter; we do lots of research presentations. Our biggest problem is to keep moving—to avoid complacency, the growth of bureaucratic organization and power: problems I have observed in AHEA and in other organizations.

Meetings are dangerous—everybody picks up the same dumb ideas—like the flu. We need to build bridges among T&C people—proliferation of specialized associations and publications fragments many organizations. There are too few of us—we cannot afford to be divisive. Remember that we are a product of the breakup of AHEA.

Will we be wide awake when T&C units need help? E.g. AHEA failed to answer cries for help on name in time to avoid splintering.

NOW WE NEED TO ATTEND TO OUR STANDARDS.

Some people were truly shocked when they read the piece about ethics in a recent ACPTC newsletter. I was not—as a researcher, an editor and a reviewer, I have seen far too many cases of plagiarism. Many but far from all of these involved people who had not yet achieved tenure and who were evidently willing to try anything to get it.

A type of plagiarism—extended quotation without credit—is a particular problem with students from other countries. It is by no means limited to them. People writing for publication often fail to ask permission to quote from or cite unpublished materials.

A situation less serious than outright plagiarism but poor practice is inadequate review of literature. Textiles and clothing people are eager to lend credibility to their research by citing related research from other fields. But with some notable exceptions they do only a slapdash job of tracking down related work in textiles or clothing, frequently winding up by reinventing the wheel.

WE NEED TO ESTABLISH EFFECTIVE CRITICAL DISCUSSION AT OUR MEETINGS.

We have failed to set up an effective system of critiquing research and position papers presented at these annual meetings. When I first enrolled in graduate school as an economics major, I was amazed at the intense discussions at Economics seminars—the fierce criticism of papers and ideas presented—without people taking personal offense. At an ACPTC workshop last year, we had that kind of discussion. But no graduate students were present to see it or participate. Why don't we have healthy exchanges in our regular meetings? Do too many of us consider criticism unladylike?

We seem to be terrified of any evaluation up front—but we seem to have no scruples about taking ugly potshots behind people's backs. I saw a truly abusive one-line review that a CTRJ author once received. The last of four lines of that review read: "A great deal of nothing."

I suspected that the reviewer thought s/he knew who the author was and was trying to get even with someone for an imagined slight. This is a very dangerous game—I observed when editing HERJ that reviewers almost always misguessed who the authors were and authors usually misguessed who the reviewers were. Also, the findings of the paper may have threatened some of the reviewer's own findings. A former graduate student of mine was unable to publish a paper reporting her thesis research, perhaps because the findings threatened the way comfort has traditionally been measured.

Let me say that this review I quoted was the most abusive review I ever saw, but far from the only abusive review.

ACPTC members have a lot of growing up to do in their standards, systematic and responsible critiquing of papers at meetings, and in maturity and objectivity when reviewing for print or selection of abstracts.

I receive written and oral comments
from AC/TC members objecting to published papers with questionnaire response rates of 15 or 30%. This is an appropriate concern. Why do I get these complaints? Who reviewed and accepted these papers?

It is very important to publish reviewers' names, without identifying them with specific papers. It is also important that what reviewers say, good and bad, be made known to a wider audience. Good reviewing is a very creative contribution. Therefore it is useful for the Editor to send out to reviewers of a specific paper copies of comments by all reviewers, after a decision is reached on a paper, to help each reviewer understand how his or her evaluation compares with those of other reviewers.

Reviewers need to get modern and shed their outdated fixations.

Almost always, reviewers complain if papers are written in the first person. Yet first person research writing is preferred by such prestigious journals as Science. The use of the passive voice, referring to oneself as "this researcher" and the research as "the current research" is stuffy, pompous, and boring.

For the past six years Jane Farrell-Beck and I have been rewriting Payne's History of Costume. What have clothing and textiles reviewers got against interesting writing? Reviewers acknowledge that Payne's little jokes were part of the charm of the original book, but some of them stumped our smallest attempts at humor as if they were cockroaches! Reviewers even stomped on Payne's own humor, not recognizing verbatim quotes from the original book!

Clearly there are differences in taste. One paragraph was cited by one reviewer as being the best expression of this particular idea she had ever read, while another reviewer found the same paragraph the worst she had ever seen on the topic!

Now we know why journal articles and textbooks are dry as the inside of King Tut's tomb. Lighten up a little, folks!

Reviewers also tend to be heartily prejudiced against new ideas.

I recall a TC paper submitted to HERJ that other reviewers hated—but that the reviewer recommended be published because the thinking was so original. So I accepted it with one favorable review—hers.

Only recently I realized that the battle over scales in affective research in our field is a by-product of a feud between clinical and research-oriented psychologists, a feud that has split the American Psychological Association. We have become entrapped in someone else's fight without realizing it.

In the Payne revision, Jane and I tried to base the text on our own observations, not on secondary sources. Some reviewers asked why we did not cite this or that source on one point or another. But often we found that what an author said did not match what our own eyes told us.

Reviewers have a tendency to get caught up in their own causes rather than the author's causes. What a rarity is a reviewer who is really on the ball! Jane and I do not claim to be error-free: we appreciate the reviewers who spot our mistakes! Nobody, in three rounds of reviewing, noticed that in one place I had mixed up the words "chlamys" and "chiton" in Greek clothing, until Reviewer C came along. Not in three rounds of reviewing did any reviewer notice that due to a computer error, the reference list for Chapter 20 was missing.

Reviewers should always be willing to put their money where their mouths are.

Don't accuse an author of not citing the right references or of making a factual error without citing a reference to support your point. In the Payne manuscript, reviewers who cited references for their assertions saved us many wild goose chases.

Based on experience, I would estimate that there are serious faults in 3/4 of published journal papers. I make mistakes, you make mistakes, and the sooner we all admit it, the better for standards.

Never review a paper on the basis of one reading. If at all possible, read all papers at least twice.

Most people are fighting the last war (on methods, writing style, or whatever) just as most politicians are in the grip of some dead economist.

Get rid of your fixations! Let the scales fall off your eyelids! For the development of Textiles and Clothing into a reputable field of academic study, whose research has meaning and value, we must improve both improve and openly apply our critical standards. We have a long way to go.
A care label. What is it, and why should any of us be concerned about it? Today, a care label is an integral part of everyone's wardrobe. Each day that we get ready for either work or play, we are putting on a part of our wardrobe that we have spent a lot of money for. Certainly, we all want to take the very best care of our wardrobe so it will give us the expected use.

The Care Label Rule was implemented to help the consumer at the time of purchase in determining how an article should be cared for. It was also implemented to help the consumer use the correct wash procedure and to give the drycleaner some guidance. It is certainly a great idea. And, if the rule was working, we would have a lot of happier consumers, retailers, designers, and drycleaners.

Our wardrobe is really our second skin, and probably has a lot to do with not only how we look, but how we feel. Certainly, the fashion world has given us a wide variety of garments to wear. But, what can be more frustrating than to see a newly-purchased, expensive item ruined after the first washing or drycleaning?

The Care Label Rule first came about in July 1972 through the efforts of the Federal Trade Commission. The main focus for this Rule was to make it easier for the consumer, professional launderer, and drycleaner to determine the proper care for clothing. In January of 1984, the Rule was amended with some specific changes. Mainly, it required the manufacturer or importer to list only one safe method of care for the garment, rather than all the possible methods of care applicable to that garment. Most garments we buy today do have one method of care listed, but in some cases, that care instruction is incorrect for the garment itself or may contain verbiage that is foreign to most of us.

One combination cloth and leather garment contained the following care instructions: "No chemical cleaning, leather side--pat with damp cloth, wool side, use professional fur cleaning." This label gives some care procedures, but most of them are totally incorrect. It is usually not advisable to use water on leather, and wool isn't cleaned by the fur cleaning process. A professional drycleaner was very successful in cleaning this article using normal care procedures for a cloth fabric, incorporating the use of perchloroethylene, the most widely used drycleaning solvent. However, before the cleaner could proceed with this cleaning, it was necessary to have a discussion with the customer to point out that it was impossible for them to abide by the suggested care procedures on the article. In this case, the professional opinion of the drycleaner was more applicable to the care of the garment than the care instructions attached to it. One can only wonder who dreams up these procedures.

Another care label which is extremely popular today reads as follows: "Special precautions: care to leather and beading cleaning--do not wash or dryclean by fabric methods--must be cleaned by laundry expert - no steam ironing." This, in fact, tells us to be very careful of the leather and beading on the article; do not wash or dryclean as you would a cloth fabric, but must be handled by a laundry expert. It suggests the garment should be professionally laundered, but the first part of the care instructions said do not wash--so one would assume the item should not be immersed in water. We have found that some garments containing this type of care label can be handled very successfully by the professional drycleaner, and in other cases, the article cannot be cared for by any method, whether it employs drycleaning or washing.

Professional drycleaners are very aware of the care label and do try very hard to follow the care instructions on the article if at all possible. However, in some cases, just locating the label is a challenge. The Rule clearly states that the care label should be in a conspicuous place; this is usually designated as an area in the neck of the article or possibly on the inside pocket or lining of a coat. There are many times when the drycleaner cannot locate a care instruction. The Rule states that a garment may not necessarily
need a care instruction if the article can be professionally laundered or drycleaned by the harshest methods without being damaged. The article need not contain a care label if it is a irreversible item and there is no place to put the label without detracting from the appearance of the article. However, in such cases the item will usually be sold with a hang tag which will give the care information. But, in many cases, by the time it is necessary to have the article cared for, the consumer has misplaced or discarded the hang tag and has no idea how the article should be processed.

A drycleaner recently received a garment for cleaning and could not find the care instructions. In his professional opinion, he thought drycleaning would be the best procedure. The article was drycleaned and much to his dismay, much of the color was removed because the colors were actually solubilized in drycleaning solvents. The consumer returned the article to the retailer who was totally surprised. The article was returned to his vender for an explanation and possible adjustment. Someone at the vender's happened to look inside the sleeve and sure enough, there was the care label. Now, why was the care label inside the sleeve? That's not a conspicuous place. There was plenty of room for the care label on the inside of the collar without detracting from the appearance of the article.

Some consumers habitually remove labels from the article because they complain it irritates them while it is worn. In the early days of care labels, this was a major problem because some of the labels were quite inflexible and rigid and indeed, they did irritate some tender skins. However, the label industry has gone to great lengths to overcome this. Very soft materials are available for the care labels that will not cause any itch or irritation to the consumer. Naturally, if the label does irritate the consumer, they are very likely to cut it out and discard it, only to find they are in a complete quandary when it is time to have the article cared for, and they don't know whether it should be drycleaned or washed.

As we stated before, the Care Label Rule only requires that one care method be listed, and it does not have to state what care procedures cannot be used. The consumer buys a large number of washable items and today's consumer is really not interested in spending their evenings washing and ironing clothes. Consequently, these washable articles are bundled up and off they go to the drycleaner. The drycleaner will then, in many cases, separate those that are washable and have them washed rather than drycleaned. Some drycleaners will point out to the consumer that there is a care label in the garment and they are accustomed to following the care label. Some customers get very excited at this point and bluntly shout at the cleaner, "If I wanted it washed, I would have washed it myself. I brought it here to have it professionally cleaned."

Some drycleaners have learned the hard way that when some colored, washable cottons are drycleaned, a drastic color loss occurs. What may come in as brown cotton slacks could go out as green because one component of the dye was solubilized in drycleaning solvent, yet the dye was very fast to washing. Most consumers can't understand why drycleaners are reluctant to dryclean their washables. In addition to this, we all know there are some cottons and rayons with washable labels, but after washing they do need ironing, and they often need to be ironed while damp. People have rebelled against ironing men's all-cotton shirts and they certainly rebel against ironing the all-cotton and rayon. So rather than iron them at home, they send them off to the cleaner assuming he will dryclean them, when in fact, they will be washed. The cleaner has professional methods of finishing which are much better and easier than what the customer can achieve.

Hand wash - machine wash - wash separate. What do you do with these? One consumer called and said that if all of the washable articles would be sorted out according to the specific care instruction, she would have about eleven categories of different wash cycles, but never enough for even a small load in the washing machine. Consequently, most of the articles are gathered up and all tossed in the machine, and the consumer hopes for the best. Of course, occasionally this is going to result in a disaster because one of these articles is likely to say hand wash or machine wash separately. Some of these garments contaminate rather fugitive dyes and must be washed separately or else dye will transfer from one garment to another. However, the consumer doesn't understand why this particular garment contains the washing label with restrictions. The consumer has been washing many colored garments for many years and is not accustomed to seeing dyes bleed when they are put in a normal detergent and water bath. Testing has revealed that some of these articles, whether they are labeled hand wash, machine wash, or wash separately, contain dyes that are so fugitive to detergent and water that just immersing them in water for a few minutes can cause the entire bath to change color. Very often, reds and blues are very fugitive. If they happen to be incorporated with white parts, there can be drastic dye migration and bleeding. This problem will magnify itself if the customer happens to allow the article to soak in the detergent and water solution for 20 to 30 minutes, or if they allow the article to dry while laid out flat over a towel. In either case, the article will remain damp...
for some time and this usually initiates the dye migration. Some dyes are so fugitive that it's impossible to handle them by any washing procedure. In fact, the dyes start to bleed just from the effects of perspiration or in some cases, spillage of water-soluble staining substances. Some articles that are labeled "hand wash, air dry" will exhibit this extensive dye bleeding. Whereas, if the same articles were machine washed and tumbled dried, they would come out excellent. The reason for this is that the extensive change of water during the machine washing and rapid drying removes some of the excess dye and dries the fabric quickly before the migration takes place. This is a case where the very precautionary care label is totally incorrect. If this garment was machine washed, it would come out excellent, whereas the hand washing procedure is disastrous.

There is also the belief that a very heavily soiled article requires a very long soaking to soften the soil and stains. This is generally quite true, but because of the fugitive nature of the dyes in the washable, and even in the drycleanable items, the extended contact with moisture is almost a "no-no." When handling multicolored garments, especially cottons and cellulose fibers containing red and blue dyes, it is usually best to wash and dry quickly. Even on garments carrying the dryclean label, we find that the removal of perspiration, food, or beverage stains, which necessitates moisture, is an impossibility. It's extremely difficult to explain to the customer that you cannot remove an ordinary, simple food or beverage stain from her beautiful rayon dress because the dyes in it are water soluble. The usual response is "I bought this from a very reputable retailer. I paid a lot of money, certainly they would not produce a garment that contains water-soluble dyes." Past experience has told us that price does not dictate serviceability. In some cases, the less expensive garment gives better serviceability. It seems when we get into the highly sophisticated decorative colors, the addition of beads, sequins, leather, and suede trim, serviceability to a care process takes back seat.

Probable the greatest headache facing the professional drycleaner today is the white cotton garment adorned with deep red, blue, or black suede or leather. Because of the leather, the article should be drycleaned. During drycleaning, the dyes in the leather bleed profusely and run all over the white cotton, creating what is best described as "a total mess." These are often very expensive garments, usually $300 to $500, and one can visualize the problems facing both the drycleaner and consumer. After all, we have a totally ruined garment and the customer wants compensation. Because the drycleaner was the last person to handle it, they usually look to him for compensation. Yet, if the drycleaner has followed the care instruction in the garment, certainly, he should not be held responsible. Shouldn't the firm that put the incorrect label on their article be held responsible? After all, they can make matching cloth and leather garments which will withstand a drycleaning process. This type of problem certainly looks like a garment was made for fashion and a care label was attached with absolutely no testing whatsoever.

Other types of troublesome trim are the beads and sequins. Many beads are made of an inexpensive plastic called polystyrene which actually dissolves in solvent. Many cocktail and formal dresses contain imitation pearl or other decorative trim that is made of this substance that totally dissolves in cleaning. After cleaning, the dress is completely void of the trim, and that's a real shocker. In other cases, the polystyrene may contain a coloring that, before it dissolves, will transfer and stain other portions of the garment or other garments in the same load. Polystyrene is totally washable, but not suitable for drycleaning. Yet, the trim is often attached to expensive silk, acetate garments that are not all suitable for washing. The Rule clearly states that all attached trim must be compatible with the care label. Some labels state dryclean only exclusive of trim. If the trim is permanently glued on or sewn in as part of the item—the item cannot be cleaned.

Today we see a lot of white cotton with dryclean only labels in everything from sweaters to blouses, and skirts to shorts. Drycleaning is a safe method, but it is extremely difficult for the drycleaner to keep the cotton white and remove all of the perspiration, food, beverage, and heavy ground-in water-soluble soil. A wet cleaning process would be much better for many of these garments. The consumer and drycleaner have both found that if this article is washed, rather than drycleaned as labeled, it comes out perfect. Many consumers have been washing their 100 percent cotton garments labeled "dryclean only" with much success. However, if the fabric fails when the article is processed contrary to the label, the person who violates the care instruction has no recourse.

Situations like this tend to finalize in the consumer's mind that there is no credibility in a care label. If they get away with washing their drycleanable cotton, why can't they try washing their dryclean only wools and silks? Consumers don't understand that putting a soft wool or silk in a home washer and then tumbling it is a lot different than washing and tumbling a white cotton.

Apparently trying to get some humor into the care label, a manufacturer recently attached a label on a 100 percent rayon blouse reading "machine wash warm, no
Made in the

wouldn't have these labels. At IFI, we

entire drycleaning, spot removal, and

talking about. An analysis lab, where drycleaners,

are talking about. An analysis lab, where drycleaners,

the very best job. To help a little more,

we now have a ten minute video on the

basics of drycleaning. It's in very

simple layman's terms and goes through the

entire drycleaning, spot removal, and

finishing procedures. It's available for a

three week rental of $10. or it can be

purchased for $20. It's another way IFI is

trying to help educate consumers,

designers, and the textile industry on

drycleaning.

So we have a Care Label Rule and it's

not working. What are we going to do about

it? First of all, let me briefly tell you

what IFI's been doing for the last three

years. Many of you are aware that we have

an analysis lab, where drycleaners,

retailers, educators, Better Business

Bureaus, and Consumer Protection Agencies

can send garments that have failed in a

drycleaning or laundering process for an

evaluation. All of those items that come

into the lab showing garment failure are

reported to the Federal Trade Commission on

a monthly basis. We send them a printout

stating the description of the garment, the

manufacturer, and the defect. We have

invited the FTC staff out to the Institute
to look over our operation and show them
our Garment Analysis Laboratory. Each time
they visit they are amazed at the problems
and the discrepancies in the care label and
they promise, "We're going to do

something." They are mandated by law to

enforce the Care Label Rule. There's a

$10,000 fine for each violation. However,

before they can collect the fine, they have
to go through litigation, and nothing has

happened. We, at IFI, feel we have given
them all of the information we possibly can
and this information includes numerous
repeat offenders.

In the last month, we sent over 500
mailings to Congressmen and Senators on
Capitol Hill. We made a special appeal for
the legislators to get behind the FTC, give
them the manpower, money, or whatever it
takes to correct the problem.

Our very dear friend, Heloise, has
been on the forefront with this issue and
certainly advocates better labels and did a
week-long media tour, which helped.

I believe it's up to all of us,
everyone in this room, to get the message
out and somehow convince the consumer that
it's up to them to insist on a garment with
the proper care instructions. Nearly every
consumer has a garment in their closet that
has failed during a washing or drycleaning
process and has done nothing about it. If
each consumer would take this damaged
garment and parade down to their retailer
and demand an adjustment, it would help.

However, the retailer must then take this
garment and give it back to their vendor
and ask for an adjustment. These garments
must not remain hanging in the closet
while the customer complains in silence.
The consumer must be vocal and demand their
rights under the CARE LABEL RULE.

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RETAIL STORES:

Are they meeting the needs of the disabled and elderly?

Charlotte Leggitt Tinch

James Madison University

Over 50 million Americans are past age 55. By the year 2010 one fourth of the total population will be 55. One in seven will be over 65. Half of the elderly population will be over 75 by the year 2000 and the 85+ is the fastest growing age segment.

It is estimated there are 36 million people in the U.S. that report having some type of disability. A portion of the disproportionate growth of the disabled population can be attributed to an aging population. James Mueller (1990) states that by the year 2000 one third of the U.S. population will be physically disabled, chronically ill, or over 65 years of age.

The disabled and elderly are faced with decreased physical dexterity and mobility, increased visual and hearing impairments, slower information processing, and developmental disorders such as dyslexia which impair reading ability. Because many elderly live alone and have one or more physical impairments, they rely on mass media for information.

There are numerous research studies which address concerns of the elderly. Previous research revealed that convenience is a major factor in decision about where to shop; product labels with small print are considered an inconvenience to elderly shoppers; lighting and temperature are a concern of the elderly; there is a need for rest areas in retail stores; elderly shoppers enjoy being assisted by sales associates in their own age group; the 75+ consumers desire for help in finding items seemed to stem from the personal interaction and/or desire for courtesy rather than an inability to find the items. Physical attributes of apparel such as "sizes and styles suited to age of older consumer" were reported as a special need of the elderly.

More extensive research was needed in the area of consumer needs for special shopping services and in-store comfort aids. The objective of this study was to determine specifically what barriers were encountered by the disabled and elderly while shopping in retail stores.

Six hundred questionnaires were delivered to three retirement communities in the area. The questionnaires were hand delivered to all of the mobile residents. Two hundred thirty were returned, a response rate of 34%. Eighty nine percent of the respondents were above 70 years of age. Thirty six percent were above age 80. One third of the respondents lived with a spouse. Approximately 3.5% lived with a sibling, while 56% lived alone. Seventy eight percent of the respondents drove a car. Of those who did not drive, reasons given were cars were too expensive, age, did not own a car, no need for a car - used public transportation, poor eyesight, never learned to drive, and physical problems made driving difficult. Ninety six percent did their own shopping for clothing. Twenty five percent had either visual or hearing impairments and 27% had arthritis or other difficulty in the use of muscles or joints.

Analysis of the data revealed that the barriers could be divided into four categories: physical barriers; difficulties with salespeople; apparel merchandise selection; and store design and equipment. Physical barriers encountered were: doors too heavy to open, door handles out of reach for person on crutches or in a wheelchair, aisles too narrow, uneven or slippery floors, no chairs in dressing rooms, dressing rooms too small for assistance, display racks too crowded, didn't have strength to push garments aside and remove one from rack, no handicapped facilities in restrooms, small print on hang tags and price tags (often times the label or tag could not be found), lighting too dim or too bright, and no counter to write a check on.

Disabled and elderly reported that salespeople rushed the customer, neglected the customer, were not knowledgeable, were not around when needed.
were too scarce, did not know where to locate wanted merchandise, spent too much time talking to friends instead of waiting on customer, were rude, made too many errors, and did not seem interested in waiting on customers.

The respondents felt that the apparel merchandise selection catered to the young, provided an inadequate selection of sizes, had too many drab colors for large sizes, contained limited styles, was too expensive for fixed income, was moved too often, and similar items were scattered throughout the store.

Complaints about store design and equipment included no place to sit and rest, too much walking to find department, signs were not large enough to identify product areas, cash register receipts were too light to read, bathrooms in poor repair, and no hooks in dressing rooms or in bathrooms for purse or packages.

Recommendations by the respondents were that benches be placed near shopping center or store entrances to rest while waiting for transportation, not in the center of the mall; that shopping center and store exits be numbered so that they could remember where they entered, and that parking areas be numbered by row and space.

In summary the results of this study revealed that the elderly and disabled consumers have adequate income to spend on clothing, slower learning abilities than younger people, greater dependence on mass media for information, and complained fewer times than younger consumers because past experiences indicate nothing will be done.

These same consumers want knowledgeable salespersons who can locate items for customers; apparel fixtures with few garments on them; salespersons who seem genuinely interested in helping them find items, read signs, and try on garments; chairs in dressing rooms, places to hang purses, and assistance; more apparel items designed for their age group; entrance doors that are not too heavy to open; entrances to stores and malls numbered or lettered so that they can remember where they entered; benches in malls near doors to rest on while waiting for public transportation; better signage identifying various departments; less clutter in aisles to accommodate crutches, wheelchairs; more patient salespersons; adequate lighting, warmer temperatures, and more rest areas (due to deteriorating vision and physical stamina); hang tags and price tags with larger print on them; lower and wider checkout counters with adequate space to write a check or put a purse while making a purchase; and personal attention while shopping.

Implications are for colleges and universities to emphasize the importance of knowledgeable salesperson in their curriculum. Retailers need to become more attuned to the aging population. Perhaps the new Americans with Disabilities Act can be addressed by retailers in a way that will eliminate some or all of the barriers encountered by both the disabled and the elderly.

Publications: The Editors' and the Writer's Perspective

Margarot Rucker, Univ. of Calif., Davis; Sharron Lennon, Ohio State Univ.; Nancy Owens, Calif. State Univ., Northridge; Patricia Trautman, Univ. of Conn., Janet Wagner, U. of Md.

Introduction
Margaret Rucker

To make a significant impact on an area of study, the results of one's work must be shared with others. This is generally accomplished by making presentations at professional meetings and publishing in scholarly journals. While there is almost universal agreement on the importance of publishing, there is less consensus and understanding of how to select the most suitable journal for a manuscript and how to maximize the chances of having the manuscript accepted for publication. This special topic session has been organized to demystify the publication process and suggest how appreciation of differences in editorial policy can assist the writer in finding an appropriate and timely publication site.

Panel members include Sharron Lennon, Associate Editor for the Home Economics Research Journal, Nancy Owens, Editor for the Clothing and Textiles Research Journal, Patricia Trautman, Editor of Dress, and Janet Wagner, member of the Editorial Review Board of the Journal of Consumer Research. The panel has been asked to cover a variety of topics including the manuscript review process common major and minor flaws in manuscripts, how to handle requests for revision and rejection, and the ethics and etiquette of writing and reviewing.

Home Economics Research Journal
Sharron Lennon

Steps in the manuscript review process include the following:
1. The manuscript is sent to the editor who sends it to the appropriate associate editor.
2. The associate editor selects two reviewers from the Review Panel and sends the manuscript to them for review.
3. When both reviews come back to the associate editor, the associate editor prepares a summary cover letter to go with the manuscript and the reviews.
4. The associate editor sends this material to the editor.
5. The editor reads the manuscript and reviews and makes a decision as to the publishability of the manuscript.

6. The authors are notified of the editor's decision. Most often manuscripts are returned for revision.
7. When revised manuscripts are submitted, the process begins again. To the extent possible, revised manuscripts are returned to the original reviewers. Some fatal flaws in a manuscript which lead to rejection are as follows:
   1. Procedural flaws which affect the results of the study and which cannot be corrected without reconducting the study. Some examples are evidence of experimenter bias, leading questions, and inadequate evidence of reliability/validity.
   2. Failure to responsibly prepare and proof the manuscript and adequately articulate ideas.
   3. Misrepresentation of other articles.
Some problems which prompt requests for revision are:
   1. Lack of a theoretical framework and/or poor justification.
   2. Use of improper or inappropriate analyses.
   3. Overinterpretation of the findings.
Next are some suggestions for handling requests for revisions:
   1. Carefully prepare your cover letter to address each one of each reviewer's comments. Tell how you either complied (give page and line numbers) or tell why you elected not to comply.
   2. Approach rewriting as a learning opportunity. If a reviewer says something doesn't make sense, you probably have not articulated your ideas very well. Remember that few manuscripts are publishable as originally written.
   3. Persevere. Coauthors have an investment in the manuscript so you should not give up on a manuscript because reviewers point out areas in need of revision. You may want to send the manuscript to another journal (after incorporating reviewer comments). Another suggestion is to have someone else read the manuscript for you.

Some commonly asked questions about the Home Economics Research Journal (HERJ) are:
1. What happens if one reviewer accepts (or suggests revisions for) a manuscript and the other reviewer rejects the manuscript? In the case of very different reviews, the manuscript will be sent to a third reviewer. The third reviewer's assessment will be used as a "tie-breaker."

2. If reviewers reject a manuscript based on something "fixable" (such as data analysis), does the author have a chance to change the manuscript? The editor of HERJ reads the reviews and will overrule reviewers' decisions if the problems with the manuscript are not fatal flaws. In that case, the manuscript will be sent back to the author(s) for revision.

3. How often does the editor NOT go along with reviewers' decisions? This happens only in about 5-10% of the decisions.

4. Does HERJ have any policy as to the "ideal" type of article, statistical analysis, or readership to whom the article should appeal? The answer is no to all questions. An effort is being made to be open to a variety of types of research.

5. When may I call the editor about a manuscript? Whenever you have questions, please feel free to call the editor or associate editor.

6. How should authors interpret the letters they receive regarding the disposition of their manuscripts? HERJ has three types of wording used when manuscripts are not rejected. The most serious type of letter (denotes major revision) asserts that the paper is not publishable in its present form. This does not mean that the paper is rejected, but actually gives the author(s) a chance to revise. Very often the paper will be much better if the author(s) incorporate the reviewers' suggestions into the revised paper.

A second type of letter asserts that the paper may be publishable and that the reviewers have suggestions which might improve the quality of the paper (minor revision). Author(s) must revise the paper based on the reviewers' comments or give cogent reasons for not revising. In this latter case it is possible that the paper might not be published, particularly if the reasons for not revising are not convincing.

A third type of letter states that the paper is accepted for publication in HERJ, but that there are a few lingering details to which the editor would like the author(s) to pay attention. Notice that this is the only one of the three letters which states that the paper has actually been accepted. However, author(s) are still obliged to clear up those "lingering details" mentioned by the editor.

7. What happens if the reviewer criticizes some aspect of the manuscript on the second review that she/he did not address on the first review? HERJ protects authors in this respect. Reviewers are instructed NOT to bring up new issues on the review of the revised paper except as those issues are generated by something new in the revised paper.

Clothing and Textiles Research Journal
Nancy Owens

The Clothing and Textiles Research Journal (CTRJ) is the official journal of the Association of College Professors of Textiles and Clothing. It accepts manuscripts that meet at least one of the purposes outlined on the inside front cover of each issue: "(1) broaden the research base in clothing and textiles, (2) facilitate scholarly interchange, (3) demonstrate the interdisciplinary nature of the field, and (4) inspire further research." A wide variety of articles have been published through the years, i.e., theoretical, empirical, editorial, exploratory, topics have dealt with all aspects of the field, from history to textile science, from fashion merchandising to anthropology. From an editor's point of view, the submissions appear to be increasing in sophistication as well as in number. There is a clear bias on the part of some reviewers for work that is theory based, although this is not required by CTRJ editorial procedures and otherwise worthy manuscripts should not be rejected for not being theory based.

Changing directions of the profession will drive changes in CTRJ. For instance, recent issues have had more articles in the merchandising area than earlier issues had. Authors and reviewers should be aware that the readership is not limited to ACPTC members. CTRJ is being carried by an increasing number of academic libraries and in a number of other countries. Current reviewers are from the U.S., Canada, and New Zealand. In the past year we have had submissions from Korea and Nigeria as well. As we move toward influence in a wider sphere, we need to be aware of the messages we are sending to those outside of ACPTC and outside of the U.S.

The guideline for authors appears on the inside back cover of every issue, but it is not always followed. Manuscripts are submitted that do not follow APA guidelines, do not have numbered lines, have missing pages, include original artwork, do not identify the author directly on other than the title page and indirectly in the way that credits are assigned or referencing is done, and do not include requested telephone numbers. Authors and prospective authors should phone the editor when they have questions. Guidelines are sent to each reviewer who is accepted. Authors and prospective authors can request a copy of these
Suggestions to authors: Always check what your graduate students do. Have someone good at editing and proofreading go over your manuscript. Double check your data. Write "Research Note" below the title on copies of manuscripts submitted for that category. Realize that reviewers are not always right but that most try to make helpful suggestions. Even the most experienced researchers have manuscripts rejected on occasion.

Consider the reviewers' suggestions and submit the manuscript to another publication for which it may be a better fit. When you have a few publications, apply to be an ad hoc reviewer for CTRJ--you owe it to the profession and you will find it a valuable learning experience.

Suggestions to reviewers: Make sure you follow the guidelines for reviewers. Try to avoid letting your personal biases influence your decisions. Return manuscripts promptly if you will be unable to review them because of time pressures, subject matter, or certainty as to identification of author(s). Provide information of which you are knowledgeable, particularly sources that are familiar with, other methods of analysis that might be better suggestions for other publications in case you are recommending rejection, etc. In reviews, make general comments first, then specific ones. Do not feel that you have to spend your time dealing with editorial changes (although the editorial staff appreciates your suggestions). A number of authors do not have English as their native language, so look at the substance of the manuscript and do not reject on otherwise worthy manuscript because of mistakes that can be corrected in editing. If you plan to be away for an extended time, notify the editor.

Dress
Patricia Trautman

Dress is the juried journal of the Costume Society of America. We publish manuscripts of original research done in the primary literature and sources, and which have as their foundation dress.

That is, Dress can either be the topic of discussion, an approach to a broader-based question, what we do NOT publish are manuscripts discussing methodologies of costume history research, or which are exercises in dating existing undated garments. However, this is more a matter of approach rather than a hard-and-fast rule: We would consider manuscripts which use dress as an example in explicating a methodology or research scheme of a broader nature, such as material culture in general; and/or, explain the reasons for the date of a known-provenance and dated dress, how it fits in with the already available literature, and thereby can be used to help substantiate a time frame for an undated garment. In addition, we accept book and exhibition reviews that are written in a timeless fashion, placing the book/exhibition, while critiquing it, within the already-published scholarship in the field; narratives of research panels, with written critique (see DRESS 1988); and letters to the editor which react, in a scholarly manner, to manuscripts already published in the journal. Not only is our goal to generate and publish the new scholarship, but to be a dynamic forum for the professions which center around the use of dress. We are still moving toward this goal.

While all editing is done around the Chicago Manual of Style, there is no set format which all manuscripts must follow. That is, it is expected that the format, as well as the content, will spring from the topic and the source material. Even so, we expect at the very least for the author to tell us the purpose and scope of the manuscript, organize and outline ideas consonant with the purpose and scope, develop the topic focus, highlight the main ideas, and tell us the significance of what you've told us, how it fits with commonly held ideas.

This last point is where most authors fail to follow through on their research. It is the "So What?" section, and it tells us why we should publish YOUR paper on the topic. Most authors can respond to criticism on all other sections but still fail to convince us of the importance and timeliness of their efforts as opposed to anyone else's.

To date we have published only one manuscript without pictures. We have returned manuscripts to authors until they can also furnish us with high quality artwork. We know that our readership uses the journal for presentations, and takes slides from the articles; therefore, we expect all manuscripts to contain artwork. We also expect this artwork to be reflective of the research in the primary source materials, and therefore not be redundant of that found in numerous already-published costume books. Costs for all artwork, including any "permissions to reproduce" are the responsibility of the authors.

Six copies of the manuscript (length should be dictated by the topic, usually ranging to 30 pages); photocopies of all artwork, including captions and credits; and permission to reproduce, can be submitted at any time during the year. The deadline of June 30 is for consideration in that year's journal. Once submitted, the manuscript is sent out to the jury which represents all professional areas of the society. I also maintain a list of specialty readers who can review manuscripts. This is in
addition to the regular jury. While it is still our intent that the reviewers' comments and recommendation for publication be sent to the authors in about two months from time of submittal, given the volunteer nature of the process it has been taking considerably longer than that.

The jury writes copious comments on each manuscript, which I collate and interpret. The jury recommends publication, publication with revision, or rejection of a manuscript; however, I as editor, retain the final decision. While we do reject manuscripts on the first reading, the majority of manuscripts which do not make it to print drop out because they fail to meet the jury's revision standards -- mostly the authors do not wish to comply and so never complete the resubmittal process. More and more the jury is in a position of minutely criticizing a colleague's work, and helping that author get the research into printable shape. More and more our task is to help get new scholarship published in the most professional manner. This is different in tone from waiting for manuscripts to be submitted, then passing judgment on them, publishing only those that meet set criteria. While we will only publish those that meet certain standards, our aim is to help authors attain those standards. And I must say that as we do this the quality of the writing and the journal improves, and the competition to get research published becomes stiffer. Additionally, due to the scholarly critique aspect of the process, and the amount of time a number of people devote to the publication, as of 1990 all authors must be members of the Costume Society of America before their manuscript will be sent out for review. It takes an average of two years from submittal to print, sometimes even longer.

As one who has developed a broad-based view of the overall scholarship in the area of dress, including knowing what's in the pipeline, so to speak, I would be remiss not to mention to this group what I view as a failing of clothing and textile professors. Typically, we (here I include myself) teach in several areas, and we counsel graduate students in several areas. That's all to our credit. However, the people who will win at the scholarship game and who will become known for expertise in a given area are those who concentrate on that specific area. On the other hand, they follow their interests in a specific area across disciplines. To succeed in making it through the publication process, one must integrate all relevant literature involving dress, whatever the disciplinary source of the work.

An additional problem from our perspective concerns joint authorship. While we have no problem with manuscripts penned by more than one author, those which are graduate student research results and are submitted under student and advisor names, and are not in the mainstream of the advisor's own research program, lead us to a lower evaluation of the advisor's scholarly reputation. When people from other disciplines submit manuscripts based on student research to *Dress*, the advisor is not a co-author. His or her name can usually be found in reference to scholarship -- if it happens to pertain to his or her area of expertise. If both student and advisor names need to be included, I would recommend that the manuscript be submitted to *Dress* only if it matches the research program of the advisor and it would add to the advisor's scholarly esteem.

Our run of over 2000 rivals a University Press and we expect to move closer and closer to that market. Plans for the near future include selling *Dress* in bookstores (Canada) and doing a joint publication with the Clothing and Textile group in Australia. It will take us a while before you can travel the world with *Dress*, but you should prepare for that direction. In the mean time we will continue to forge the largely uncharted waters of costume research and help colleagues get into print in a professional, juried, and high-quality publication.

**Etiquette and Ethics in Reviewing**

*Janet Wagner*

Etiquette is a code of behavior that helps people get along with one another. It makes professional life easier and more pleasant. It has a practical purpose, in that it facilitates the dissemination of knowledge in our field. It is based on consideration for others and awareness of their needs.

Ethics is a system of standards for distinguishing behavior that is right from that which is wrong. It has moral overtones. Its purpose is to promote the growth and well-being of the profession. The reviewer must consider the needs of both the editor and the author. The goal of the editor is to publish the best quality articles in a timely manner while the goal of the author is to have his or her paper accepted for publication as quickly as possible.

What is reviewing etiquette?
1. Review within the time allotted.
2. Put yourself in the shoes of the author.

a. Be honest but kind about the strengths and weaknesses of the manuscript.
b. Offer constructive suggestions.
c. Present comments in an organized manner for the editor. Follow the organizational scheme of the journal's
evaluation sheet, provide an overall assessment and provide detailed comments.
4. Present comments in an organized manner for the author. Comment with reference to specific page and line numbers.

What are the ethics of reviewing?
1. Review objectively.
   a. Avoid unfounded criticism in order to maintain your own position in the field.
   b. Avoid pettiness.
2. Maintain the trust implicit in the blind review process.
3. Don't use ideas from materials still in the review process and claim them as your own.
4. Be constructive.

What is the etiquette of authorship?
1. Follow the journal style sheet.
2. In responding to reviewers' comments:
   a. Be polite.
   b. Respond point by point.
   c. Cite pages and line numbers where you have made revisions.
   d. Address every issue raised by the reviewer.
   e. Thank the reviewer for his or her time and effort.
3. Avoid whining.

What are the ethics of authorship?
1. If you borrow ideas from other scholars, give them credit.
2. Do not plagiarize -- either ideas or words.
3. Submit a manuscript to one journal at a time.
4. Avoid double-publishing.
5. Avoid dividing one study into so many small pieces for publication that you lose the intent of the work. In other words, be sensitive to the "least publishable-unit" issue.
QUICK RESPONSE: PARTNERSHIPS

BETWEEN APPAREL MANUFACTURERS AND RETAILERS

Nancy Cassill - University of North Carolina at Greensboro
Jane Thomas - Winthrop College
Doris Kincade - Auburn University
Martha Poindexter - North Carolina State University

Quick Response partnerships continue to be established between apparel manufacturers and retailers. Quick Response is defined as "the establishment of new business strategies, new relationships, and new procedures to speed the flow of information and merchandise between retailers and manufacturers of apparel and textiles" (Voluntary Interindustry Communications Standards, 1989).

Quick Response is a "mind-set", a commitment to a different way of operating. It is the focus on integrating relationships between segments of the soft goods chain, better information flow, and more flexible technology to achieve Quick Response with less inventory throughout the system. The objective of Quick Response is to capitalize on the United States advantage. The specific goals of Quick Response are to: 1) develop and deliver products to minimize total inventories, out-of-stocks, risks and markdowns, 2) maximize sales, ROI, and customer service with these products, 3) experience immediate benefits to retailers, due to serving consumers better, with the entire pipeline benefiting, and 4) deliver VALUE to consumers.

Quick Response is a "pull through" strategy. This strategy is market driven from hanger to fiber (rather than reverse) and establishes partnerships, responding to consumers with a lot less inventory and risk.

In 1987 forced markdowns, stock outs, and inventory levels of U.S. fiber/textile/apparel/retail industries totaled $25 billion in total revenue, approximately 25% total sales. Quick Response strategies can help to cut this amount in half, plus reduce present apparel costs, and reduce retail operating expenses. Results can be shared with consumers, retailers, manufacturers, and suppliers by capitalizing on the U.S. advantage of proximity with the Quick Response strategy.

The driving force to implement Quick Response is at the retail level. Retail is where lead time risks, clearance and markdowns, narrow assortments with out-of-stocks, and low inventory turns are magnified as they catch up with actual consumer demand.

Ten technologies to support Quick Response are: 1) Computer Aided Design, 2) Cutting, 3) Flexible Sewing and Finishing Technology with Microprocessors, 4) Robotic Handling, 5) Unit Production Systems, 6) Shop Floor Controls, 7) Logistics, 8) Supplier Linkage, 9) Retail Linkage and Merchandise Control, and 10) Implementation.

Real-time merchandising differs from traditional merchandising. Real-time merchandising takes place closer to the start of the selling season and relies on more information about the customers' wants, based upon trend merchandising, style testing, and other forms of consumer research. Less risk is involved since real-time merchandising aims at identifying and reordering best sellers during the season for maximum sell-through at first price. Quick Response line planning is more continuous than traditional line planning because it is interactive, responding to changing needs of customers.

Information exchange in the Quick Response process occurs between retailer and vendor via Electronic Data Interchange (EDI). With bar coding, the vendor knows what the retailer has sold and needs to reorder. Also, since scanning is used at the point-of-sale instead of manually inputting the information, the information recorded is more accurate. The daily sales of a product provide information about consumer acceptance or rejection of a style and indicate buying strategies which need to be implemented. Retailers can have a continuous flow of real-time point-of-sale information from consumer back into the supply system and can match that with real-time forecast...
control, product planning, availability, order creation, shipments, and receipts. The result is a more efficient retail and manufacturing operation yielding less risk in terms of production, inventory reduction, and fewer markdowns.

In-house apparel production operations involve the use of Computer Integrated Manufacturing (CIM) in designing, spreading and cutting, manufacturing, and distribution. Benefits of Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) and automated cutting/spreading include speed, flexibility, accuracy, efficiency, interaction with the customer, on-target products, and complete sell-through. Production of basic goods using the bundle system allows for greater volume, ease in reordering, and capitalizing on economies of scale. Modular manufacturing in the production of fashion goods allows for more flexibility, short cycle runs, and product uniqueness.

Partnerships between manufacturers and retailers must be established in order to ensure successful Real Time Merchandising. Partnerships are established as follows: 1) pick the right product, 2) pick the right partner, 3) start small, 4) do simple things first, 5) analyze present product systems and decide if it still supports your company's marketing strategy, 6) analyze planning cycles and identify places where time is being wasted, 7) weigh economies of scale against virtues of fast delivery, 8) challenge tradition, 9) support Quick Response from top down, and 10) develop real understanding and trust in partners.

A computer simulation is a creative way to illustrate Quick Response methodologies. The Apparel Retail Model (ARM) is a stochastic simulation model for use in identifying the impact of Quick Response methodologies on apparel retail performance. ARM was developed at North Carolina State University, and was designed as a user-friendly teaching tool for students of textiles and clothing. Extensive industry and academic evaluations and feedback has been employed to test and verify the model.

Consumer behavior at the retail store is modeled as a stochastic process. The program generates a flow of customers that arrive according to a Poisson process which may reflect seasonality. Each customer is randomly assigned an item by style, color, and size from discrete probability distributions. Point-of-sale data is collected by the model, and the model calculates a weekly revised re-estimate of the total season's demand based on what the consumer is actually buying. Based on the re-estimates, a stream of orders is placed to the apparel manufacturer.

The input parameters for the model are all variable so that an abundance of traditional and QR scenarios may be simulated. An ARM "report", which details all of the input variables, simulation outputs, and summary statistics may be printed out after each run of the simulation.

In summary, three objectives of Quick Response partnerships are to 1) improve the competitive position of apparel manufacturers, 2) improve the retailer's bottom-line profitability through increased inventory productivity and more efficient operations, and 3) respond to consumers' preferences in the marketplace.

Results of this presentation have implications for educators and researchers. Educators can use this information in course adaptations with the Quick Response simulation serving as an educational tool. Quick Response can also serve as an educational link with industry and can be a basis for future research.

The Process of Design: A Research Activity

Susan Watkins, Cornell University

Margaret Rucker, University of California - Davis

Dean Jaros, Colorado State University

The Panelists

Participants in this special session were: Susan Davis, a designer who has been teaching at the university level and has won awards for her wearable art; Dean Jaros, a political scientist who is Dean of the Graduate School at Colorado State University; Margaret Rucker, a social scientist who is Professor and Chair of the Division of Textiles and Clothing at the University of California at Davis; and Susan Watkins, a functional apparel designer who is a Professor in the Department of Textiles and Apparel at Cornell University. The panelists discussed the nature of design and research separately and then looked at how designers -- from wearable artists to functional apparel designers -- operate as researchers. The session included a discussion of approaches that designers might use to survive in the academic world.

Introduction

It is clear that there is growing concern about the survival of apparel designers in academic settings. This is particularly true for artists and designers who teach at the so-called "research institutions" where traditional definitions of research often do not include much of their work. There is, in general, a profound lack of understanding about what designers do. Design has almost as many meanings as there are people to use the term. There are so many different end products of design -- from automotive engines to high fashion garments to graphics to architecture -- that it is difficult for many people to pinpoint the common elements that bind the profession of design. Is design mathematical or artistic? Pre-determined or imaginative? Systematic or chaotic?

Design and Research

While many people consider design to be a specialized skill possessed by a select few, it is actually a way of thinking that is basic to all human activity. Most often it is associated with the arts and thus designers share with artists an undeserved reputation for possessing a rather mystical, inexplicable skill bestowed at birth and having little to do with intellect or academic achievement. Designers have often been thought to have spontaneous flashes of inspiration, coming upon a good idea by "chance" rather than through any intellectual exercise. However, as Pasteur has said, "Chance favors the prepared mind." (Madigan and Ellwood, 1983, p. 2) Good design is often the result of hours, weeks or even years of disciplined preparation of the mind, not just a single flash of inspiration. Lawson (1980) defines design as "A highly organised mental process capable of manipulating many kinds of information blending them all into a coherent set of ideas and finally generating some realisation of those ideas" (p. 6). It is a creative process that people in many professions use to solve problems or create products. People who label themselves designers, however, have been trained to trigger the process more easily and quickly.

The same creative process that drives artists and designers to create also drives scientists to make great discoveries. In fact, there are many parallels between the scientific process and the design process. While designers are thought to rely more on intuition in their work, in truth, great scientists also use a combination of cognitive and intuitive methods. Thus, while Papenak (1984) states that design is "the conscious and intuitive effort to impose meaningful order" (p. 4), it might be said that scientific research is the conscious and intuitive effort to discover order.

The Design Process

The design process is really a problem-solving process through which designers develop the best solution to a given problem. Koberg and Bagnall (19) discuss one design process in The
Universal Traveler. It has seven steps that closely parallel the traditional research process. The first is
acceptance which corresponds to the traditional scholar's choosing a general area of exploration. The second is
Analyzing, which corresponds to a review of literature. Analysis is seen as the stage in which the designer
becomes familiar with a problem, researching and questioning and gathering facts and opinions about it. During this stage, a
wearer artist may explore the historical, cultural, social and visual aspects of the problem chosen, identifying important ideas to be
expressed by the design. For example, a
designer who wanted to develop garments with an Indian flavor might study Indian art, costume and music for its underlying
themes. Analysis might also involve an investigation to expand a designer's "bank" of stored knowledge in a specific area, by, for example, researching the
varieties of traditional arts and practices.

The functional designer also uses
the analysis stage like a greatly expanded review of literature to do both qualitative and quantitative research on the
problem area chosen. As often as
possible, field observation is undertaken at this stage. Since products are
frequently developed to meet the needs of individuals engaging in prescribed activities in specific environments,
designers need to have information about the "world" of the problem. For example, in order to develop a successful line of
equipment for ice hockey, a designer
needs to understand not only the
protective capabilities of the materials
and forms, but also their acceptance by
players, coaches, trainers, and equipment managers. Sports equipment needs to be
designed in a way that is profitable for industry to produce and it often needs to meet specifications set by rules-making organizations for the sport. Designers
need to observe and talk to the many
people who will be affected by the design
they are developing in order to set
design criteria for the final product.

The definition stage of the design process corresponds to a
traditional scholar's statement of the problem or a
statement of hypotheses. The designer's
definition is a statement of design
criteria for the problem solution. These
criteria should serve as a guide for
product development to insure that the
final product not only meets the basic
aesthetic or functional requirements that
can be expressed quantitatively in
laboratory experiments or visually in the
studio, but also has the potential to be accepted by users, manufacturers, and
others involved.

I deation is the step of the design process which the layperson most closely
associates with design. It is the stage
during which a designer generates
numerous potential solutions to the
problem. The parallel in traditional
research is the development of a
methodology and the collection of data. It is misleading, however, to relegate
creative ideation to designer and data
collection to traditional researchers.
Designers -- more often the most artistic to the
most inventive -- are developed in the
basis of data collected in both the
analysis and ideation stages of the
design process.

For example, a functional apparel
designer might experiment with several
types of materials for a knee pad for
football, subjecting them to a laboratory
analysis of forces transmitted through
them and analyzing the resulting data to
narrow down potential material choices for
further ideation. This information
would then be fed back into analysis,
e.g., the interviews, surveys, field
observations, etc. done in the early
stage of the process to serve as a data
base for design ideation.

Designers who develop more art-
related "wearable art" also collect data
at this stage of the process. However,
the information they collect may not take
eleven quite different forms that may not be
recognized as traditional data. For example, a textile designer may
experiment with many different types of
dyes and dyeing processes to achieve
specific pattern on a fabric. Artists
and designers often keep detailed records of the processes they have used to
achieve specific visual effects or keep a
sketchbook full of design ideas that may
feed into the finished product. Others
simply mentally record each experience
with the media, materials and forms they
use in a stored knowledge base. Recorded
information about visual images and the
designer's stored knowledge base gained
from experience are significant forms of
data that guide the journey through
subsequent stages of the design process.

The ideation stage is the point at
which designers appear rather suspect to
scientists because their work seems to be
based largely on trial-and-error.
However, it is clear that trial-and-error
has a role to play in both scientific
research and design. Simington (1988)
has pointed out that people who achieve
eminence in any field produce a
large number of both successes and
failures. These individuals are not
afraid to move in new directions and make
mistakes. One area in which design and
science may differ is the point at which
trial-and-error and the insightful
behavior that may result from it is
acceptable. For scientists, creativity
is more often expected and rewarded at
the beginning of a research project --
during the development of the theory or
experimental design -- or at the end,
during the interpretation of results. A
recurring theme for designers, on the
other hand, is the drawing of inspiration from materials and creative experimentation during the ideation portion of the design process. An additional concern revolves around the order of steps in the design process. While the scientist has been traditionally encouraged to proceed through the steps in the scientific process in order, creative design involves constantly branching back to add new information to earlier stages of the process and reworking one’s way through succeeding stages again. This non-linear pattern of work is often disconcerting to traditional researchers. They view it as constantly changing the rules. However, it is a respected form of inquiry in many traditional fields. Philosophers call it attempting to reach reflective equilibrium. It is for a designer, a critical mode of behavior — a way to find the best solution to complex problems.

Contrary to popular opinion, the Selection stage of the design process is often the point at which the most creative work of a designer is done. Like ideation, this stage may seem one in which the designer makes decisions by trial-and-error. However, two factors play an important role in making selection a scholarly endeavor rather than a hit-or-miss solution or the product of divine intervention. The first is the knowledge that the designer has from past experience in design work. The second is the list of design criteria developed in the definition stage of the design process. A good designer knows the problem chosen for study from as many perspectives as possible, He or she can mentally envision — and often sketches or tries out in small scale — a wide variety of combinations of materials, forms and techniques. Many factors in functional clothing may also be measured objectively and data scanned to determine how well a proposed system would function. The process of sifting through the myriad of possible design variables and potential solutions to come up with apparel that meets all of the predetermined design criteria is a challenging, creative endeavor. As problems become more complex and our sources of information more vast, this process of selection will continue to become even more of a scholarly endeavor.

Implementation involves developing a prototype and final garment. The involvement of apparel designers in implementation may be quite different from that of other designers. Architects, for example, rarely have the luxury of constructing several prototype buildings and then deciding which one to pursue. Since the scale of apparel is smaller and less expensive, implementation in apparel design often overlaps both selection and the final stage of the design process. Evaluation, in that several prototypes may be constructed and evaluated in full scale before a final selection is made.

Design Research
While many people have offered models of the design process, a clear definition of design research has been attempted less frequently. The word “research” often connotes some formal collection of data while the word “design” generally indicates that a product will result from the efforts. Yet, to some, research that contributes a single fact to the designer’s information base may be labeled “design research.”

Bobbitt (1990) suggests a model for research that combines both quantitative and qualitative research in parallel, sequential or totally integrated research methodologies. These so-called “complementary” research methods serve as excellent models for design research.

The design process just described may in and of itself serve as a complete model for design research. The full process of design research may extend from the choice of the topic to explore (acceptance) through the statement of the problem and the development of the design criteria (definition) to the development of a testing mechanism and collection and analysis of data (ideation and looping back to analysis), synthesis of the best ideas (selection) based on analysis of data and a review of the design criteria, and construction (implementation) and evaluation of a garment. This complete model of design research largely parallels traditional scientific research models except that: 1) a product is created to incorporate the data generated by the research, 2) field observation and a variety of qualitative measures are generally used to extend the “review of literature” so that formal design criteria can be set for the product, and 3) the product is evaluated as a final test of the success of the research. Both the design criteria set in this definition and the data generated in a quantitative research process can serve as evaluative tools to determine the success of the research.

Survival in Academia
There are several ways in which we can begin to work to increase our chances for survival by establishing more legitimacy for design as an academic endeavor.

First, we can become more aware of the process aspect of our work, i.e., the thought process used in developing a design.

Second, we need to learn to express the design process in terms that colleagues in other disciplines can understand. Seeing the parallels between
the processes of artists and designers and those of individuals in other disciplines -- and being able to use the language of other disciplines to express what we do -- is one way to achieve better communication.

Third, it is possible that we may need to do a better job of establishing a "paper trail" of our accomplishments that makes sense to other disciplines. We must make clear in our academic records how each phase of our design development has been built on preceding projects. Finally, we can take an admission quality from our colleagues in design by accepting only the highest quality work in our vehicles for visibility -- our design competitions and journals. As Babbie (1983) has pointed out, a fundamental basis of knowledge is agreement. Scientists don't always agree on, for example, whether to use quantitative or qualitative methodology, conjoint analysis or chi square, but there is reasonably good agreement on what is good quantitative and qualitative research and whether a particular statistical test has been applied correctly. Administrators, who are often from other areas of academic study, may find it difficult to evaluate the quality of a designer's work. Thus, it is important that those in Textiles and Clothing and the design field itself, construct a stringent line of peer evaluation, one in which there will be no question that within the field itself, the members are able to clearly identify leading designers and innovative design researchers. That way, administrators reviewing work by faculty need not be concerned with making subjective or subjective judgements about the quality of wearable art or design research if their background experience leads them to feel unqualified to do so. They can be confident that the person in question is able to identify quality work and distinguish among its own members.

Discussion questions

The panelists hope that this session served as the stimulus for many discussions on this topic over the coming years. Among the questions raised at the sessions were:

1. What are some of the mechanisms by which we can develop the most successful "paper trail" for advancement? Should we simply be developing a more successful language to communicate what we do or is there a change in the focus of our efforts needed?

2. What is the designer's "data?"

When do the "data gathering" moments occur? Is the fact that our work is not seen as based on data part of the reason that our work is not seen as based on data part of the reason that great scientists are rarely accused of "lying around waiting for inspiration to strike" but artists and designers are often thought to do just that?

3. How should we define design research? Is the full process from research to development of a product to evaluation of a product necessary for the work to be called "design research?" If not, what is the minimum portion of the process we should consider to be design research?

4. How can we demonstrate to non-designers the scholarship involved in design? Are our artistic endeavors discounted as scholarly simply because they appear natural and easy to those who do not engage in them? How can we show that there is no more "mere inborn talent" involved in artistic scholarship than there is in successful scholarship in other fields; that to be successful in each, one must follow a process even though practitioners of both are not always adept at identifying the steps?

5. Is a successful end product necessary for a project to be considered successful design research or a scholarly endeavor of merit? Does your answer to this question differ depending on whether the project is more functionally-related or more art-related? (i.e., is a garment that doesn't function or an exhibit of failed paintings from which the designer or artist learned what didn't work a successful scholarly endeavor?)

6. What is good scholarship? The following are offered as reasons for scholarship:

a. The scholar keeps up to date and refines and perfects knowledge and skills, often contributing to an improved state of well-being among the public.

b. Scholars who publish are better instructors because these instructors will expose students to scholarship through example and direct experience and thereby improve the classroom experience.

c. Scholarly publications and presentations bring recognition that reflects positively on the university that employs the scholar.

Would these reasons for scholarship apply equally to all disciplines?

References


Incorporating Diversity: Gender, Race, and Class as Issues in the History of Costume

Rachel K. Pannabecker, Kauffman Museum, Jo H. Paoletti, University of Maryland,

Patricia Warner, University of Massachusetts, Trish Cunningham, Bowling Green State University, and Mary Ellen Roach Higgins, University of Wisconsin-Madison (Emerita)

The history of costume as taught in most Textiles and Clothing Departments has sometimes been criticized as focusing only on the dress of upper class whites, especially in the study of twentieth century dress. In response to this, this criticism deserves our attention, especially in light of the nation-wide movement calling for incorporating diversity in university curricula and programs. In the 1990s, a commitment to educational quality will require efforts to build a multi-racial and multi-cultural academic community (Weiner, 1990). The organizers of this session applaud the decision of ACPTC officers to form an ad hoc committee on cultural diversity. While diversity may be the latest academic bandwagon, it is our goal that through our courses, students may come to appreciate the cultural diversity of our nation (United States or Canada).

Panel members Paoletti, Warner, and Cunningham spoke on the impact of the issues of gender, race, and class on their teaching and research. They presented some of the challenges in rethinking the traditional elitist approach to the history of costume. In particular, limited faculty time for developing new or revised courses inhibits our ability to widen the frame of our courses. If inclusive materials are added to an existing course, other aspects may have to be de-emphasized or deleted (e.g., costume details or the history of ancient dress). There are no standard sources for images of minorities wearing fashionable dress, the dress of children or the elderly, or the dress of rural or economically disadvantaged people. Individual efforts to locate such images may suffer imbalances due to regional cultural differences. Institutional support for minority students and cultural diversity programs is frequently limited or ephemeral. Integrating discussions about oppression and the interconnection of sexism, racism, and classism must be seen as one step in a long term effort to bridge contrasting perceptions of reality. Yet, the panel noted the opportunities afforded by an expanded approach to the history of costume. In particular, courses that incorporate issues of gender, race, and class may fulfill diversity requirements for general education credit, thus linking Textiles and Clothing to the broader university.

Roach-Higgins set current diversity concerns in context by noting the cultural myopia of American schooling which has historically ignored the contributions of women, racial minorities, and the non-elite. She also challenged the group to consider how language separates people. She noted that the word "costume" typically denotes the "other" (from the past, other cultures, or of the stage). In contrast, "dress" is a more inclusive and neutral term. We all get dressed, not costumed.

Pannabecker moderated a lively discussion of the issues. Contributions from the audience and panel ranged from the intensely personal to the practical to the admonitory. Clearly, life experiences were essential in aiding Textiles and Clothing faculty to work with a culturally diverse student body and indeed be attentive to the diversity of our colleagues in ACPTC. Teachers must also prepare themselves to confront responses that indicate students' unfamiliarity or lack of comfort with a widened frame of cultural reference (indicated through snickers, disparaging comments, or segregated seating patterns).

ACPTC members suggested sources for non-traditional images to illustrate history of dress courses, such as photographs from the students' own families, and illustrations from black-owned newspapers and period sheet music. Books that have stimulated ACPTC members were recommended (see suggested readings). For an international perspective, we were encouraged to utilize guest speakers and to participate in campus-wide activities organized by international students. Social psychology, social history, and cultural studies were mentioned as avenues to broadening the interpretation of the history of dress, as well as linking historians with other scholars. A workshop on the practical aspects of incorporating cultural diversity into textiles and
Clothing curricula was requested. We were warned that the incorporation of gender, race, and class into curricula and research should not be allowed to degenerate to the level of anecdotal trivia. It was also emphasized that in our attempt to enrich the history of dress by including non-elites we should not deform history by ignoring the significant role of elites in creating fashion. The pitfall of assuming deprivation among non-white/non-elite cultural groups was pointed out, and diversity within these groups was affirmed. Furthermore, we should not assume that a minority student or faculty member will take on diversity issues as his or her specialty. It is the responsibility of each one of us to consider how gender, race, and class relations shape our lives and identities and to articulate an appreciation of cultural diversity in our teaching and research.

Reach-Higgins closed the session with a summary of the discussion. She noted that we recognized that incorporating diversity requires a widened frame of reference that includes learning from our students and inviting their participation, as well as seeking personal experiences that provide us with a base for understanding the cultural diversity of the contemporary academic community. We were encouraged both to prepare our students for a multicultural approach to the history of dress and to be ready to confront inhibiting stereotypes among our students. The development of visual aids for a well-rounded history of dress was presented as an ongoing goal for all of us. Reach-Higgins challenged us to strive toward unity by embracing diversity, with respect for all people and their histories.

Suggested Readings:


"Between 1990 and 2004, universities and colleges will compete fiercely for 335,000 new faculty members. That is just one challenge looming for chairpersons, whose domain has been transformed by changing departmental missions" (Flyleaf, Creswell et al., 1990). Chairs must function as "keen observers of faculty needs and wants and...ingenious providers of motivation, support, and encouragement" (Eble, cited in Creswell et al., 1990).

The major theme of the Unit Administrators Workshop: Strategies in building a positive work environment for promoting faculty growth and professional development, thus releasing faculty potential, while simultaneously meeting the challenges of developing the academic unit and maintaining scholarly (research/teaching) activity of one's own.

We need to start by acknowledging the pull of dual responsibilities: as faculty, and not-faculty; administration, and not-administration (neither fish, nor fowl); of loyalty and support to the institution, and advocacy for department faculty; with tension or pull at both horizontal (departmental) and vertical (institutional) levels; and the frustration of mentoring (professional development) while evaluating faculty.

Establishing a department vision or goal is the first step to faculty development. With a department vision, then supportive decisions follow. These include: allocating resources of time, information and assignments to encourage the vision; monitoring progress toward achieving the vision; collaboratively setting goals that will contribute to the department vision.

With the department mission clearly delineated, the issue is testing the "fit" of newly hired faculty and "mid-career" faculty. The department should help faculty learn the cultural milieu (organizational politics) of THIS INSTITUTION. Remember there are "lost souls" who will never find it on their own; they may be the ones who want to hold you accountable because you didn't tell them. Every faculty member should identify some person(s) who will allow them to see the inner workings of the system (perhaps most helpful as a reliability check of these persons are outside of the department, but at this institution). Don't assume because the new hire has a Ph.D. that she knows the expectations of faculty. Even Graduate Assistants are egocentric, and the new faculty member may not have "seen" life in the academic setting.

For the department chairman, the most effective way to enhance professional development of faculty is to build the "visionary" agenda. As department chair, to effectively advocate for the department, you need to operate from a position of strength. Productive faculty empower you, give you a position of strength. Communicate the agenda. Enlist their support. Contribute to the agenda yourself. Ask of faculty only what you are willing to do yourself. Expect all to contribute. Recognize that the agenda is larger than your department or your campus; it is the future of our profession.

REFERENCES

Social Issues in the 21st Century: A Delphi Technique Study

of The Role of Textiles and Clothing Research

NCR-65

The North Central Regional Research Coordinating Committee (NCR-65), Clothing Production, Distribution, and Consumption meets annually to exchange ideas and identify research and funding opportunities in areas related to clothing production, distribution, and consumption. In an era in which clothing and textiles departments are facing increased pressure to justify their programs, NCR-65 was interested in seeing how clothing and textiles researchers viewed their potential to address issues of significance and interest. This work was predicated on the assumption that many of the interests and methods of clothing and textiles researchers can be applied to issues that are becoming more widely important to the society at large. It is hoped that by specifying and encouraging ACPTC members to conduct research on them, clothing and textiles departments will become more firmly anchored in the mainstream of academic research.

The Delphi Technique was used to identify ways in which we could respond to the challenges facing society as we approach the 21st Century. This procedure is designed to sample a group of knowledgeable individuals in order to gain a consensus (two or more heads are better than one — Sackman, 1975). The Delphi Technique allows participation from experts with an economy of time and expense and avoids the pressures of face-to-face contact. It is concerned with exploring minds and identifying issues rather than getting precise statistical descriptions of a population. It is brainstorming rather than polling.

In round one of this application of the Delphi Technique the NCR-65 representatives, expert panelists, provided their ideas on how textile and clothing researchers could address within each issue. In addition researchers were asked to suggest topics and issues not addressed in the original list of 10. Round three was to be accomplished by a discussion and vote at ACPTC 1990.

Findings

NCR-65 identified 10 issues that might serve as focal points for clothing and textile researchers: democratization of countries, biotechnology, decline of rural infrastructure, resource use and waste disposal, globalization of the economy, aging society, polarization of income, cultural diversity, single parent households and, teenage pregnancy and drug abuse.

Respondents proposed the following issues and topics as the most likely areas in which textiles and clothing departments could exercise their expertise (listed in order of frequency)

1. The Aging Society
   * clothing needs and purchasing practices of the institutionalized elderly and/or able-bodied elderly
   * clothing and quality of life for the elderly
   * The need for garment sizing changes in order to accommodate body changes of a more elderly population
   * The possible inadequacy of delivery systems in supplying clothing needs of an aging population
   * Clothing industry (selected) awareness of aging market and implications
   * Older Americans as customers and as a work force

specific topic areas that clothing and textile researchers could address within each issue. In addition researchers were asked to suggest
* The role of dress in independent living
* Curriculum interests and needs
* Extension interviews (oral history) with elderly persons across the country to establish a bank of data including (but not limited) to clothing memories.

2. Cultural diversity.
* How does the "melting pot" system in American benefit from the cultural diversity of refugee contributions in textile patterns?
* How long ethnic textile practices are retained in a "melting pot" culture
* The relationship between the strength of ethnic identity and the wearing of ethnic apparel
* Marketing apparel to different racial groups
* How an understanding of clothing patterns can aid sub- and cross-cultural understanding
* Commercial sizing consistency in light of differing body proportions and configurations of ethnic groups
* The discover of strategies to enable newly emerging countries to retain and honor cultural patterns in their dress, habits, and customs
* The impact of increased ethnic population upon the labor force supplying the American textile and clothing industries
* Curriculum changes in higher education to accommodate cultural integration, particularly in the social psychological areas

3. Resource use and waste disposal.
* Making clothing from recycled material
* The importance of natural fibers and blends. What will be the role of plastics in the future?
* Recycling of textile products
* Consumer awareness of recycling textiles and apparel
* The energy efficiency of home textiles
* Multi-component use of textiles to reduce the loss of heat in winter and cool temperature in summer at windows, fireplaces, doorways, and in automobiles
* The degradation of specific textiles in landfills: carpets and padding, upholstery, polyester
* How chemicals used in clothing care effect the environment
* How EPA regulations will effect the cost of clothing care rates changed by fabric care agencies
* The extent to which fashion constitutes wasteful consumption
* The development of new fibers and dyes that are less damaging to the environment.

4. Globalization of the economy
* Comparison of educational preparedness in the field of apparel design between students in the U.S.A. and (select one) Japan, Hong Kong, Korea, U.K., France, Italy, Germany
* The use of metric units by textile and apparel professionals
* Foreign sourcing in new areas of the developing world
* Aids to increased entrepreneurship among private C/T producers in developing countries
* The similarities and differences between clothing aspect and trends of different countries
* The retraining of U.S. textile workers in response to employment shift from U.S. to Third World countries
* Using textile and clothing manufacturing as an aid for developing countries

5. Single parent households
* Consumption and economic values of single parents
* The age of children in relation to their ability to perform specific clothing selections and upkeep tasks
* The proper age for parents to teach or transfer responsibility for clothing care to children. Coping strategies are used by single parents in obtaining and caring for clothing
* The clothing needs and responsibilities of the single-parent family.

6. Teenage pregnancy and drug use
* Changes in clothing as an early warning of teenage drug abuse (or adult)
* The development of Ph-sensitive fabrics that will change color and emit an itchy substance on to the skin if an individual takes drugs
* Self-perception (through clothing styles) of teenage mothers before and after pregnancy
* Correlations of self-esteem, perceived clothing deprivation, and incidence of drug use and pregnancy in adolescents
* The possible relationship between self-esteem and personal accomplishments
* The personality traits of chemically dependent persons as expressed in personal appearance

7. Democratization of countries
* Potential changes in trade barriers/restrictions and the impact on apparel and textiles
* Fashion cycles in Eastern Europe, before and after democratization
* Textile production and economics in Eastern Europe
* The emergence of fashion phenomenon as dynamic in the diffusing of clothing style in newly democratized countries.
* Consumer decision-making and apparel change during the transition from communism to democracy.
* The effect of democratization upon the international clothing and textiles industry.
* The need for field study to document and record ethnic clothing practices that are vanishing because of westernization and democratization.

8. Decline of rural infrastructure
* The viability of textile/apparel related businesses for income generation in rural America: rural retailing, tourism.
* Apparel plants in rural areas and their importance to rural economics.
* The real needs for clothing education for the average U.S. citizen.
* The decline of rural, handcrafted textiles and its role in the decline of rural infrastructure.
* Marketing strategies for rural apparel retailers.
* Clothing needs and satisfaction among rural and urban families and teens.

9. Biotechnology
* The contribution of natural fibers to biodegradable products such as disposable papers, storage containers, etc.
* The use of porous textiles with medications to relieve skin disorders.
* The use of textile filtering devices and face masks to combat pollution.
* Benefits of life extending biotechnology.
* Biotechnology as a source for new special fibers.
* Robotics in clothing manufacturing.
* Alternate sources of raw materials for synthetic fibers/fabrics.

10. Polarization of income.
* Clientele use of and satisfaction with refurbished clothing donated by public and private welfare organizations.
* Fashion merchandising in a society without discretionary income.
* Whether the apparel needs of lower class individuals are being met.
* The interaction of low-income families and clothing selection for adolescents in a strongly peer-influenced school environment.
* The growing importance of apparel as status symbols as income polarization becomes greater.

11. Other issues
* The structure of the survey left open the possibility of other areas of interest. These are listed below and suggest a wide range of new and interesting topics that combine the historical strengths and interests of clothing and textiles researchers with important and interesting issues of concern.
* Needs of nontraditional students in clothing and textiles programs.
* Raising moral, ethical, scientific and technological competency and standards of society.
* Ethical business practices in clothing and textiles.
* Nutrition, inflation, money management.
* Crime and the symbolic nature of gang appearance/crime.
* Health and fitness: clothing as influenced by health and fitness and health and fitness as influenced by clothing.
* Debt and clothing purchases.
* Parenting education.
* Homelessness: How society can fulfill the needs of the homeless.
* Clothing/fabrics and protection from chemical weapons.
* Service-oriented economy.
* How clothing and textiles programs can be modified to guarantee women executives in clothing and textiles industries.
* Takeovers and mergers: Use of the textile and clothing industries (e.g., retail) to understand the antecedents and consequences of takeovers.
* Computers as a tool in clothing and textiles education and industry.
* Attracting and increasing student majors and interest in clothing and textiles departments.

Concluding Comments

These topics were presented at a session at the annual meeting of ACPTC in Denver. After presentation and discussion of all the issues "cultural diversity" was "voted" as the topic area that held the most promise for research relevance in clothing and textiles departments. "Resource use and waste disposal" was "voted" the second most likely topic area and "globalization of the economy" the third issue.

As we search for ways to strengthen and position our clothing and textile departments at our universities and colleges the list of items above serve as inspiration and motivation. These topics suggest that clothing and textile researchers see a number of avenues that we can pursue to increase the importance of and interest in our work. This in no
way denigrates the work that we have already done. It does recognize the pressure that many "traditional" textile and clothing and home economic departments find themselves under and suggests that our research can be an arena of both social and scientific excitement. This session suggests that one way to strengthen our position is to apply our talents and strengths to emerging social issues. Another way, of course, is to convince prevailing university power structures that our traditional work is "important".

The areas and issues above challenge us to be a fundamental force on our campuses and in the scientific community in ways that many other departments cannot. We are what we research. The nature and scope of the topics above can guarantee that clothing and textiles departments are on the playing field in the years to come.

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References

This special topic session was designed to discuss some theoretical and practical challenges in conducting research in international settings and to explore the possibilities in furthering the international collaboration of professionals in the textiles and clothing area. Five speakers - Haekyung Lee, Usha Chowdhary, Suzanne Baizerman, Manuella Petgrave, and Edith Melie - represented diverse cultural and research backgrounds, and dealt with various issues in international collaboration.

Haekyung Lee's presentation provided an overall perspective on international collaboration by discussing the following basic issues involved in collaboration: (1) what is "being international"? (2) why is international collaboration important? and (3) what are some types of international involvement - curriculum, campus activities, international activities and research. She also addressed methodological issues in conducting international comparative studies. The methodological problems identified for international research included data problems, limited number of countries studied, scattered and isolated research results, and qualitative nature of data often gathered in international research. As possible solutions to the problems, she discussed grouping of countries when an individual country's data are too small for separate analysis, use of multiple methods, and collaboration of researchers in different countries. She argued that organizational or collective efforts are needed in establishing the networks necessary for international collaboration of researchers, since individuals on a personal basis may not have resources and time required for such a task. Lee also noted that international involvement often does not produce credentials necessary for tenure and promotion decisions in academic systems, and thus junior faculties may be discouraged in pursuing their international interests. Constraints of internal and external funding opportunities were also cited as common obstacles in pursuing international collaboration. The members attending the session shared the concerns as well as the recognition that international collaboration should be a crucial aspect for the future of the textiles and clothing field.

Chowdhary's presentation focused on the concept of timeliness, importance of desire to learn about the country of research prior to departure, visionary planning and significance of the family in developing countries. She also identified sources of funding for those who wish to go abroad and delineated some of the methodological concerns in cross-cultural research. Some limitations such as need to update the knowledge of counterparts from developing countries and updating the library sources were also addressed. The last comment was deemed necessary to bring collaborators to the same wave length of understanding the importance of research and concepts to be investigated. She strengthened her presentation by sharing her personal experiences in conducting research abroad, mainly in India.

Baizerman's presentation, "Going into the field" represented a North American's experience conducting research abroad and the importance of collaboration with international colleagues. Issues addressed were: the decision to conduct research abroad; the types of research with special attention to qualitative research; the selection of research site and getting established; the importance of serendipity and flexibility in the field; other considerations--health, political situation, and culture shock. She also discussed the importance of timing to leave research site. From her research experiences in Central and South America, and Israel, she provided some practical advice such as the decision to bring children to the research site.

Both Chowdhary and Baizerman emphasized the importance of planning and patience in conducting research abroad. Cooperation with professionals in the host country was also identified as a "requirement" for any type of international research.
Petgrave discussed the problems of textiles and clothing programs in Nigeria from the perspectives of students and teachers. Her presentation was based on her fifteen-year teaching experience in Nigeria. Petgrave addressed the problems with textbooks used in Nigeria; textbooks used in Nigeria are perceived as quite inappropriate by both students and teachers, since textbooks written in the United States include very few African examples. Also the textbooks require lab equipment and references which are not readily available in many teaching institutions. The inappropriate content of textbooks has created a "mental block" among the students - the preconceived block that the textiles and clothing classes are difficult and not so interesting. It is very frustrating for teachers as well as students to overcome this type of perception. She also noted that opportunities in conducting textiles and clothing research in Nigeria have been quite limited. However, she offered the optimistic view that the current problems pose opportunities for clothing and textile professionals: wide range of research areas to be studied and challenges to adjust the textbooks so that they may be better suited for Nigerian or other African situations.

Building on Petgrave's discussion on the Nigerian background, Edith Miel suggested possible ways of securing a base in Nigeria either for teaching or research: people who are interested in teaching or research contracts should send their resumes and letters of intent to the universities. Each of the nineteen states plus the capital territory in Nigeria has a university with one or more campuses which would house clothing and textiles in home economics or as part of the fine and applied arts area. Other programs such as sociology may also be willing to host textile and clothing experts. Feedback to these applications is usually positive, especially if the visiting scholar has backing funds. However, she emphasized that patience is required as one may need to allow up to two years for necessary paperwork with the institution and immigration. Personal contact was very much emphasized as the most valuable asset in pursuing international interests.

Finally, it was pointed out that the benefits of international collaboration would be mutual -- not only could the clothing and textile professionals in the United States help their counterparts in other countries with curriculum and research, but the clothing and textiles professionals in other countries such as Nigeria should also be challenged to offer their expertise to American counterparts.

The presentations and discussion among the speakers and audience highlighted the two most important aspects of international collaboration. It was mentioned several times that international collaboration - either research or other activities - requires great patience with regard to time, other commitments, and culture shock. Personal contact was very much emphasized as the most valuable asset in pursuing international interests. Finally, it was pointed out that the benefits of international collaboration would be mutual -- not only could the clothing and textile professionals in the United States help their counterparts in other countries with curriculum and research, but the clothing and textiles professionals in other countries such as Nigeria should also be challenged to offer their expertise to American counterparts.
Aesthetics of Apparel: Subject, Form and Content

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This special session met to consider the topic of aesthetics. Aesthetics was defined in its broadest terms, as understanding how we perceive visual forms, their characteristics and our reactions to them. Such an encompassing definition includes the study of history, philosophy, perception psychology, art theory and criticism, all pertaining to material culture. Definitions of aesthetics noted throughout the conference indicated a confusion and inconsistency in the use of the term, aesthetics, defined as a certain prettiness of objects or what is deemed "tasteful" or one's subjective likes and dislikes. Such definitions do not imply the rigor with which aesthetics should be studied or the importance of the systematic investigation implied by the broader definition.

Subject, form and content were identified as useful aspects for study. The "subject" is the way we communicate through forms, the naming of the object, and includes my shirt, evening dress, sweater. The study of "form" is the consideration of the definers and modifiers of that form and involves the understanding of an object in its spatial context. "Content" originates with the creator of the form and continues through observers who respond to that form. These three aspects of subject, form and content are valuable when considered as isolated phenomena, as well as in their interrelationship.

Each of the brief presentations was followed by participation of those attending. Some ways of considering aesthetics within an academic setting of teaching, research and service were described and examined.

An example of the value of a systematic language in the classroom was explained. Once students were introduced to such a language, it was applied throughout the design and evaluation process. Students were thus familiarized with concepts through a language which allowed them to push the boundaries of their thinking and to help them evaluate through an objective process and then communicate with the other members of the class.

A second example of research using sensory evaluation to find solutions to an apparel industry problem of grading was explained. The outcome of the research was influenced by the conceptual framework of aesthetics within which the analysis was framed.

The broadening effect of an international perspective was presented. The potential value of encountering could be fostered if there was more communication between the East and West. Instances of encountering the past, the present and future within an international perspective were provided for discussion. Encouragement for an international coalition of scholars was outlined for consideration.

The last presentation was a summary and conclusion of the value in considering aesthetics within the broad definition. Examples were provided of the need to push to conclusion some of the ideas presented and to consider that if educators are responsible in the anticipation of change, we can learn to predict future trends. Aesthetics, broadly defined, can aid in our understanding of the products and peoples of our own and other cultures.

At the conclusion of the session the future of the group was considered. A proposal will be presented for the 1991 conference which bridges the research connection and allows for further discussion and interaction of those interested in the study of aesthetics.

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Mariano Fortuny (1871-1949), artist and inventor, is remembered today primarily for his textile and apparel designs. In 1909, Fortuny received a patent for the Delphos Robe, a gown inspired by Grecian costume of the Classical period. The design of the garment was not unique but its fabrication was, for Fortuny had devised a method of pleating the silk cloth used for the gown. Fortuny carefully guarded the secret of his pleating technique. Many Delphos gowns exist today, and according to the literature, the pleats are permanent (Osma, P. 99).

The purpose of this study was to investigate a method of pleating that Fortuny might have used in creating the fabric for the Delphos gown. Furthermore, the investigation explored the permanence of pleats in silk fabric. Fortuny did not register a patent for a pleating apparatus; however, he did register one for undulating (waving) silk cloth that had already been pleated. As an inventor, Fortuny was likely aware of contemporary pleating techniques and inventions. Fortuny preferred silk from China or Japan for the Delphos gown, and because he was familiar with Japanese art and craft techniques (Osma, P. 115), the investigation focused on Japanese pleating methods, specifically those used in preparation for shibori (dye resist) textile designs.

In ongoing laboratory experimentation, samples of pleated silk were heat set by microwave or conventional iron, then dry cleaned or wet cleaned. Pleats were retained in samples that were dry cleaned. When the pleated silk was wet cleaned, however, the pleats were released. Inspection of several Delphos gowns in a museum costume collection revealed that pleats in garment areas exposed to moisture during wear, such as under the arms, were relaxed.

In the past several decades, durable press processes for permanently setting pleats in cellulose fabrics have been generally successful. The chemical structure of wool protein has made it possible to permanently pleat wool fabric by several methods, including stretching with heat setting, and sulfur-sulfur bonding. The unique molecular structure of the silk molecule has not enabled permanent setting by any of these methods. Ongoing laboratory experiments to permanently pleat silk fabric have been marginally successful.

It was concluded that Fortuny did not invent a method of pleating silk, as has been implied in the literature, but utilized an existing technique. Furthermore, the pleated silk of the Delphos gown is not permanent to wet cleaning. Fortuny used a heat treatment method to set the pleats in silk fabric but this treatment was not permanent by today's standards.

ETOWAH FEATHER REMAINS FROM BURIAL #57:
IDENTIFICATION AND CONTEXT

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As raw material for fabrics and clothing, feathers have been used by numerous prehistoric populations in North America. Light in weight and frequently colorful, feathers often were incorporated into yarns, wrapped around cords, or tied to a fabric structure. For many, the use of feathers served not just as a physical interface between body and environment but also as a vehicle for communication of status. Not only did the wearer take on the mythical qualities of the birds represented in the garment, but they also demonstrated prestige since the production of feathered garments required time and skill in execution. It is not surprising, then, to discover feather remains among the rich array of "exotic" grave goods of Burial 57, Etowah Mound Site. The site is located in southeastern North America in the present state of Georgia and is classified as a Mississippian mortuary and habitation site.

The dual purposes of this research were to identify feather remains from Burial 57 and to infer their cultural context. The project is part of the ongoing investigation of Etowah textile fragments. A recently proposed model for inference was employed to analyze and synthesize physico-chemical, technical fabrication, and burial-site data. Micro-sized samples of fibrous materials were removed from fragments excavated from three different areas of the grave. The samples were examined employing brightfield microscopy and scanning electron microscopy. The morphological structures of these feathers were compared to those of comparative collections described in the literature (Day, 1966). Anseriform order of the Anatid family provided the basis for inferring cultural context. Since burial contextual data suggested multiple locations for the feathers, the authors examined the cultural ramifications of the evidence, including processing and manufacturing as well as utilization.

AN ANALYSIS OF FIFTEENTH CENTURY SPANISH TEXTILE MOTIFS

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Fifteenth century Spain was rich in both textiles and paintings. Patterned silk textiles were imported from Italy and the Moorish kingdom of Granada, both of whom exerted considerable cultural influence on Christian Spain in the fifteenth century. Textile motifs found in fifteenth century art reflect the diverse cultural influences on the country and contribute to our understanding of textile history.

The primary purposes of this study were to determine changes over time in textile motifs and to examine the relationship between extant textiles and textile motifs in works of art. The secondary purpose of this study was to determine if the painters used a stenciling technique to create textile motifs.

Published examples of fifteenth century Spanish paintings with textile motifs were compared with published and extant textiles. These textiles included brocades, damask, and a variety of velvets. The following motifs were examined: calligraphy, animal motifs including Lucca silk patterns, isolated motifs, pomegranate patterns, vine patterns, and Hispano-Moresque patterns.

The motifs are of two types: those which are similar to extant textiles and those which are not similar. The first type of textile motif reflects an awareness of current trends in Italian textile fashions. The small scaled animal motifs of the "Lucca" type silks were replaced in the 1420s and 1430s by bolder designs. In the second half of the century vigorous vine and pomegranate motifs prevailed. A small number of Islamic textiles were identified, usually found in Moorish dress as a means of identification or on the clothing of Christ and members of the heavenly court to express status. Few examples of Hispano-Moresque textiles were found in paintings which may be attributed to the difficulty of accurately portraying these complex geometric patterns without a thorough understanding of the rules of perspective. All of the paintings with motifs of this type have a uniformity of scale in the textile motifs which suggest the use of a stencil, while in specific examples the evidence for such a technique is clear.

The second type of textile motifs are those which are unrelated to known, extant textiles, nor does the existence of extant textiles seem likely. Included in this group are highly specific inscriptions in several languages, monograms, and a guild motif.

Painters frequently used textile motifs for iconographic purposes and while basing their motifs on actual textiles did not limit themselves to these motifs. This study has important implications for the study of textile history and the art history of fifteenth century Spain.
The purpose of this paper was to "discuss" three research reports (by Kearney; Sibley, Jakes and Swinker; and Worth and Sibley), each dealing with a topic that was clearly and distinctly different from the next. Each of these papers is a fascinating example of current research in history of textiles used in apparel. Although none of these investigations is completely unique, that is, each is similar to or related to phenomena that have been previously studied, each brings a new emphasis or new interpretation of a specific artifact.

What is the tie between these articles that caused them to be grouped together as they have been? Is there some common component among these research reports? As clothing and textiles scholars, all of these topics are of interest to us; yet it is doubtful that any of us find all of these topics to be of equal interest or value to us, largely due to the wide contextual variation. We find a variety in cultural contexts (European fashion orientation to non-European, ceremonial orientation) as well as a variety in historical contexts (15th Century Spain to 20th Century Italy to 10th Century North America). The obvious common component is that each research report presents an investigation of the manipulation of resources that ultimately end up in some form of apparel textiles: 2 dimensional design in the form of printed motif; 3 dimensional design in the form of silk pleating; and structural design in the form of feather fabrications found in burial remains. Each product that was examined represents specific efforts on the part of the designer, producer, or manufacturer to create an apparel textile. In these examinations, the researcher has tried to reveal the process used to develop the artifact in order to understand more about the culture as well as the product in terms of the element of time used for manipulation and production, the element of effort invested in manipulation and production, and the element of skill needed to manipulate and produce the item.

Each is an investigation of how the final product was created or how the final effects were achieved. In each case, the final appearance might have been the result of a variety of techniques found within the cultural and historical contexts. That variety of techniques stems from the available natural resources (flora and fauna), the available technology (dyeing, printing, weaving, pleating), and the final purpose or use of the item within the contextual perspective. These ties or common components are interesting but perhaps there is a tie that has further implications beyond the obvious coincidences, a tie that could lead to theory development.

Over the years, we have made attempts at theory building, attempts that have led to limited successes. To a certain extent, those attempts have been artificial, putting the cart before the horse. Perhaps we have been overlooking a movement toward theory development that is occurring naturally, in response to our ongoing research. Each paper demonstrates the value of combining a number of methods of examination and classes of information used to reveal the mysteries of the textile manipulation and processing: examination, both visual and instrumental, comparison of artifactual data with descriptive data, and attempted replication, reproduction, or composition for experimentation with techniques. When a variety of scholars begins to employ similar approaches and techniques to solve problems, then we are beginning to establish a methodology. When a variety of studies are conducted that are in some way analogous to each other, then we can begin to establish a model or theory. Only one of these three research projects was based on such a model. Sibley, Jakes and Swinker used a model proposed by Sibley and Jakes (1989) which was adopted from Schiffer (1972) and developed specifically for archeological textiles to assist in cultural inference and reconstruction of past lifeways.
where $T_P$ = physico-chemical analysis of textiles
$T_f$ = fabrication analysis of textiles
$S_d$ = situational and burial data
$O$ = other parameters, including other more durable classes of objects
$C$ = cultural contexts

Their model was developed within certain parameters, including universality (applicability to textile remains from any archeological site); capability to handle multiple classes of information; and capability of revision and modification. The elements and parameters of their model seem applicable to each of the three papers presented here. Perhaps just as valuable as the specific results of each study is the possibility of arriving at a model or framework for historic textiles that can be derived from Sibley and Jakes's proposed model for archeological textiles. The following is a modification of the Sibley-Jakes model, which in its new form might be applied as a model for using a variety of information types for inference in clothing and textiles history.

$$C = f(T_P, T_f, T_a, S_d, O)$$

where $T_P$ = physico-chemical analysis of textiles
$T_f$ = fabrication analysis of textiles/garments
$T_a$ = aesthetic analysis of textiles/garments
$S_d$ = situational and historical data
$O$ = other parameters, including other more durable classes of objects
$C$ = cultural contexts

The proposed modification includes the addition of a new component representing aesthetic analysis and the alteration of site data to situational data. Such a model might be used for studying a wide variety of textile/garment history problems. At the very least, this model could be used to demonstrate the tie between the three papers presented during this research session. Obviously, extended testing of the revised model is necessary before any further generalizations regarding its use could be made.

References


DETERRMINANTS OF PART-TIME EMPLOYMENT IN THE RETAIL INDUSTRY

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Since 1980, the percentage of the workforce engaged in part-time employment has increased. This growth has been attributed to the phenomenal increase in the service and retail industries and changing attitudes and lifestyles of workers. The purposes of the present study were to determine which industries employ a large percentage of part-time employees, to examine worker characteristics associated with part-time employment in retail sales, and then to compare these retail employees to those employed in non-sales occupations.

Data used in the present study was from the 1985 Current Population Survey involving over 60,000 households and 120,000 persons (U.S. Department of Commerce, Bureau of the Census, 1985). Statistical analysis utilized included frequency distributions, stepwise comparison of the means and logistic regressions. Significance was set at the .01 level.

Models were developed and logit regressions were applied to determine which characteristics are significant from gender, race, presence of children, potential wage rates, and others in choosing part-time employment. Findings indicated that sex was an important predictor of work choice, with women more likely to work part-time than men. Women were likely to work part-time if they were white, married, had children, and lived further from the central city. Men employed part-time in retail sales tended to be single, have less education, a higher earnings potential than women, and live in or near a central city.

When sales and non-sales occupations were analyzed using logistic regression, the sales variable was found to be positively related to part-time employment and that there were differences in the signs and significance of the male/female beta coefficients. Key differences in predictors of work choice between part-time retail sales and non-sales employment were age, race of the worker, and income from sources other than personal income. For both groups, non-labor income was positive and significant, however this variable exerted a much stronger influence on the decision to work part-time for those employed in retail sales than for those employed in other part-time non-sales occupations.

Findings of this study have important implications for the retail industry. Accurate predictions of the composition of the future part-time labor supply will allow businesses to assess their current programs and then modify them in order to recruit, train, and retain the needed part-time workforce in the 1990s.

Reference

Although internships are popular in higher education, little research exists to aid educators in improving the internship experience. Current management literature emphasizes the importance of career salience, job satisfaction, and job involvement as perceived by workers. However, the relationship between these variables and their influence on student interns is unknown. The purpose of this study was to explore the relationship between career salience, job satisfaction, and job involvement within the context of a retail internship.

Surveys were mailed to students enrolled at a southwestern university completing retail internships during 1987, 1988, or 1989. The response rate for 1987 was 90%, for 1988 it was 83%, and 1989 yielded a 95% response rate.

Job satisfaction was measured using the Job Description Index (Smith, Kendall, & Hulin, 1969). Job involvement was studied using a scale developed by Lodahl and Kejner (1965). Career salience was measured using the Work Role Salience scale developed by Greenhaus (1971). Correlation analysis was used to describe the relationships between the variables. Analysis of variance showed responses to some variables in the three years of data to be significantly different. This prohibited merging the data sets for the three years.

Overall career salience and job satisfaction were not related. A significant relationship did exist between job involvement and job satisfaction for years two and three. Job involvement was directly related to two of the job satisfaction subscales; work and supervisor. Yet, no significant relationship was discovered between job involvement and the other three subscales of job satisfaction; pay, promotion, and co-workers. A significant relationship between job involvement and career salience was also discovered. Job involvement was found to be related to the career salience subscale, relative importance of career, in years two and three. Also, a significant relationship was found between job involvement and the career salience subscale, planning and thinking about a career, for all years. Finally, no significant relationship was found between job involvement and the career salience subscale, general attitudes about work.

Since this study was correlational, the data offer no evidence of causality. Research investigating the causes and determinants of career salience, job satisfaction, and job involvement of retail interns is needed.


Career stress has a powerful effect on an individual's social and economic status, place of residence, lifestyle, productivity, and psychological well-being. Yet, individuals are faced with a bewildering variety of career paths to investigate because work in our society has grown complex and highly specialized. Moreover, with the social goals of equal employment opportunity and the work roles now available to women, career choice has become a salient issue to individuals who were previously restricted in terms of the work careers they would consider or could choose.

Specific types of job search behaviors are found to lead to more realistic expectations about one's job, which subsequently lead to less job related stress, greater job satisfaction, greater commitment to the organization, longer tenure, and less intention to leave the job. This study examines a segment of the first data collection period in a two-year longitudinal research program which includes three data collection periods. The theoretical framework was drawn from career development and role theories. Specifically, the purpose of this paper was to determine whether stress related to the career exploration and decision process varied as a function of sex, age, marital status, amount of prior work experience, completion of an internship, or college major.

Nine major multi-unit national retail companies participated in the study. After receiving permission to conduct the study from the Vice-Presidents of Human Resources, questionnaires were administered within the first three days of the executive training classes at each company during Fall 1989. This census sample consisted of 325 entry level executive trainees who agreed to participate in all three stages of the longitudinal study. The questionnaire for this first stage consisted of previously tested and reliable instruments. Internal consistency reliabilities ranged from .78 to .93. Analysis of variance and Tukey post hoc comparisons were used to analyze the data. Two dependent variables (exploration stress and decisional stress) were examined in separate ANOVA's for each independent variable (sex, age, marital status, work experience, internship, and major). For exploration stress, a curvilinear relationship was found for age (p=.0221). Those 20 years old experienced the most stress, those 24-25 years old experienced the least stress, and those over 25 experienced more stress.

Work experience was also significant (p=.0003). The more work experience, the less exploration stress was felt. Finally, college major yielded significant results (p=.0019) with merchandising management majors experiencing less exploration stress than business, social science, and liberal arts majors. Age, sex, marital status and internship were not significant to the explanation of exploration stress.

For decision making stress, the only significant relationship was with college major (p=.0149). Again, merchandising management majors felt the least amount of stress in the career decision making process.

These results indicate that college major is an important variable in explaining both exploration and decision making stress. Human Ecology or Home Economics colleges, where the merchandising management programs are housed, are producing majors capable of coping with stress. The next phase of this study will examine job-related stress. If the spillover effect is operant, then merchandising management majors should also cope with stress on the job with few problems. Implications from these studies will provide support for curricular revisions which maximize the problem solving and critical thinking abilities of merchandising management students.
Today’s competitive retail environment is facing many challenges, including the retention of retail management. Empirical research has focused on why people leave retail management; yet, limited research exists which explains why people remain in retail management. The high costs of recruitment and training programs, both in time and money, are a major expense to today’s retailer. A closer examination of retention will provide reasons why employees remain in retail management and demographic characteristics of these employees.

The purposes of this study were to determine 1) reasons for retention, and 2) the influence of retail managers’ demographics on retail management retention. The Vroom model (1964) of motivation serves as the basis for this research. The survey research method was used and the questionnaire was administered in conjunction with a major department store chain. The study was endorsed by the Human Resource Utilization Manager and sent to employees of the 325 store chain who had completed the store’s management training program. The sample consisted of 137 respondents with 101 (74% return rate) returning usable questionnaires.

Factor analysis was performed on the 19 Likert scale retention statements and resulted in three reasons for retention: positive work environment, job security, and job commitment. Use of the General Linear Model (GLM) with Analysis of Variance (ANOVA) resulted in significant relationships between the four demographic variables and the three retention factors. Type III Sum of Squares were employed to determine significance.

The youngest and the oldest employees indicated that the positive work environment contributed to retention. This environment included the store’s physical setting, the opportunity for social interaction with customers and employees, and the challenges of their present position. Job security as a reason for retention was indicated by those employed less than five years or greater than 10 years and those with the lowest educational achievement, a high school education. An inverse relationship existed with age and security; as age increased, management was less likely to indicate that security contributed to retention. Finally, those never married rather than married employees were more likely to indicate commitment as a reason for remaining with the department store.

With today’s competitive retail environment and the high employee turnover rate, results can benefit retail management and educators. Retail management can use this information to 1) refine recruitment strategies and 2) re-evaluate the store’s work environment and existing training programs to determine how both can encourage employee job security and commitment. Educators, who prepare students for the retail industry, can re-evaluate students’ demographic characteristics and career goals to closely match students with potential employers.

RELATIONSHIP OF SPORT INVOLVEMENT AND ROLE KNOWLEDGE TO FEMALE BICYCLISTS' USE OF AND INTERESTS IN SPORT APPAREL

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The present study included a test of components of Solomon's (1983) model related to how people use products both as response and stimulus in acting out a role. According to Solomon, symbolic qualities of possessions may increase confidence and facilitate the audience's acceptance of an individual’s position in a particular role. Individuals who have achieved substantial accomplishments in a role make less use of clothing and other products to symbolically indicate knowledge and achievements than do individuals with lesser accomplishments and experience in the role. An increase in substantive role knowledge decreases need to symbolically express level of accomplishment or aspiration.

The purpose of this study was to compare how female cyclists at two levels of involvement in the sport differ in their interest in and use of bicycling apparel. Degree of involvement is one component of role knowledge. The three hypotheses are stated directionally: 1) Cyclists high in involvement make less use of clothing to communicate level of competence than do cyclists low in involvement; 2) cyclists high in involvement are more likely to express individuality with their cycling appearance than are cyclists low in involvement; and 3) cyclists low in involvement are more concerned with conforming to their peers than are cyclists high in involvement.

Procedure. Purposive sampling was used to select higher (n = 30) and lower (n = 26) involved cyclists. Higher involved cyclists rode 100 or more miles per week and lower involved cyclists rode 20 to 55 miles per week. Participants completed an in-depth interview concerning attitudes toward and use of cycling clothing and three questionnaires measuring sport commitment, clothing interest, and personal information. Triangulation of data collection methods provided multiple tests of hypotheses and checks on validity. Units of meaning in interview responses were established via grounded theory techniques. Two trained judges coded all transcripts and achieved intercoder reliability of 82.8%. Chi-square analyses were performed on frequently used categories to test for differences between lower and higher involved cyclists. Principal components analysis was conducted on the clothing interest questionnaire; resultant factor sums were used for dependent variables in F-tests of differences between involvement groups. A Bonferroni adjusted confidence level of .008 was established for conservative tests of all hypotheses.

Results. None of the hypotheses were supported. Analyses of the interview and clothing interest data indicated significant differences for Hypothesis I, no differences for Hypothesis II, and a strong trend for Hypothesis III. However, all differences were opposite to the hypothesized direction. Higher involved cyclists were more concerned with expressing their competence in cycling and were more likely to use clothing for conformity in a race or tour situation than were lower involved cyclists in their expression of individuality in cycling clothing.

Implications. Future studies should examine differences between male and female athletes in their use of clothing as an expression of competence in sport. Previous support of Solomon's model was found in studies of men only. Serious questions about the universality of Solomon's model across sex of role taker and type of role are raised as a result of the present study.

Most people, whether young or old, desire the company of others. Furthermore, most people realize that how they appear and how they behave in the presence of others can influence how they are treated during present and future social interaction. Because a large part of an individual's appearance is determined by his clothing, it follows that his attitudes and behaviors regarding clothing can influence his social behavior.

The relationship between young people's attitudes and behaviors about clothing and their social interaction has been the topic of studies for decades. However, older individuals, especially those at least 75 years of age, have seldom served as subjects for such studies. This empirical omission is probably due to society's false assumptions that most older persons do not regard their clothed appearance as particularly important and that they are not subject to the power of fashion. Since this segment of the population is increasing proportionately compared to the remaining segments, and since relatively little is known about their clothing attitudes and behaviors, the relationship between their dress and their social participation warrants study.

The basic purpose of this research was to investigate the relationship between older women's clothing interest and their level of participation in the group activities available to them. The social psychological perspective of symbolic interactionism formed the theoretical framework for this study. This perspective examines the relationship between an individual's thoughts and emotions and his social behavior. Since clothing is often an outward representation of an individual's feelings (or emotions) about his 'self', and since clothing often influences social interaction, it can certainly be investigated through a social psychological framework.

A survey research methodology was used to obtain information from 151 women at least 65 years of age - 74% of whom were over 75 years of age. Clothing interest was assessed using a shortened version of Gurel and Gurel's (1979) measure, while the social participation measure obtained information about involvement in political, social, civic, religious, family, business, and volunteer activities. Pearson product moment correlations revealed a moderately strong, positive relationship between clothing interest and social participation which was significant at the .01 level. However, when the effects of inadequate financial resources, below average health, vision/hearing problems, and limited education (all of which influence social participation) were controlled for, the relationship was considerably stronger and still significant. In addition, the strength of the relationship increased with age. While causation is not inferred, these findings suggest that among some older women there is a positive relationship between their interest in clothing and their social participation.

PERCEPTION OF CAREER COMPETENCIES: INFLUENCE OF GARMENT FIT AND BODY SIZE

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Rationale. Body size and clothing have been found to be salient cues used as a basis for personality attributions. Larkin & Pines (1979) suggested that negative connotations associated with excess body weight resulted in discrimination in the workplace. This study was designed to examine the effects of body size and garment fit on attributions of job appropriate personality traits and hiring decisions for potential job applicants.

Procedure. The research design was a $2 \times 2 \times 2 \times 2$ with two levels of: weight (average, overweight); fit of business suit (properly fit, poorly fit); sex of stimulus person and subject (male, female). In order to control for facial attractiveness, black and white photographs of one average weight and one overweight female in each fit condition were professionally manipulated to superimpose the same face on all. The same procedure was followed in preparing the male photographs. Subjects (120 male and 120 female undergraduate volunteers) received a general description of an interview situation and randomly assigned photographs of one male and one female model in separate packets. Presentation of the models was counterbalanced. Subjects recorded perceptions of the model's job related personality attributes (alpha reliability = .81) and indicated if they would hire the model. It was predicted that average weight models versus overweight models, overweight males versus overweight females, and models in properly fitted suits versus poorly fitted suits would be attributed more job appropriate personalities.

Results. MANOVA indicated significant main effects for all four in dependent variables, and interaction effects for stimulus sex by fit and stimulus sex by weight on the job attributes scale. Average weight models were perceived more positively than overweight models, models in properly fitted suits were perceived more positively than those in poorly fitted suits, and males were assessed more positively than females $F(1,456)=8.51, 20.15, 133.89, p \text{ less than } .005, .01, .001$, respectively. Male subjects provided more positive evaluations than female subjects $F(1,456)=3.94, p \text{ less than } .05$. For male models, weight was the significant factor in determining perceptions of job appropriate attributes $F(1,228) = 24.61, 14.54, p \text{ less than } .001$. The overweight female model was perceived most negatively regardless of the fit of her business suit. For male models, fit and weight both influenced attributions $F(1,228) = 4.61, 14.54, p \text{ less than } .001$, respectively. The overweight male was perceived to possess the least job appropriate personality of the male models when wearing a poorly fitted business suit, but was evaluated most positively of all models when dressed in a properly fitted suit. Chi square analysis of the hiring responses for the eight stimulus conditions was significant, $\chi^2(N=463), p \text{ less than } .0003$. The highest proportion of positive hiring responses was found for the overweight male in the correctly fitted suit, and the lowest for the overweight female in the improperly fitted suit.

Discussion. Results confirm that excess weight may have a detrimental effect on career opportunities for females, and that a well fitted garment may offset some of the negative effects of excess weight for males, but, contrary to predictions, not for females. Further research is needed to characterize the relationship between clothing and other appearance factors in shaping attributions.

Clothing textbooks often draw on the Hartmann hypothesis (1949) to illustrate an important concept: behavior is influenced by the values people hold. Hartmann hypothesized a series of common-sense correlations between global values and an individual's attitudes, interests and behaviors specific to clothing; for example, individuals with strong aesthetic values will, or ought to, exhibit equally strong preferences for aesthetic matters in dress.

Much of the research on relationships between values and clothing draws on the Hartmann hypothesis and some positive relationships between individual values and some interests in clothing have been established. However, research in general does not support the conceptual framework suggested by Hartmann; that is, there is no evidence that particular behaviors can be predicted from global values or that particular behaviors occur as a result of a global value.

Analysis suggests that Hartmann's hypothesis, which draws on the social philosophy of Eduard Spranger (1928), (1) maintains assumptions regarding the link between social values and ethical behavior that characterized Spranger's work; (2) represents stimulus-response models common to early social science theory; and (3) draws on a distinctive post-war ideology. These factors suggest that the Hartmann hypothesis may no longer serve as an adequate illustration of contemporary understanding of relationships between values and behavior.

A study which questioned the Hartmann model followed from the hypothesis that (a) no statistically significant correlations will exist between global values and attitudes related to clothing as hypothesized by Hartmann; and (b) no statistically significant correlations will exist between global values and behaviors related to clothing as hypothesized by Hartmann. A survey modeled on the Allport, Vernon, Lindzey "Study of Values" (1960) was designed to accompany that instrument and to measure attitudes and behaviors related to clothing. One hundred eighty-

References

EFFECT OF FIBER TYPE AND FABRIC MOISTURE CONTENT ON SKIN HYDRATION

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Placement of fabric over skin may change the skin's wetness and thermal state. Alteration in skin wetness poses several potential health problems. As skin hydration increases, the skin becomes more susceptible to abrasive damage due to increased fabric friction. Additionally, hydrated skin increases in permeability and is more prone to microbial growth. The purpose of this study was to determine the effect of fiber type and fabric moisture content on the hydration of the skin.

Utilizing three similarly constructed knit fabrics, six fabric type/moisture content combinations were selected for inclusion in the study: 100% cotton fabric at moisture regain, 3.5 denier polyester fabric at moisture regain, 1.5 denier polyester fabric at saturation moisture content, 1.5 denier polyester fabric at saturation moisture content, 100% cotton fabric at 38.6% moisture content, and 100% cotton fabric at saturation moisture content. Five male college students served as subjects. Measurements were taken on both "normal" and "hydrated" skin. Measurement sites were on the volar forearm. For the normal skin hydration treatments, patches of the designated fabric type and moisture content covered by an occlusive plastic dome were applied to the measurement sites according to a predetermined schedule. After a patch had been in place for a specified time period, it was removed. Two minutes after removal, measurements of the rate of water evaporation (proportional to the amount of moisture in the stratum corneum, and thus a measure of skin hydration) and skin temperature were taken at that site using a ServoMed Evaporimeter and thermistor probe, respectively. For treatments with hydrated skin, the skin was occluded for 60 minutes prior to the application of the fabric/dome patches. The design of the study was a randomized block with all possible treatment combinations being applied to each subject. Data were analyzed using analyses of variance (ANOVA SPSS/PC).

For "normal" skin, the degree of skin hydration was generally found to increase as moisture content of the fabric increased. When comparing the 100% cotton fabric treatments, the skin was significantly drier after being in contact with fabric at moisture regain as opposed to those at various moisture content levels above regain. There was no significant difference in hydration state of skin under the 100% cotton fabric at 38.6% moisture content and the 100% cotton fabric at saturation moisture content. Similarly, the skin was drier after being in contact with the 3.5 denier polyester fabric at moisture regain than when in contact with the same fabric at saturation moisture content.

When the stratum corneum was hydrated at the time treatments were placed on it, the hydration state over time differed under the cotton fabric at moisture regain as compared to the cotton fabric at 38.6% moisture content and at saturation moisture content. However, the skin stratum corneum hydration was not significantly different under the 3.5 denier polyester fabric at moisture regain as compared to the 3.5 denier polyester fabric at saturation moisture content.

Fiber stiffness seemingly played no role in skin hydration of "normal" skin. However, on hydrated skin it appears that the stiffness of the fiber did keep the moisture-laden fabric farther from the skin's surface.
Moisture transport and build-up on the skin, in the microclimate, and within fabric has been shown to influence human's perception of comfort as well as physical performance. Limitations of psychological scaling methods for measuring moisture perception prompted the use of an alternative method from the psychophysical literature. Sweeney (1990) showed the feasibility of using this method for measuring moisture sensation. Psychophysics is the scientific study of the relationship between stimulus and sensation and was the theoretical foundation for this study. The purpose of this study was to determine fabric influence on moisture threshold determinations. Absolute threshold (AL) measured a subject's ability to detect moisture presence in fabric stimuli. Difference threshold (DL) measured a subject's ability to discriminate between two stimulus intensities (i.e. moisture values). Testing was conducted in an environmentally controlled chamber where conditions were maintained for a thermally comfortable environment. The psychophysical method of constant stimuli requires that a constant set of stimuli be presented in random order repeatedly to each observer. Swatches of four selected fabrics designed to be worn next to the skin were wetted with specified moisture amounts and applied to the dorsal region of the hands of fifteen female volunteers. The hand was chosen because sweating from thermal and nonthermal sources is a significant problem for those who wear protective gloves. Subjects indicated if they did or did not perceive moisture for AL, and which stimuli was wetter for DL.

Findings determined AL for fabrics A, B, C, D to be .018, .025, -.012, -.021 ml of moisture. Psychophysical theory suggests that transformed sense modality data should demonstrate a psychometric function (a positive linear trend) between detection response and treatment intensity level. Three of the fabrics showed psychometric functions for AL. Moisture in fabric C was detected by most subjects at the lowest moisture level resulting in no linear trend. An AOV for the AL regression lines showed a significant difference by fabric (p < .05).

The four fabrics' DLs were determined to be .072, .046, .098, .051 ml. After DL data transformation, all four fabrics demonstrated psychometric functions. An AOV for DL values showed a significant difference by fabric (p ≤ .05). LSD post hoc comparison tests were used to determine where differences were between fabrics. These findings show that subjects are able to perceive a change in moisture content in fabrics as well as differences by fabric. Clearly fabric characteristics are important in moisture perception. The physical characteristics of fabric C—thin, smooth surfaced, and light-weight, may have allowed it to hold/transport moisture or contact the skin differently, making moisture more easily detectable. Although this research did not link moisture sensation results to clothing comfort, it is a step toward being able to measure one aspect of clothing comfort in a quantifiable manner.

Clothing comfort is dependent upon fiber characteristics, fiber properties, garment design and fit, and the environment in which the clothing is worn. Man-made fiber producers are modifying synthetic fibers in an effort to make them more comfortable to wear. A new process has been developed by Allied Signal Corporation for changing the moisture regain properties of nylon fibers. The fiber, marketed as Hydrofil, consists of a block co-polymer of 85% nylon 6 and 15% polyethylene glycol. Although the fiber has been used successfully in the athletic apparel market, the company would like to use it in high-volume markets like lingerie.

The purpose of this study was to evaluate and compare the comfort properties of six lingerie fabrics: woven cotton, silk, and polyester; knitted Hydrofil nylon, 50/50 Hydrofil/nylon blend, and Antron III nylon. The fabrics were made into full slips and worn by human subjects in an environmental chamber. The subjects evaluated the comfort of the slips when worn alone and when worn under a polyester dress (hydrophobic fiber) and when worn under a cotton dress (hydrophillic fiber). A 6 x 3 x 2 factorial design was used to study the effects of slip type, dress configuration, and activity level on the thermal sensations, comfort sensations, and acceptability ratings of females ages 20-66. The subjects were randomly assigned to three groups of 18: one group wore the six slips alone, one group wore the slips under a polyester dress, and one wore them under the cotton dress. The subjects attended six 100 minute sessions in a 12 x 24 ft. environmental chamber. ISO Standard 7730 was used to determine the environmental conditions that would make the subjects feel slightly warm to warm while sitting and walking. They sat quietly for 60 minutes, completed the subjective scales, walked at a set pace for 15 minutes, and completed the scales again.

Analysis of variance was used with a nested repeated measures design to determine the effect of slip fabric, dress configuration, and activity level on the subjects' thermal sensations, comfort sensations, and acceptability ratings. LSD post hoc comparison tests were then used to indicate where differences in subjects' responses existed. The subjects were not able to discriminate as well between the slips after sitting as compared to walking. Therefore, conclusions were drawn from the data collected after the walking activity—when the subjects were sweating more. The subjects indicated that the cotton slip was more absorbent, dry, clingy, noisy, stiff, and rough than the others. The silk slip was also rated as absorbent, stiff, noisy, rough, and not smooth and soft. The knit nylon slips tended to be grouped together on many of the comfort descriptors. Notable exceptions included the rating of the Hydrofil slip as statistically more dry than the Antron III slip. The rankings also indicated that the Hydrofil slip was less clammy and more absorbent than the other nylon slips and the polyester slip. The subjects disliked the cotton and silk slips in comparison to the nylon and polyester ones also. The subjects felt that all of the slips were significantly more smooth, soft, silky, dry, and absorbent when worn alone as compared to wearing a dress over them. The outer layer of clothing probably trapped moisture between the skin and the dress, causing all of the slips to feel less dry and absorbent. In conclusion, the subjects were able to perceive differences in the comfort properties of modified Hydrofil nylon as compared to regular nylon.
Current research on textile product comfort demonstrates the enormous strides we are making toward an understanding of clothing comfort variables, their quantification, and their contribution to judgments of clothing comfort. A model of clothing comfort that was presented at a 1987 forum of ACPTC-UK members (Branson and Sweeney, in press) serves as an appropriate framework in which to discuss the papers presented in this session by Dr. Harkey, Ms. Mord, and Dr. Searle (Figure 1).

Clothing comfort is a broad construct that incorporates both thermal comfort, or, satisfaction with the thermal environment, and sensorial comfort, one’s satisfaction with how a fabric feels to the touch, looks to the eye, sounds, smells and even tastes. Consideration of the triad of person, clothing and environment is critical in the examination and isolation of clothing as a stimulus evoking perceptual or physiological responses in humans. The papers presented in this session examined clothing attributes on a physical dimension as stimuli evoking either perceptual or physiological response as illustrated below.

1. "Effect of Fiber Type and Fabric Moisture Content on Skin Hydration"

<--------Physical Dimension-------->
fiber content, fabric stiffness, moisture content

<--------Physiological Response-------->
evaporated water loss

2. "Fabric Influence on Moisture Sensation Thresholds"

<--------Physical Dimension-------->
fabric, moisture content

<--------Perceptual Response-------->
moisture detection

3. "Comfort Properties of Selected Lingerie Fabrics"

<--------Physical Dimension-------->
activity of wearer, fiber content, fabric construction, dress type

<--------Perceptual Response-------->
thermal sensation, comfort sensation acceptability, preference

While we do not know exactly how these responses converge in the minds of the wearer to produce a comfort judgment (Figure 1), we are making significant progress in advancing knowledge in the area of clothing comfort, specifically in the quantification of physiological/perceptual response. Measurement of water loss at the skin surface opens the door for direct observation and quantification of the relationship between level of skin hydration, fabric moisture content and moisture detection. The use of psychophysical methods allows us to study sensation as it relates to clothing variables such as fiber content, fabric...
structure, finish, etc., as well as site and conditions of skin stimulation. The language of perception identifying sensations is helping to "paint picture of performance" as seen by the mind (Hollies, 1989). As noted in Searle's presentation, "differences that are apparent in the physical tests may not affect perception of clothing comfort by human subjects."

Several questions come to mind as a result of these three papers on textile product comfort that may serve as a spring board for furthering this kind of research, or rather, to promote a programmatic research effort toward greater understanding of clothing comfort. For example:

1. Is skin hydration perceptible? Are there corresponding sensations that can be perceived by the wearer?

2. What effect does skin hydration have on absolute threshold of moisture sensation? Difference threshold?

3. Can we quantify "clammy", "clingy", "dry", etc? What are the combinations of stimuli that evoke these sensations?

This forum for exchange of research and ideas on textile product comfort is encouraging as we examine our progress in defining clothing comfort and its contributing variables, as well as in refining our methods of quantification. It is anticipated that the generation of these questions will give direction to, and promote further clothing comfort research.


Retail Store Attributes and Older Consumers

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Although several researchers have studied the importance of improving in-store service and customer satisfaction, a majority of the prior work has focused either on younger individuals or females. Therefore, it becomes imperative not to ignore the growing population of older men and women. The reported study determined the relationship between the importance of retail store attributes, fashion leadership and selected demographics among older persons (65 and over).

The mailed-in survey technique was used to collect the data. Three hundred older consumers were randomly selected from lists of voters obtained from the Voter Registration Office of the county. One hundred twenty-two (41%) completed and returned the self-administered nine-page questionnaire. The data were collected in February 1990. Lumpkin, Greenberg and Goldstucker's (1985) measure of retail patronage behavior was modified to 25 attributes to determine their degree of importance on a five-point Likert scale. The fashion leadership measure was adapted from Rogers and Cartano's (1962) and a demographic sheet was developed by the researcher. Data were analyzed utilizing descriptive statistics, analysis of variance, and factor analysis. Cronbach's alpha was used to determine the reliability of the extracted factors.

The findings revealed that 72% of the sample was female with mean age of 73 years and age ranging between 65-88 years. Fifty-four percent were married, 40% were single or widowed, and 6% never married. Forty-one percent had bachelor or higher degrees, 21% had some college, 24% had high school, and 14% had some high school. Most commonly represented professional groups were professionals (37%) and homemakers (37%). A majority of the respondents were retired (88%) and unemployed (75%). Area of residence represented urban (42%), suburban (38%) and rural (20%) settings. The average income was $22,500, slightly lower than the U.S. average of $23,618 for the population as a whole. Seventy-five percent were unemployed, 17% were employed part-time and 17% were employed full-time.

The factor analysis resulted in four factors—quality/reputation, convenience, age-related, and credit—with their reliability coefficients ranging from .78 to .88. A significant relationship was found between sex and convenience (p < .05) and credit (p < .05) factors. Older women looked for convenience and credit more than older men. Women were more likely to be fashion leaders than men among the older population (p < .001). The quality/reputation factor was more important to those with higher education than to those with lower education. Opinion leadership was not related to retail store attribute factors. However, leaders were more likely to be from urban and suburban areas than rural areas (p < .05). For the most part, findings offer support to the work of Huddleston, Ford and Mahoney (1990) and extend their work by including men in the sample. However, some conflicts in results were also observed. A replication of this study with a larger sample is warranted.


ECONOMIC ANALYSIS OF EXPENDITURES FOR WOMEN'S CLOTHING IN FEMALE-HEADED AND TWO-PARENT HOUSEHOLDS

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INTRODUCTION
The purpose of this study was to determine the relationship between family structure (female-headed vs two-parent) and expenditures for women's clothing. Most previous clothing expenditure research has focused on two-parent, "intact" families, while general consumption research on female-headed households has not analyzed disaggregate, member-level, expenditure data. It was hypothesized that expenditures for women's clothing in female-headed families would differ significantly from those of women in two-parent families, and that these differences would be in evidence for changes in each of the variables explaining clothing expenditures.

THE DATA AND SAMPLE
The study employed quarterly expenditure data from the 1985 Consumer Expenditure Survey (CEX). Families selected for study had at least one child less than 16 years of age, and were either female-headed without spouse-present (n=648, 17% of the sample), or two-parent (husband and wife) families (n=3250, 83% of the sample).

RESEARCH METHODOLOGY
A linear clothing expenditure model was estimated via TOBIT analysis, a maximum likelihood technique that allows inclusion of nonpurchasing households, thus avoiding sample selection bias that results from studying only those families who purchase clothing during the period of study. The data were tested to see if it was appropriate to pool female-headed and two-parent families. The log likelihood ratio indicated that the error variances of the two subsamples are significantly different, confirming the hypothesis that expenditures in the two types of families respond differently to changes in the independent variables. As a result, all explanatory variables in the model are interacted with a dummy variable for family structure, thus allowing each independent-on-dependent variable effect to vary by family structure. Explanatory variables control for family income, the age, educational attainment, race, and occupation of the mother, family size and composition, season, region, urban/rural location, and whether the family rents or owns housing.

RESULTS
Income, mother's college and graduate education (vs high school), white-collar occupation (vs not employed), fall and winter season (vs summer), urban location (vs rural) variables had significant positive impact on clothing expenditures, while some family size and composition variables (numbers of infants less than 2, and boys between 2 and 6 years old) negatively impacted on expenditures for women's clothing in both types of families in the sample. The data indicate that changes in expenditures in response to a change in income, and to the presence of daughters between 6 and 12, and 13 and 15 years of age, differed significantly between the female-headed and two-parent families. In response to a $1,000 increase in income, female householders would increase expenditures on their clothing more than twice that of comparable married women. Female householders spent less on their own clothing with increasing numbers of daughters in the 6-12 and 13-15 year age groups, unlike the women in the two-parent families whose expenditures were unaffected by the presence of daughters in these age ranges.

IMPLICATIONS
These results provide valuable information to clothing educators, family management specialists, retailers, clothing service providers, and agencies and individuals concerned with resource issues for families that once were considered "nontraditional" but are a growing and significant proportion of American families.
CONSUMERS OF CUSTOMIZED CLOTHING SERVICES

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Consumer expenditures on individualized goods and services, such as financial and brokerage services, convenience and time-saving services, clothing services, and consultant and risk-reduction services, have increased substantially in recent years, and are predicted to continue to increase (Kelley & George, 1982). Individualized goods and services are offered by large retailers, such as Sears, as well as by independent businesspersons working out of their homes.

Throughout the midwest, the overall decline in the farm-based economy during the 1980's has encouraged many individuals to consider home-based sewing services for individual clients or sewn contract work as an additional source to supplement agriculture or industry-based incomes. Small and home-based businesses frequently lack information about potential consumers of the goods and services they offer and have difficulty acquiring the information needed to help make their businesses successful.

The purpose of this research was to identify incidence of use of customized sewing services, develop profiles of users and non-users of sewing services, and compare groups of users of specific sewing services. Thirty-seven percent of a stratified random sample of 641 Iowa households reported in a telephone interview that they had used customized sewing services during the past five years. A mail survey to 436 of the households was used to develop consumer profiles. Users differed from non-users on interest in self-enhancement through clothing, use of non-sewing customized services, personal sewing abilities, and levels of education and income. Five groups of users, identified based on type and frequency of use of specific customized sewing services, included Comprehensive Users, Custom Garment and Alteration Users, Mending and Alteration Users, Alteration Users, and Mending Users. Groups differed on interest in dress, use of non-sewing customized services, personal sewing skills, source of sewing professional, distance traveled for sewing services, and predicted future use of services.

Findings from this research have implications for types of services sewing professionals should offer and ways to market their services to consumers. Because users of customized sewing services are frequently users of other non-sewing customized services, and have low personal sewing skills, sewing professionals should consider joint advertising with providers of other customized services and not rely upon advertising through a fabric store. Sewing professionals should be aware that users of sewing services are concerned about self-enhancement through clothing and offer wardrobe or risk-reduction assistance to their clients. Consumers of sewing services are concerned about business practices of sewing professionals, including speed of work, completion date, written price estimates, itemized receipts, and acceptance of personal checks. Consumers are also concerned about how far they are willing to travel to have sewing tasks performed, so sewing professionals who wish to provide services within their communities should be willing to perform basic mending and alteration services, as well as custom garment construction.

MALE CONSUMERS OF MADE-TO-MEASURE CLOTHING:
AN EXAMINATION OF PHYSICAL ATTRIBUTES AND PREFERENCES

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Made-to-measure has become a significant force in the retailing sector. Defined as clothing which is tailored specifically for an individual, made-to-measure utilizes stock patterns which are altered according to the customer's physical dimensions. Height and weight are physical attributes which may impact an individual's clothing choices. Ready-to-wear retailers and manufacturers act as gatekeepers for selection offerings, deciding which styles and fabrics will be made available to consumers. Made-to-measure clothing, however, provides the consumer with virtually unlimited combinations of style and fabric options designed to reflect his personal style.

As evidenced by increased membership in the Custom Tailors and Designer's Association of America (Lipkin, 1989) and number of retailers served by made-to-measure manufacturers (Sinsheimer, 1989), the demand for these services has increased significantly. Despite this growth, however, research on the characteristics of consumers of made-to-measure clothing is limited.

The purpose of this study was to examine the relationship between a consumer's physical dimensions, height and weight, and preferred garment style and fabric type of made-to-measure tailored clothing. Clothing style and fabric selected, defined by the menswear industry, were classified as 1) traditional or 2) fashionable (Sinsheimer, 1989). The sample for this study consisted of 118 male customers of a made-to-measure clothing retailer. A standard industry form, developed by Clothing Science, Inc. (Slilaty, 1983), was used as the measurement instrument. Data were recorded over a two-year period, during each customer's visit.

Using one standard deviation around the mean, men's height and weight were categorized. Men's height was classified as 1) short: under 5'9" (31%), 2) average: between 5'9" and 6'1" (38%), and 3) tall: over 6'1" (31%). Weight was grouped into those 1) light: under 167 pounds (38%), 2) medium: between 167 and 195 pounds (33%), and heavy: over 195 pounds (29%). This classification was similar to that used by Shim, Kotsiopulos, and Knoll (1990).

Chi-square analyses were conducted in order to examine relationships among a consumer's height and weight and the style of clothing and fabric selected. Significant differences were revealed in relation to height and fabric purchased ($X^2=7.70, p<.05$). Average height men purchased fashionable fabrics more frequently than did short or tall men, who preferred traditional fabrics. Analysis of the consumer's weight and garment style preference also revealed significant differences ($X^2=8.88; p<.01$). Medium weight and heavy men tended to purchase traditional garment styles, whereas lighter weight men selected fashionable styles.

Results of this study indicated that men's physical characteristics were important variables in selecting made-to-measure garment style and fabric. Based upon these findings, future research on the psychographics and demographics of made-to-measure consumers will assist retailers and manufacturers in providing a higher level of merchandise satisfaction to their consumers.

ATTITUINAL VERSUS NORMATIVE INFLUENCE
IN THE PURCHASE OF BRAND NAME CASUAL APPAREL

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The Fishbein Behavioral Intention (FBI) model, which recommends simultaneous consideration of attitudinal/personal (Ab) and normative/interpersonal (SN) components, served as the framework for the prediction of buying behavior associated with brand name casual apparel. The theoretical and empirical issues involved in applying the FBI model were discussed. Incorporation of attitudinal and normative components in one theoretical model has not been applied in textiles and clothing research before even though a subset of these components has been used in the research. The empirical testing methods in this study establish a means to examine the relevance of the theoretical model.

The main purpose of the study was to investigate the relative importance of the Ab and SN components. Two specific objectives were: (1) to identify the relative importance of Ab versus SN in the purchase of brand name casual apparel; and (2) to examine sex difference with respect to the SN component in the FBI model when applied to buying behavior. The structural aspects of two components were analyzed for their application to marketing implications.

In the instrument development stage, an open-ended questionnaire was prepared and given to college students (n=39) to elicit salient outcomes and salient referents. The 10 salient outcomes were comfort, price, color, ease-care, material, style, good appearance, durability, versatility, and faddishness. The four salient referents were family, close friends, boy/girl friend, and shopping companions. The salient outcomes and referents were used to develop the questionnaire for the main test which measured beliefs, outcome evaluation, attitudinal toward behavior, normative beliefs, motivation to comply, subjective norm, and behavioral intention. 144 undergraduate students participated in the main test.

The findings of the study are summarized as follows: First, the results of multiple regression analysis showed that both Ab (p<.001) and SN (p<.001) components made statistically significant contributions to the prediction of buying intentions (BI) (R^2=0.578). The Ab component was the more important determinant of the two: the weight of Ab toward BI (w1=.69) was more than twice as great as the corresponding SN weight (w2=.28). A person's purchase was primarily determined by one's beliefs concerning the advantages and disadvantages of purchase rather than referent groups' influence.

Second, a Chow-test was employed to test equivalence of underlying purchase behavior of male and female students. The test showed statistically insignificant differences between males and females (F=.62, p=.97), implying that male and female students exhibit almost identical purchase behavior with respect to brand name casual apparel.

Factor analysis with varimax rotation confirmed the extraction of two factors from the identified salient outcomes: a Functional factor (comfort, material, easy-care, durability, versatility) and an Aesthetic factor (color, good appearance, faddishness). Marketers want consumers to perceive their products (or brands) as (1) possessing desirable outcomes and (2) not possessing undesirable outcomes. Therefore, the application of FBI model here recommends that all of salient outcomes should be utilized in advertising to create favorable attitudes toward the products (brands) since the attitudinal component proved to be more important in this particular study. The relative importance of the two components of the model, however, may differ if the researcher used different products and situations with a different sample.
CONSUMER RESPONSE TO ADVERTISED REFERENCE PRICES

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In an intensely competitive retail environment, pricing strategy often becomes a major focal point for both retailers and consumers. In order to emphasize lower prices, retailers may use price comparisons. Price comparisons occur when retailers advertise a selling price along with a reference price. The reference price can be another retailer's price, the manufacturer's list price, or the retailer's own former price. In reality, reference prices are often used to create a sense of "deal" for the consumer (Thaler, 1985). Reference pricing may be deceiving and lead to less than ideal purchase decisions by consumers. The potential for deception makes it important to understand how reference pricing influences consumers.

Helson's (1964) adaptation-level theory was used to study the influence of retailers' advertised reference prices on consumers' internal reference prices. Internal reference prices are prices consumers assimilate from past experiences and serve as an internalized frame of reference for the consumer. This frame of reference includes the highest and lowest acceptable price which a consumer is willing to pay for a product. Based on Helson's theory, internal states are influenced by existing internal conditions as well as advertised inciters to action. Thus it was the purpose of this study to investigate how consumers' internal reference prices might be influenced by external advertised reference prices.

A 2x3 experiment was conducted in a naturalistic setting (large regional midwestern mall) whereby 240 subjects were randomly assigned to cells (40 subjects per cell). Two levels of apparel were used (blouse/suit) to represent a higher and lower priced apparel item. Each item was labeled with one of three external prices: 1) sale price only; 2) regular and sale price; 3) compare at, regular and sale price. The dependent variable (internal reference price) was measured as the highest and lowest acceptable price the consumer would be willing to pay for the product. It was hypothesized that consumers' internal reference prices (highest and lowest acceptable price) would significantly differ between the three treatment groups (sale price only; regular and sale price; compare at, regular, and sale price).

Results of analysis of variance and post hoc comparisons revealed that for the higher priced apparel item (suit), internal reference prices were significantly lowered when advertised reference pricing was used. No differences for the blouse category were found. In part, the influence of advertised reference pricing on consumers' internal reference prices may depend upon the price level of the product. When used with higher priced items, reference pricing may lower acceptable price ranges. Thus, careful consideration might be given to the use of advertised reference pricing, by retailers, especially when higher priced items are involved. However, other studies are recommended which include a wider range of apparel products at additional price levels to determine if similar patterns emerge.


The changing structure of retailing has created the opportunity for increased variability in the pricing of brand name apparel merchandise. If consumers had perfect or complete information about the range of prices available, they would be better able to maximize satisfaction with their purchases. Consumers, however, rarely have perfect information. Stigler (1961) concluded that consumer perceptions of the price dispersion in the market will affect the amount of information search buyers undertake. Less search will occur when price dispersion is perceived to be low, implying that consumers are aware of the degree of price dispersion in a market. In addition, Urbany (1986) stated that price dispersion and search-cost perceptions may not affect the search behavior of consumers who have lower uncertainty regarding a retailer's position on a continuum based on price.

The objective of this research was to examine the relationships between the amount of search undertaken and consumer perceptions relative to price dispersion, uncertainty, and search costs for purchasing brand name apparel products in a limited, unfamiliar market area. A computer program was developed to simulate a shopping situation in which participants were allowed to seek comparative data from hypothetical retail outlets. A 2 X 2 X 2 factorial design with a between-subjects manipulation of price dispersion (high/low), uncertainty (high/low), and search costs (high/low) was utilized. The key dependent variable, search behavior, was measured as the number of stores shopped. The program randomly assigned respondents to one of the eight treatment conditions. Subjects were then asked to participate in two simulated purchase tasks. In order to eliminate all decision components except price, subjects were told what product and brand to purchase in each task. City and store names were disguised to prevent their influencing shopping behavior and to simulate an unfamiliar market. Prices used in the study were, however, based on a market survey of actual prices for the goods in the local trade area. The experiment was conducted with a nonrandom sample of 80 university students with a mean age of 21.

Analysis of variance was used to examine main effects for price dispersion, search costs, and uncertainty, all two-way interactions, and the three-way interaction. The results were found to be consistent with cost-benefit models of search proposed by Stigler and Urbany. Although two of the two-way interactions (price dispersion X uncertainty and price dispersion X search cost) were not statistically significant, the analysis did indicate a significant three-way interaction (p<.05) between the main effects. Low-uncertainty subjects engaged in less shopping activity than did subjects in the high-uncertainty condition. A graphic analysis of the interactions indicated that subjects in the low-uncertainty condition were less responsive to changes in search cost and price dispersion. Under the high-uncertainty condition, search costs had a greater effect when price dispersion was high than when price dispersion was low. These results suggest that when consumers do not recognize that a retailer's pricing policy may have changed, they may engage in less information search and make purchases at higher than average market prices. Retailers who offer lower prices, and want to draw consumers, should therefore consider incorporating comparative pricing data into their advertisements.


CONSUMER INFORMATION PROCESSING: A THEORETICAL PERSPECTIVE

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To understand the different facets of consumer behavior in relationship to marketing, one can utilize a theoretical framework that helps explain how consumers process information. Consumers may receive information from various sources, interpret the information and then make evaluative judgments. The theoretical framework for the study was congruity theory. Congruity theory suggests that when a consumer associates two incongruent images, he or she attempts to restore consistency by changing one or both images. The focus of this study was on how consumers combine, adjust and modify these images for apparel sold through catalogs made in various countries of origin. Labeling country of origin information in catalogs for apparel is required by law and, therefore, was considered important to analyze from an information processing perspective. Predicted associated scores based on congruity theory formulas were developed and compared with associated image scores gathered through data collection.

A sample of 400 men and women were interviewed by telephone on the basis of systematic probability for households in a demographically balanced, large city. A response rate of 75% was obtained. Quality images of catalog apparel were measured on four-point scales (4=excellent and 1=poor) as was price (4=very high and 1=very low). Consumers were asked to evaluate the quality and price of catalog apparel made in the United States, Italy, Korea, China and Costa Rica. Predicted associated scores were developed from congruity theory formulas (Osgood, Suci, & Tannenbaum, 1957, p. 207).

It was hypothesized that predicted associated scores would not significantly differ from associated scores obtained through data collection. t-tests were used to analyze differences between associated and predicted scores by country of origin. Associated quality image means were found to be significantly lower than predicted by the formulas for all country of origin studied except Italy. Associated quality image for Italy did not significantly differ from the predicted image. Associated price image means were significantly lower than predicted for all five country of origins studied. Differences between consumers' images and predicted images may be due to consumers' processing abilities, prior knowledge and/or experience with purchasing apparel through catalogs. These findings suggest that associated images were lower than what might have been expected based on theoretical projections alone. Thus, the application of congruity theory within other situational contexts is recommended.

PREDICTING APPAREL SELECTION: CONGRUENCE BETWEEN SELF-CONCEPT AND PERCEIVED APPAREL SYMBOLS

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The purpose of this research was to study the relationship between self-concept and apparel choice by testing Grubb and Grathwohl's (1967) self-concept theory of consumer behavior. According to the theory, when people endorse a specific product they communicate a wish to be associated with the kind of people whom they perceive consume the product. The prediction for this research was, therefore, that selection of apparel products is based on the congruence between the perceived symbolic meanings attributed to the apparel and the self-concept of the consumer. Sixty-six female university students were administered three scales: a subject self-concept scale (SSC), a stimulus person's self-concept scale (STSC), and a clothing practices inventory (CPI). The SSC measured real and ideal self-concepts of the Ss on the basis of 15 descriptors of personality characteristics (PCs). The PCs were obtained as a result of a content analysis of advertisements of apparel found in magazines typically read by the Ss. The STSC measured the Ss' perceptions of the PCs of the likely wearer of each of twenty forms of stimulus apparel. The same 15 PCs were used in the STSC as were used in the SSC. The stimuli consisted of black and white pen and ink sketches of a controlled model wearing different forms of apparel. The types of apparel were identified as a result of preliminary studies as either typically worn (observations) or as highly fashionable (study of advertisements of apparel in often read magazines). The CPI measured the degree to which Ss believed they might wear each of the 20 forms of stimulus apparel. All items in each scale were measured on eleven-point scales. The order to which each of the scales and the stimuli was administered varied systematically and each S was randomly assigned to each order of administration.

For each S and for each level of self-concept (real/ideal), the rating of each PC on the SSC was subtracted from the rating of the corresponding PC for each sketch (STSC) yielding 60 difference measures (2 levels of self-concept x 15 PCs x 20 sketches). These difference measures were summed for each sketch for each S yielding 20 scores for each S. For each S, the difference measure for each sketch was correlated (using Pearson's r) with that S's rating (on the CPI) of her likelihood to wear the dress in that sketch. Results support the prediction: Ss indicated that they would wear those forms of apparel which were perceived to be congruent with their own self-concepts and the self-concepts of the likely wearer of the apparel. The predictions were stronger for ideal self-concepts than for real self-concepts suggesting a modification of Grubb and Grathwohl's theory when apparel products are used.

EFFECT OF CLOTHING ATTRACTIVENESS ON VALENCE OF FIRST IMPRESSIONS

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It is well-documented that clothing factors affect impression formation. Researchers of social cognition, who investigate the underlying processes involved in impression formation, have shown that individuals utilize a consistent set of categories (i.e., character traits, behaviors, attitudes, demographic traits, physiological traits) when forming impressions of others. It has also been found that clothing of the target person does not necessarily affect this categorization process. One researcher has suggested that characteristics of the target person (such as clothing) affect the impression valence (extent to which the impression is positive or negative) rather than categories used in the impression. Therefore, the purpose of the present study was to explore if indeed appearance variations affected the valence of first impressions. Specifically, the effect of clothing attractiveness on the valence of first impressions was investigated. Based upon previous research in social cognition, it was predicted that:

1) if impression valence was a function of characteristics of the target person then greater overlap would exist in impression valence when two perceivers describe one target person than when one percever describes two target persons, and 2) impression valence would be affected by characteristics of the target person such as variations in clothing attractiveness.

To investigate the effect of clothing across target persons and perceivers, a clothing manipulation was incorporated into a research design previously used to study categorization and valence of first impressions. 52 female university students viewed slides of two target persons dressed in either equally attractive clothing or in clothing that varied in attractiveness (one in equally attractive and one in unattractive clothing). To investigate the effect of clothing attractiveness on impression valence across target persons and perceivers, comparisons were made among: the overlap in valence of one percever describing two target persons (1 on 2) in attractive or varied clothing, the overlap in valence of two percevers describing the same target person (2 on 1) in attractive or varied clothing, and the overlap of valence of two percevers describing two different target persons (2 on 2) in attractive or varied clothing. So that actual impression valence could be measured, subjects completed an open-ended dependent measure asking them to describe the target person. The descriptions were content analyzed for the frequency of occurrence of positive, neutral, and negative descriptive statements. Using Pearson correlations and Fisher's Z statistic, no significant differences were found in the overlap of impression valence among 1 on 2 ($r = .58$), 2 on 1 ($r = .54$), and 2 on 2 ($r = .58$). Similar to category usage, it may be that impression valence is also a function of characteristics of the perceiver rather than the target person. However, the results showed greater overlap of impression valence when the target persons were dressed in equally attractive clothing than when the clothing of the target person varied in attractiveness, especially when one percever described two target persons. This result suggests that 1) perceivers may be comparing target persons when forming impressions using the impression valence of the first impression as a frame of reference for the second, and 2) similarity may be a salient characteristic in impression valence.
Breast cancer treatments have significantly increased women's survival rate. Women undergoing mastectomies have more positive attitudes toward breast cancer than were reported 20 years ago (Bloom, et al. 1987). Satisfaction with one's appearance is an important factor in women's self-esteem. A better understanding of women's post-mastectomy adjustment process is needed to help women recover.

The specific objectives of this study are to:
(1) demonstrate the role of appearance to self-esteem;
(2) propose and test a model based on symbolic interaction theory;
(3) ascertain the extent to which the endogenous and exogenous variables fit the proposed model;
(4) examine the relationships between significant social support variables on attitudes toward mastectomy;
(5) ascertain the relationships of attitudes on post-mastectomy women's self-esteem; and
(6) suggest a parsimonious model.

Data were collected from 933 women who had mastectomies within a 24 month period. Instruments included the Norbeck Social Support Questionnaire (1981), the Mastectomy Attitude Scale (1977), and the Rosenberg Self-Esteem Scale (1965). LISREL VI was used to test the structural equation model, in addition to measures of central tendency, principal components factor analysis, correlations and chi-square.

The overall purpose was to ascertain if the data were consistent with the proposed model. Path analysis was used to study the direct and indirect effects of the exogenous and endogenous variables. Exogenous variables are assumed to be caused by conditions external to the model; whereas, endogenous variables are explained by their relationships within the model such as social support and attitudes toward mastectomy. Endogenous variables can be treated as dependent variables within one set of variables and an independent in another set; but cannot simultaneously be both dependent and independent. Variables studied included age, employment, marital status, education, chemotherapy, reconstruction, time since surgery, emotional support, frequency of support, tangible support, attitudes toward mastectomy (emotions, sexuality, appearance, necessity, openness, concealment, outlook), and self-esteem.

Preliminary analyses revealed age was not linear and age was correlated with employment; therefore two groups of women were compared, those under 66 and employed, and those over 65 and not employed. Goodness-of-fit measures indicated that the model fit the data. For the younger, employed women the proposed model accounted for 19% of the variance; but for the older or nonemployed women the variance was only 2.4%.

Age was a major variable in women's adjustment to mastectomy. Women's concerns about their appearance was an important factor in their self-esteem. Appearance changes as a result of chemotherapy affected others' social support. These results have implications for patient care, counseling, and education.

References:
APPAREL AND FURNITURE ATTRIBUTE IMPORTANCE AND SELF-MONITORING

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Items of material culture such as works of art, clothing, and furniture provide important information about the culture which produced them (Schwartz, 1979) and about the individuals who purchase and display them (Cooper, 1976). Possessions, like clothing and furniture, besides being decorative, are a means of self expression and an implicit way of communicating personal ideals and values. Thus it can be concluded that a person’s possessions convey important information about the person and certainly affect impressions of the person. How one interprets the information conveyed by possessions about their owners also affects impressions and is related to attitudes toward and ratings of those possessions. One way in which individuals can differ in the interpretation of information which has been related to possessions is in the manner in which people monitor and regulate their expressive self-presentations. The Self-monitoring Scale (Snyder, 1974) has been developed to measure this construct. High self-monitors control and monitor their public behaviors in response to social cues of situational appropriateness, while low self-monitors lack either the motivation or the ability to do so. When interpreting information about people and consumer product advertisements, high self-monitors are more influenced by visual characteristics which reflect style, beauty, and the image and status garnered thereby, than are low self-monitors. Conversely low self-monitors are more influenced by internal functional characteristics which reflect potential high-quality performance. This study investigated the relationship between perceived consumer product attribute importance and individual levels of self-monitoring. In accord with previous findings it was predicted that (1) as compared to low self-monitors, high self-monitors would perceive apparel and furniture product attributes to be important when the attributes addressed external, visible, beauty or style characteristics and (2) as compared to high self-monitors, low self-monitors would perceive apparel and furniture product attributes to be important when the attributes addressed internal, invisible, functional, or quality characteristics. Female undergraduates (N = 160) participated in a study of consumer decision making. Subjects viewed slides of either apparel or furniture products and rated the importance of product attributes which addressed appearance or function and quality. Results of a multivariate analysis of variance supported both predictions. Differences due to product category emerged which indicate the value of stimulus sampling in empirical consumer research. These results link individuals' perceptions of interior artifacts to personal items such as apparel. Perceptions of product attributes for both types of products were related to the concept of self. Since self-monitoring influences consumers' perceptions of product attributes, a segmentation system based on self-monitoring is suggested; e.g., advertising copy or in-store signage could be either function or appearance oriented. Furthermore, furniture, as compared to apparel, attribute importance may be more closely tied to price considerations, the extent to which the store stands behind the product, and availability of knowledgeable salespersons.


This research continues the effort to develop a better description of North American dress, specifically that of women married to officers of the Indian-fighting U.S. army in the second half of the nineteenth century. It examines the changes that the women made to their clothing in response to their unusual circumstances. The diaries, letters, and memoirs of eighteen army wives offer evidence that they realized life in the West called for a new standard in clothing and appearance.

The women's writings identify seven issues related to the changes: adjustments to existing clothing; their reactions to the clothing of native and pioneer women; garments for life outdoors; dress for festive occasions; replacing lost and ruined clothing; buying, making, and caring for clothes; and the women's awareness of their deviations from eastern norms of appearnace.

The women usually came from comfortable backgrounds; the army, however, made little accommodation to their presence. They wore fashionable clothing as they traveled to the West but soon replaced dainty frills with such sensible clothes as "a calico frock, plainly made, no hoops and a sun-hat." They noted the clothing of Indian, Hispanic, and pioneer women, sometimes scorning the foreign styles but often recognizing their suitability to the women's environments.

The women quickly learned that they needed special garments and accessories for the frontier. For horseback riding, they wore habits suitable to the weather and weighted their riding skirts to keep them down in high winds. The weather, with its extremes of hot and cold, provided other opportunities for eastern clothing. Many women claimed their best (often re-made) gowns for dances and obtained new dresses for their weddings on the military posts.

The frontier also provided many opportunities to lose or ruin clothing. Women lost garments when horses got out in the rain or ballots made clothes from homespun, cotton, and woolen "military" washable. The women ordered replacements at great expense from the East or sent shopping lists to and with friends and family.

Shopping locally was frustrating because of meager selections. Many women turned to sewing their own and their families' clothes. They scanned fashion magazines for styles, trims, and patterns and mended and refurbished when garments were cut.

Overall, army wives realized that the West demanded comfortable, sensible, perhaps unfashionable clothes more suited to the plains than to city streets, and that the new standards offered some freedom from Victorian standards of feminine appearance.

References


I examined 210 patents for sewing machines and their attachments, dated May 8, 1849 (6,437) to December 19, 1899 (639,669). After analyzing the types of stitches, seams, and other processes made possible by the patented machines, I compared machine potential to techniques observed on 149 factory-made garments, dated ca. 1860-1900. The garments came from six diverse collections in the northeast and upper midwest; total holdings of the research collections were 67,000 garments. Menswear (N=70) included uniforms, civilian suits, shirts, nightshirts, underwear, and sportswear. Women's pieces (N=62) encompassed underwear and corsets; jackets, gowns, and other wraps; and a cloak. Children's garments (N=17) included shirtwaists, jackets, trousers, and underwear. All had attached labels or other evidence that confirmed they had been manufactured. Each piece had styling datable to 1900 or earlier by comparison to styles in periodicals, especially The Delineator and Harper's Bazar.

It proved easier to determine which types of machines had been used to sew the garments than to establish exactly when a particular patented device had been first adopted. This was due to the relative stability of styles for some manufactured garments, e.g. military uniforms and men's shirts. Inventions might be used long before they were patented and because relatively few manufactured garments survive from the 1800s, only general conclusions were supportable.

New textiles and new uses for existing textiles seem to have prompted many inventions. Union suits and other undergarments made of knitted yardgoods required overstitches to join the layers of cloth with a flexible seam and cover the edge to prevent raveling. Many inventors patented such stitches and the attachments to make them between Kilbourne's overstitch (59,746; November 20, 1866) and Munsing's stitch to join or decorate knits (583,387; March 25, 1897). Densely-napped wools, popular for women's tailor-made wraps in the 1890s, also stimulated the use of new machines. Coombs' two-needle sewing machine (419,584; December 4, 1890) may have expedited sewing the numerous lines of evenly-spaced topstitching that trimmed these wraps.

A second major impetus to sewing innovations was the demand for large volumes of durable clothing. Examples were men's uniforms, at least one of which was dated 1863, and men's dress shirts. The Civil War-era uniform had machine-sewn seams and also corded, machine-made buttonholes that may have been produced by Rose's device (31,628; March 15, 1861) or that of Derocquigny, Gance, and Hanzo (34,748; March 25, 1862). A potential boon to shirtmakers was Karr's adjustable hemming-felling guide (106,489; August 16, 1870).

Factors regarding adoption of sewing machine improvements and attachments include conformity to hand-sewn appearances desired in outerwear, shifting fashions—especially in women's wear—and the prohibitive cost of specialized machines to the numerous small manufacturers of the late 1800s.

This exploratory study could be extended to inventions of the twentieth century, and to accessories and hosiery, not considered in the present research.
The influence of Fashion on the Dress of African American Women in Georgia, 1870-1915

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The purpose of this study was to investigate and identify the dress worn by African American women in the state of Georgia, from 1870-1915. It was also a focus of this study to investigate the impact of European American fashion on the dress of African American women in the state of Georgia, 1870-1915. Fifty-nine photographs, representing 218 women, were collected from four collections in Georgia.

This study was undertaken in order to examine the dress of a group of American women generally ignored in American costume histories and to compile information about the types of dress worn by them. It is important not only for the information provided on the history of dress in the United States, but more importantly it focused on a unique group of American women.

A review of pertinent literature on the subject revealed that little research had been conducted on the dress worn by African Americans after the Civil War. None of the scholars reviewed focused on post Civil War dress in a particular state, such as Georgia, or on a particular time period. The influence of fashion on dress across geographic locations and time periods as worn by African American women was also not stressed in these studies.

The following research objectives framed the study: 1) to identify the types of dress worn, 2) to examine the degree of fashion of the dress worn, 3) to examine the differences in dress between rural and urban African American women. Clothing, worn by African American women as depicted in photographs, was identified and recorded. The dress elements observed were compared to European American fashionable dress of the time period in which the photograph was dated.

The dress elements observed were also compared by geographic location (rural versus urban). This comparison was utilized to determine if any differences in dress existed between the rural and urban women. This comparison allowed the researcher to observe any distinct variations occurring in costume characteristics which were not generally considered western European or American styles of fashionable dress as indicated in costume history books or primary source materials on late nineteenth and early twentieth century dress. Any variations provided clues to cultural/regional characteristics of dress.

An important aspect observed in the photographs of the rural women was the wearing of kerchiefs. The existence of this dress element indicates the possibility of an occupational or an African American cultural tie for the dress of these women.
The purpose of this study was to trace Far Eastern influence on Western women's dress from 1890 to 1927 and to document their manifestations at various stages. The style changes from the 1890s through the 1920s were partially due to the impact of Japanese and Chinese forms of dress, Sino-Japanism, first adopted then interpreted and assimilated into Western culture. Similar stages were identified in a study of Bugma women's dress by Erekosima and were labeled as cultural authentication. Two levels were defined further: Level 1 referred to the simple borrowing of Far Eastern dress and accessories, while Level 2 referred to the stage of interpretation and assimilation into unique forms of Western dress.

Content analysis was employed to measure Sino-Japanism. An influential fashion magazine of the period, Harper's Bazar, was selected as a media source to document both the written references and the visual representations of the forms of dress and accessories. Written references to Far Eastern influences on women's dress were analyzed to document the extent of the verbal context in the magazine. Visual representations of women's dress and accessories were analyzed to understand the visual influences and its manifestations.

The thirty-seven years covered by the study were divided into four shorter periods based upon the analysis and categorization of visual representations. In the period 1890-1898, Level 1 was dominant with few examples of assimilation identified. The period 1889-1908 was marked by many examples of assimilation of Japanese dress (Level 2) such as the forward bent stance possibly borrowed from that of the Japanese woman, with most evidence occurring in categories of at-home gowns and coats. In the period 1909-1915, various Japanese forms were extensively used including the kimono sleeve, the kimono waist, the obi knot, the V-neckline, and similar draped effects. The last period, 1915-1927, was marked by few Japanese forms and extensive use of Chinese forms including the straight sleeve, the rounded neckline, banding effects, and the straight silhouette.

Data analysis indicated that there were two separate cycles representing first the Japanese and then the Chinese influence and the most extensive influence in Level 2 assimilation occurred between the years 1902 and 1927. The implication of the study was that style changes in women's dress must include analysis of the entire stylistic cycle and influences external to the costume, such as the written references. Both the visual and written references were important in the conformation of the conclusion.

Adolescent Appearance and Aesthetic Response

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This was an exploratory study designed to identify adolescent perceptions of appearance. The visual response was explored in relation to images that were familiar as well as new images. In measuring and describing these responses, a contribution may be made to the understanding of change in fashion. Fashion theory has addressed the nature of change based upon economic and social issues, but not how viewer perceptions may influence change. Viewer response has been studied in terms of perceptual response to visual forms of clothing (DeLong & Larntz, 1980). However, these responses have yet to be related to their impact on fashion change.

Subjects in this study were 195 males and females, ages 14 to 18. Data collection focused on their responses to slides representing: 1) a range of images acceptable in fashion, and 2) new images found in rock videos. Methods used included observation, interviews, and a questionnaire which recorded the subjects' visual response to the slide sets. Slides of the acceptable appearances were selected from slides taken by the researcher of same age subjects to represent a range of appearances. A focus group of 15 students identified eight categories from a group of 60 slides which they considered to be most representative of appearances found at their high school. Slides of new images were taken from current broadcasts of rock videos. The focus group assisted in selecting the slides for this set also. The instrument was administered to students during class time at a high school. Data were analyzed utilizing SPSS. Descriptive statistics were applied to the data as well as correlations in order to determine relationships between variables.

Subjects readily categorized appearances based on initial viewing. Their system of categorization as a group was identified in relation to the accepted fashion appearances. Contrarily, the new images were not readily categorized by the subjects. A semantic differential technique was used to measure the subject's visual response, including attitude toward acceptability, e.g., like:dislike, would not wear:would wear. Acceptability levels of all images were compared with several variables. From this analysis it was concluded that a number of factors can influence acceptability of appearance when comparing a range of accepted images with new images. Correlations existed between acceptability and the following variables: viewing time, the viewer's inclination toward innovative fashion interest and behavior, performer preference, video preference, subject age and sex.

Studies on adolescent appearance have most often examined consumer practices and social factors influencing appearance choices. This research contributes an additional view into the adolescent user's internal acceptance structure when viewing images. The results from this research will be of value to those needing to understand adolescent appearance; its current dimensions, meanings, and changing nature. As a model of method, comparing and contrasting what is acceptable and what is new, may be a way of looking at change in other market groups as well. The addition of understanding a process of viewer acceptance augments existing research on fashionable change that documents changes in the form itself.

MASCULINE AESTHETIC: SEMIOTIC PREFERENCES OF IMAGE CONSULTANTS FOR GENDER APPROPRIATENESS,
POWER, AND PRESTIGE PERCEIVED IN CORPORATE GARMENT DESIGN

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This research examined garment design as a culturally conventionalized sign system of nonverbal communication which structures relationships between the sexes. Its primary purpose was to qualify the presence of gender-specific perceiver bias as it is projected onto color, fabric, and pattern deemed most appropriate for corporate dress.

Research has shown that gender is associated with the sexes by clothing choice. A multi-leveled relationship of meaning groups itself within a garment’s construction boundaries due to the collaboration of pre-conceived abstract concepts of gender defined by the garment’s design elements.

The corporation has become a conventional social system which economically, politically, and socially establishes the needs and aspirations for much of society. The greater reflection of ideological states of being are nonverbally communicated through the medium of corporate dress for both female and male management executives.

From the feminist perspective, masculist (as opposed to feminist) adherence to the corporate dress code serves to further alienate the female, and the male, from feminine identity traits. Holding the male/masculine as superior to the female/feminine communicates a greater assigned value to the male/masculine aesthetically.

A questionnaire was designed to measure the qualities of masculinity, appropriateness, power, and prestige as factors which determine the rank-order of design elements according to the corporate dress-for-success code. A multi-dimensional scaling technique was used to obtain rank-ordered preferential judgments from a sample of image consultants across the United States. Single stimulus ratings were obtained for 55 colors, 44 fabrics, and 22 patterns. Perceptual parameters were given as selection restrictions to ranking judgments. These included: sex of the garment wearer; type of corporation; occupational level in the corporate hierarchy; garment type; geographical region in the United States; and in the semiotic sense, word-description-names for colors, fabrics, and patterns.

The researchers hypothesized that image consultants are a homogenous group of professionals who practice the dissemination of fashion information and guide consumer clothing choice. As a group, the subjects ably identified and differentiated the design elements due to their experience, knowledge and image awareness of the corporate dress code.

Masculist bias was indicated in the findings, as those garment colors, fabrics, and patterns most often associated with the female/feminine attributes were found to also be the least powerful, prestigious, and appropriate for both the female and the male corporate executive. The masculine in design was shown to be the best equipped to communicate those perceived gender attributes as signs of higher social-psychological, political, and aesthetic values.
The purpose of this study was to determine what the available research revealed about the relationship between elderly females' perceptions of bodily changes and dress/adornment behavior. Perceptions of bodily changes (the independent variable) included factors such as body image, self-image, attractiveness and femininity, as well as more specific body changes in the areas of figure, face and skeletal structure. Dress and appearance responses (the dependent variable) included alterations of ready-made garments, selection of dress designs as solutions, selection of color in dress as solutions and manipulations of body and hair. The central hypothesis was that perceptions of bodily changes during aging are associated with manipulations of appearance (dress and adornment). Forty-two studies relating to elderly women's perceptions of body changes and the use of dress design and/or appearance manipulation solutions were identified. Content analysis was used to organize and synthesize the previous research. Categories for organizing the content were determined. Descriptive statistics were used for analyzing the content.

Findings indicate the body changes during aging that dictate dress and adornment manipulations fall into five broad content categories. The categories are 1) increased weight, 2) migration of body fat, 3) changes in facial coloring and texture, 4) changes in skeletal structure, and 5) changes in self-concept and self-image. Sixty percent of the studies examined reported dress/adornment responses to the perceived body changes. The findings have particular relevance to the current interest in creating designs in products and services that accommodate the mature physiological and sociological needs of the aging population. The study also has broad implications for meeting the needs of aging individuals in the future. These findings establish the fact that elderly women share perceptions of their changes and that specific choices in clothing design features are made in an attempt (albeit often unsuccessful) to accommodate the perceived changes. The research directions dictated from these findings focus upon congruence between marketplace offerings and elderly females' needs. This narrative review is an initial step in synthesizing the literature. This step leads to the use of quantitative techniques for accumulating results across the studies identified.
Body Image and Appearance Management During Pregnancy

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Pregnancy is a unique period in the life cycle of a woman. The most outwardly obvious of many changes which occur is an increased body size. Research in the area of body image indicates that women are profoundly influenced by a cultural stereotype of a thin, well proportioned female. Lower body cathexis ratings are associated with undue anxiety about one's physical condition (Secord & Jourard, 1953). No research has been reported on whether maternity clothing affects a woman's pregnant body image and contributes to her overall pregnancy experience. The purpose of this research was to explore the relationships between a woman's body image (BI) and appearance management (AM) factors during pregnancy, including attitudes toward wearing maternity clothing, preferences for specific maternity clothing styles for hypothetical situations, and wearing behaviors.

A survey instrument was distributed through the offices of obstetricians to pregnant women over the age of 25 years during their routine prenatal visits. The instrument included: a modified body cathexis scale (Secord & Jourard, 1953) for both prior to and during pregnancy; a modified maternal adjustment and maternal attitudes questionnaire (Kumar, et al., 1984); a demographic portion; and appearance management sections developed by the researchers. Descriptive and inferential statistics were used to analyze data.

Of the 95 subjects in the sample, 39% were in their first pregnancy, 77% were in the last two trimesters, 72% had post-secondary education, 55% were employed full-time, and 57% had other children, including stepchildren. Overall, BI mean sums were relatively positive for both prior to and during pregnancy, but were somewhat more positive prior to pregnancy. A moderate positive relationship (.49) existed between BI and AM as measured through attitudes about wearing maternity clothing. ANOVA showed that BI was not influenced by any demographic variables; AM was influenced only by level of education at the .05 level. Stepwise regression indicated that no demographic variables were predictive of BI at the .05 level, but that level of education and current employment were predictive of attitudes about wearing maternity clothing. Little difference was found in style selection for situation appropriateness by women with positive BI versus those with negative BI, as identified by median of rank. Yet, style choices were usually clustered in one of the four style categories (classic, dramatic, casual, dressy) for each situation; casual and dramatic were most preferred. There was no difference in BI for selected wearing behaviors.

Pregnant women prefer clothing that is comfortable yet distinctive, information that is valuable to both designers and retailers. The relationship between BI and AM suggests that improving appearance management strategies can contribute to a more positive pregnant body image.


Gender Differences and Catalog Shopping

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During the past two decades, catalog retailing has become an increasingly prevalent form of retailing. While much has been learned about catalog shopping behavior, limited attention has been directed toward shopping differences between males and females. Information on variations in shopper preferences will assist catalog and other nonstore retailers in identifying specific shopper segments.

This study examined the shopping motives of mail-catalog purchasers of clothing and sporting goods. A national, random sample of 1500 male and female catalog shoppers was surveyed to assess the salience of their motives for catalog shopping. A 45% return was obtained from the survey.

Subjects completed a self-administered questionnaire that measured the importance of their shopping motives and the likelihood of satisfying the motives through catalog shopping. Shopping motives shown by past research to be related to retail patronage were examined. These motives were classified within the context of Sheth's (1983) theory of shopping preference as either rational or nonrational motives.

The means for each group of motives were compared using repeated measures ANOVA. Rational motives were reported to be significantly stronger (p<.05) than nonrational motives by both males and females. For females, motives for clothing purchases were significantly stronger than those for sporting goods purchases (p<.05). There was no significant difference (p>-.05) in the strength of shopping motives for either product for males.

Hotelling's T2 was used to test whether the overall profile of the shopping motives of males and females for each product were found to be significantly different (p<.05). The source of differences between males and females was then examined using univariate analysis of variance.

Results showed that convenience motives were more salient for females than for males. Males assigned higher priority to merchandise and service motives than to convenience motives. For clothing, females felt significantly stronger (p<.05) than did males that shopping from catalogs permitted greater accessibility to shopping, saved time and effort, and offered benefits of shopping in the home environment. Differences between males' and females' motives for sporting goods purchases were similar to those found for clothing purchases.

These results suggest that males and females constitute different market segments based on the important benefits that each seeks from catalog shopping. This information has implications to catalog and other nonstore retailers in developing differentiated marketing strategies for male and female shoppers.

Reference:
Currently, electronic in-home shopping via cable shopping networks is an important growth segment of the retail industry. Success of non-store retailing depends on acquisition and maintenance of a clearly defined data base of customers. Despite the growth in cable shopping, there is little known about the identity of cable shoppers. The primary purpose of the study was to examine the relationship between sociodemographic profile, fashion opinion leadership and clothing interest, and buying behavior of users and nonusers of cable shopping networks. It was hypothesized that sociodemographic, fashion opinion leadership, clothing interest, product involvement, and recency, frequency and monetary purchase profiles would vary according to electronic in-home shopping use.

A preselected randomized population frame was purchased from a cable television communications corporation. In the spring of 1989, questionnaires were mailed to 2,000 cable subscribers in 19 states. A total of 595 usable questionnaires were returned from cable subscribers located in 11 states. Subjects who reported placing orders three or more times in the previous year were defined as frequent buyers (n = 25), subjects reporting one but fewer than three orders were classified as infrequent buyers (n = 255), and the subjects who reported no cable orders during the past 12 months were classified as nonbuyers (n = 313). The Fashion Opinion Leadership and Clothing Interest Inventory consisted of 20 statements on behavior regarding clothing and 20 statements regarding clothing interest of the respondents (Schrank & Gilmore, 1973). Selected clothing attributes included brand name, color, fit, latest fashion, price, quality of construction, garment care and fiber content.

The majority of respondents (68%) were female with a mean age of 46.3 years. Sociodemographic profiles of respondents by buying group were not significantly different on the 11 variables selected. No significant differences were found between the mean scores of the clothing interest statements assigned to each of the three buying groups. When respondents were classified by buying groups, no statistically significant differences were found among the eight selected clothing attributes. A trend emerged among four of the clothing attributes when mean scores were analyzed. A trend toward greater interest in color, fit, and quality of construction and less concern with price was evidenced among frequent buyers. When product involvement, frequency of purchase, and dollar allocation of purchase were the relative dimensions, no significant differences were found between frequent and infrequent buyers. There were significant differences between the fashion opinion leadership scores of buyers and nonbuyers when looking at recency of purchase. Buyers had a significantly higher fashion opinion leadership score than nonbuyers.

Review of findings indicate the need for further study into profiling cable shoppers. Recommendations for future study include capturing a larger distribution of buying groups, development of a more sensitive method for measuring recency, frequency, and monetary variables, and the introduction of other variables to examine the influence of awareness and familiarity with cable shopping networks.

Fashion is an important force in consumer behavior. Limited studies have indicated that urban consumers are more fashion conscious than rural consumers, but little emphasis has been given to rural consumers even though they represent a significant force in many retail markets. Retailers and fashion advertisers could benefit from information about the fashion involvement of both rural and urban consumers and the relationship between this involvement and the media usage of these consumers.

The purpose of this study was to: 1) determine the fashion attitudes of rural and urban consumers; 2) determine the media usage and demographic characteristics of rural and urban consumers; then, 3) determine the relationship between the fashion attitudes of consumers and their demographic characteristics and media usage. A questionnaire was developed to determine consumer fashion attitudes and apparel shopping perceptions using a five point Likert-type scale ranging from strongly agree to strongly disagree. In addition, media usage and selected demographic information was elicited. Of the 2000 questionnaires mailed to randomly selected women in a southern state, 598 usable questionnaires were returned.

Factor analysis of the data identified four factors, creating the basis for four shopper types; the fashion shopper, the image shopper, the quality shopper, and the price shopper. Factor scores were generated for the four factors and were used in analyses of variance with media usage and demographic characteristics. The significance level was set at .05.

Findings indicated that there were no significant differences between the rural shoppers and the urban shoppers among the four types of shoppers. There were significant differences among the four shopper types regarding their media usage and demographic characteristics. Findings indicated that the fashion shoppers read the newspaper few times per week, watched television more than three hours per day, listened to the radio more than three hours per day, shopped stores because of advertised sales and were between the ages of 18 and 35. Image shoppers watched television less than one hour per day, listened to the radio more than three hours per day and were between the ages of 36 and 50. Quality shoppers read the newspaper daily, listened to the radio less than one hour per day, did not shop stores because of advertised sales, were more highly educated than the other three shopper types and were over the age of 51. Findings for the price shoppers indicated that they watched television more than three hours per day, shopped stores because of advertised sales and were over the age of 51.

For retailers and fashion advertisers a clear understanding of their customer profile is essential in order to best reach their targeted market groups. Knowledge of their customers' fashion attitudes, media usage and demographic characteristics can better enable fashion promoters to achieve competitive presence and growth potential in the marketplace.
In recent years, the catalog business has grown more dramatically than any other non-store retail segments. Growth can be gauged not only by the sales volume but also by the number of firms and different catalogs distributed. Research on catalog shopping consists of a number of descriptive studies which characterize catalog shoppers in terms of demographic profiles, attitudes, motivation, involvement, perceived risks, etc. Researchers have not addressed the extent to which the mode of product presentation affects attitudes and buying decisions.

Four independent variables with two levels in each were defined: (A) garment category (casual vs. dressy); (B) use of model (natural/wholesome vs. glamorous/exotic); (C) strategically placed information about garment (without vs. with); and (D) copy (long and technically detailed vs. short and abstract). Stimuli representing the 16 (2 x 2 x 2 x 2) modes of product presentation were developed. The experimental design used was a randomized incomplete block design in which subjects were the blocking units. Treatment combinations were allocated to each block according to a partial confounding scheme. There were a total of 3 replicates and each replicate had 8 blocks of size 2. Each subject evaluated only two combination treatments of all 16 because the same garment should not be presented twice in a catalog.

Data were collected through a group administration method and a total of 168 professional women working in various jobs participated. Each experiment started with a brief introduction to the study. After introduction, each subject was first asked to examine a sample catalog as if she was catalog shopping. Then, the subject was asked to complete a Catalog Shopping Evaluation Form and an exit questionnaire. The exit questionnaire was to see if the subject was able to guess the purpose of the experiment. At the end of the experiment the subjects were debriefed.

Using the Fishbein multiattribute model, consumer attitude was measured as a linear combination of underlying salient beliefs associated with attitude and the evaluation of these beliefs by consumers. In addition, estimated price of the garment and perceived likelihood of buying the garment were also assessed.

Results of an analysis of variance on the consumer attitude toward company indicated 3 significant main effects: more positive attitude toward company (A) producing dressy silk blouse than casual cotton camp shirt; (C) when there was strategically placed information about garment in a catalog than there was not; and (D) when the copy was long and had technical information than when the copy was short and abstract. The ANOVA result also showed 2 significant two-way interactions. The interaction AC indicated that for casual shirt the subjects had more positive attitude toward company when there was strategically placed information about the garment; for dressy blouse the subjects exhibited no significant difference whether or not there was strategically placed information about the garment. The interaction CD indicated that when the copy was long and had technical information, the use of strategically placed information about the garment did not make a difference in consumers' attitude toward company; whereas when the copy was short and had abstract information, it led the subjects to have more positive attitude toward company than the non-use.

Results of an analysis of variance on the consumer attitude toward product indicated the same significant main effects as the consumer attitude toward company. However, there was no significant interaction.

For the estimated price the ANOVA result demonstrated significant main effects of garment category and usage of strategically placed information about the garment. However, for the likelihood of buying, the ANOVA result revealed significant main effect of garment category only.

Even though the results of this study should be interpreted within the context of professional women and the product categories used, the results provide some valuable insights. The results suggest that firms engaged in catalog business need to become knowledgeable regarding their customer characteristics as well as which mode of product presentation is suitable for their products and target market. When catalog marketers match these factors, they have the greatest opportunity of enhancing their customers' attitudes toward company and products. These enhanced attitudes may in the long run be reflected in the increased sales.
Mobility is a key factor for clothing comfort and allowing the wearer to perform necessary functions; this is particularly important when health risks are involved. In the case of pesticide protection, hand protection is extremely important because the estimated dermal exposure occurring at the hands ranges from 80 to more than 90% of the total dermal exposure (Davis, 1980; Grover, et al., 1984; and Moraski & Nielsen, 1985). When the worker wears gloves, exposure is reduced by 27 to 50% (Maddy, et al., 1983; Nigg, et al., 1986). Workers, however, are not wearing gloves because of poor fit, loss of tactile sensation and loss of mobility (Tremblay, 1967). This report focuses on the kinematic analysis portion of a larger study. The purpose was to determine if protective gloves worn by pesticide applicators inhibit a worker’s movements while completing typical work tasks and to assess the usefulness of high speed cinematography as a technique for functional clothing design. High speed cinematography has mainly been used in qualitative and quantitative analysis of human performance (Ulibarri, 1984).

A kinematic analysis of the hand was completed using high speed cinematography to collect data of the participant tightening and un tightening a container cap and pulling the trigger on a hand-held spray gun. Three participants performed each of the tasks three times in both an ungloved and gloved condition. After filming, data reduction was performed by digitization; the digitized data was then transferred to ASCII format. Direct linear transformations were then performed on the data to yield three-dimensional data that were graphed. Comparisons were made of the data to see how the hand’s movements were altered when wearing gloves.

The findings indicate that protective gloves do inhibit the hand’s movements while tightening/untightening the container cap. Findings for pulling the trigger on a hand held spray gun indicated there was no difference in hand movement at the wrist between gloved and ungloved conditions, but differences may occur in finger movement. The findings also indicate that high speed cinematography is useful when trying to determine if clothing that follows the body’s contours alters/limits the body’s range of motion. It also appears that high speed cinematography could be useful to evaluate how design or material could affect body motion.


The purpose of this research was the development of an instrumented mannequin and exposure system capable of measuring the protective qualities of garment systems when subjected to flash fires. Protective clothing is worn by workers in many industrial settings, including the petrochemical industry where the potential fire hazard is high. Investigation of numerous flash fires has shown that workers are exposed to intense heat transfer (~50 kW/m²) for relatively short periods of time, typically three seconds or less. One method of evaluating protective workwear is to expose an instrumented mannequin to a similar, but controlled, flash fire and to assess the resulting potential skin damage using computer models when the local heat flux to the surface is known.

The objectives of the research were to (a) construct an adult male mannequin; (b) design and construct sensors which would permit skin burn damage to be estimated; (c) select appropriate skin damage models; (d) design and construct computer codes for conducting the tests, data storage, calculations of potential skin damage and graphic portrayal of results; and (e) design and develop a repeatable test apparatus and procedure which will simulate flash fires. Two main aspects of this developmental process are discussed: the development of skin simulant sensors with appropriate thermophysical properties and the mathematical modelling of skin damage.

Several thermophysical properties of human skin and the selected skin simulant are compared and the importance of both thermal inertia and thermal absorptivity are demonstrated. An important factor in burn injury is the destruction of the basal layer of the skin. In a typical heating and cooling cycle, the total time that the layer is above 44°C is important in assessing the potential damage.

The skin model used (Mehta & Wong, 1973) divides the skin into the normal layers and allows for blood flow through arteries and veins to the epidermis-dermis interface. The computer model, which employs a finite difference solution technique, divides each section of skin into a number of small spacings with varying thermophysical properties. Thus, the model includes a blood profusion rate, allows for varying thermo-physical properties with depth, and has the option to permit penetrating radiation to the outer layers.

Results of experimental tests of several protective garment systems at one heat flux level are discussed briefly to demonstrate the usefulness of the system. These garments offered varying levels of protection, but in each case a victim likely would have survived a similar exposure. The results were compared to thermal protective performance (TPP) ratings of the fabric layers making up the garment systems. TPP ratings of both single fabrics and two-layer assemblies were fairly indicative of the mannequin results. Nevertheless, small scale fabric testing cannot indicate the contribution of garment factors such as style, fit, types of seams, etc. Although such factors were not tested systematically for this project, evidence of the effect of garment design was found, for example, the protective effect of controlled ease in the upper back of coveralls.

Mannequin testing could predict more accurately the performance of garment systems comprising both protective and non-protective garments.

Reference
THE MEASUREMENT OF DYNAMIC MOISTURE VAPOR TRANSFER AT CLOTHING FABRIC SURFACES:

EFFECTS OF FIBER TYPE AND FINISHES

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Since it is well known that clothing comfort is determined to a high degree by fabric's transmission rate of sweat, many new product lines of fabrics are directed toward the excellent ability on the transmission rate of sweat. However, the measurement techniques of fabric moisture properties that are related to actual wearing conditions have not been well established.

Depending on the amount of sweat produced, the mechanism of the sweat transmission could be grouped as two categories, i.e., vapor or liquid water transfer. The scope of this presentation is limited to the case that vapor transfer of sweat through clothing fabrics is the major mechanism which appears at moderately sweating conditions. Under these conditions, it is often claimed that a fast water vapor transmission rate (w.v.t.) is equivalent to "the comfortable garment". A question, however, should be answered before we agree on the above statement, i.e., "What is happening at the skin-fabric interface?"

The subjective comfort sensation is more directly related to the dryness of inner surface of fabric than the total amount of sweat transferred through fabrics (w.v.t.) or the amount of moisture at the outside of the fabrics. Even if w.v.t. is the same between fabrics, the humidity conditions at the inner fabric surface could be varied depending on the chemical/physical nature of the fiber assembly (bulk fabrics). The point to be considered for the comfort sensation is rather the contact surface of the fabric to the skin than bulk of the fabrics or outer fabric surfaces.

In this study, Clothing Hygrometry (Hong, Hollies & Spivak, 1988), which is known to be suitable to measure the humidity of the surface in a confined space such as skin-fabric-environment system, was adopted and improved to elucidate the moisture concentrations at both fabric surface inner and outer separately. The effect of fiber type and finishes on the both fabric surfaces was investigated in dynamic modes. Non-functionally finished cotton & polyester series, functionally finished cotton & polyester series and vapor permeable water repellent fabrics were tested on the simulated sweating skin equipment installed inside of the conditioning chamber.

The summarized results are as follows:

1. In pure cotton and polyester fabrics, the mode of changes in % R.H. at both fabric surface are in the same trends, i.e., the higher the amount of moisture at the outer fabric surfaces, the higher the amount of moisture at the inner surface. Cotton fabrics are drier than polyester fabrics at both surfaces.

2. Generally speaking, the finishes delayed the moisture transfer from inside to outside of the fabrics. Depending on finishes, the mode of changes in % R.H. at both fabric surfaces are different.

3. Two types of vapor permeable water repellent fabrics indicated very different modes of water transfer at both fabric surfaces.

From these results, it is noted that changes in moisture concentrations at both fabric surfaces should be measured separately to evaluate the moisture related comfort properties of fabrics. Moisture related information from outer fabric surfaces or w.v.t. would not always predict humidity conditions at inner fabric surfaces correctly. Wear tests using garments made of some of these fabrics were also conducted. The results supported the fabric tests on the simulated sweating skin equipment.

REFERENCE
Fabrics that allow vapor transmission but not water transmission were, until recently, few and far between with Goretx leading the forefront of high tech fabrics. Innovations in fabric coatings, synthetic film laminates, and microfiber technology have now resulted in the emergence of a variety of vapor permeable fabrics that resist water penetration. However, the surface characteristics of such fabrics vary tremendously making their acceptance by consumers of apparel products in which these fabrics are used difficult to predict. The purpose of this investigation was to examine potential consumers' satisfaction with the hand of selected vapor permeable/water resistant fabrics for use in a particular apparel product utilizing their own language of perception as recommended by Hollies (1989).

Twenty-five females with a mean age of 20 and enrolled in an advanced textiles course served as the subjects. They were presented with the problem of evaluating the fabric hand of seven candidate fabrics, one of which would be selected for use in the manufacture of a rain jacket in a line of women's sportswear. Before the candidate fabrics were presented, the subjects were asked to generate a list of attributes they thought the fabric for such an apparel product should possess in terms of how it feels to the touch. The language of perception/performance defined by the subjects included: lightweight, smooth, soft, thin, warm, cool, flexible, and dry. Those attributes then served as the criteria by which the seven fabrics were evaluated using a nine point satisfaction scale.

Significant differences between the fabrics were found as determined by ANOVA (p < .0001). Pairwise comparisons revealed three groups of fabrics that differed from each other at the .05 level of confidence: 1) Supplex® 1, VersaTech ST® Layla®; 2) Goretx® (ripstop) and Ultrace®; 3) Goretx® (poplin), Goretx® (ripstop) and Ultrace®. Examination of the means revealed that subjects were most satisfied with the hand of those fabrics in Group 1 above and least satisfied with those in Group 3. Further analysis of the data revealed that the attributes of smooth, lightweight, thin and flexible contributed the greatest to the overall satisfaction of fabric hand.

The ultimate success of apparel products in the marketplace is determined by consumer purchase behavior. The way that a fabric feels to the touch, feels against the skin, and the comfort that a fabric affords the wearer, are all important criteria to the consumer and often the criteria by which apparel products are accepted or rejected. Utilizing the users' language of perception in assessing those attributes deemed important by the wearer, especially in the area of fabric hand, will lead to greater efficiency in product design and greater satisfaction to the ultimate consumer.

A STUDY ON KOREAN CONSUMER LIFESTYLE AND CLOTHING EVALUATIVE CRITERIA

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Lifestyle has been considered as an important concept in consumer behavior studies. As Korean society goes through rapid industrialization, Korean consumer lifestyles are also changing rapidly, influencing consumers’ clothing evaluative criteria.

This study was conducted to find out the relationship between lifestyle and clothing evaluative criteria. Clothing evaluative criteria and consumer lifestyle were studied separately, and then the relationship between the two was examined.

The research problems defined for the study were: (1) to construct a framework for clothing evaluative criteria; (2) to segment consumers according to their lifestyles; and (3) to determine the differences in clothing evaluative criteria among the lifestyle segments. A questionnaire was administered to housewives living in the Seoul area in Korea, and the responses from 640 subjects were analyzed.

The first research problem was approached through a literature review and empirically. Clothing evaluative criteria were found to exist at three different levels - benefit level, element level, and intermediate level. Benefit level criteria were benefits consumers seek in the final product, such as prestige or ease of care. Element level criteria were design and material elements that constitute product characteristics, such as color or fiber. Intermediate level criteria were the characteristics determined by the elements, and determine the benefits, such as design characteristics that symbolize prestige or washability. The benefit level criteria consisted of fashionability, status symbolism, practicality, and economy.

For the second research problem, consumer lifestyle segmentation was carried out in two steps. At first, the responses to the lifestyle items were factor analyzed, and the following six underlying factors were found: leisure, appearance, self-confidence, traditionalism, saving, and wealth. Then, the subjects were grouped according to their factor scores by cluster analysis technique. Five lifestyle types were defined: Achievement-oriented, Active-leisure, Material-oriented, Conservative-frugal, and Passive-stagnant.

As for the third research problem, differences in the clothing evaluative criteria among the various lifestyle segments were studied. At the benefit level, significant differences among the lifestyle segments were found. The Achievement-oriented type attached most importance to fashionability and status symbolism, and least to practicality and economy. The Material-oriented type also attached high importance to fashionability and status symbolism, and low to practicality and economy, but not as extremely as the Achievement-oriented type. On the other hand, the Conservative-frugal type and the Passive-stagnant type attached most importance to practicality and economy, and least to fashionability and status symbolism. The Active-leisure type attached importance to all dimensions at moderate levels. The results of discriminant analysis showed that the most discriminating variable against the five lifestyle types was fashionability, and status symbolism and economy were second and third, respectively.

When the importances of the element level evaluative criteria were compared, all lifestyle types agreed that style was the most important, followed by color, fabric, design, and notions in descending order. These results showed that consumers use different clothing evaluative criteria according to their lifestyle types at the benefit level, but not at the element level. They indicate that design and material elements should be used differently for each consumer segment to meet the benefits they seek, but with equal importance for all segments. It also indicates that lifestyle is a valid criterion for market segmentation and should be grounds for establishing marketing strategies for women’s ready-to-wear clothes.
Purpose. This study investigated the retention of a traditional Chinese adornment pattern, wearing jade and gold jewelry, by Chinese in America. Within traditional Chinese culture, jade has been worn as a symbol of luck and protection while gold has been associated with status. Both jade and gold jewelry are given as gifts by family and friends in the Chinese community to mark important events such as births, birthdays, and weddings.

Method. Based upon the observations of a female Chinese focus group (n=4), an interview instrument was developed and given to 20 English-speaking Chinese adults. From their responses, a survey instrument was developed in English and translated to Chinese. Questions focused on wearing jade and gold jewelry including wearing frequency and acquisition method (inherited, gifts, purchased). A 5-point Likert scale (5=strongly agree, 3=neutral, 1=strongly disagree) was used to identify reasons for wearing jade and gold: aesthetics, luck, tradition, protection, status, or to express ethnic identity. Demographic information for gender, age, language, residential homogeneity, and ethnic identity were collected. A male and female sample (n=157) included students (n=45) from a large West-coast urban university and adults (n=112) from Chinese community associations in the same urban area. Correlations were done for the six reasons for wearing jade and gold jewelry.

Results. The largest percentage of respondents were aged 18-25 (62%), spoke both English and Chinese (58%), lived in a neighborhood of medium Chinese homogeneity (38%), and identified themselves as Chinese American (52%). About 42% of the sample identified themselves as Chinese, lived in high Chinese density neighborhoods (22%), and spoke Chinese only (20%).

About 19% of the sample wore jade daily, 27% wore jade frequently or occasionally, 54% seldom or never wore jade. Over half the sample wore gold daily; about 17% seldom or never wore gold.

Gifts were the most frequent acquisition source for both jade (63%) and gold (78%). About 46% inherited and 17% purchased the jade they wore while about 53% inherited and 55% purchased the gold they wore.

The largest percentage of respondents either agreed or strongly agreed that they wore jade because of tradition (56%) followed by luck (49%), ethnic identity (38%), and protection (35%). Most agreed that they wore gold for status (50%) and tradition (40%) and either disagreed or strongly disagreed that they wore gold for protection (42%). They were more neutral about wearing gold for ethnic identity (43%).

Significant correlations indicated that respondents who wore both jade and gold jewelry did so because of status, aesthetics, protection, and ethnic identity. Respondents who wore jade because of tradition also wore jade for luck and ethnic identity. Those who wore gold for luck also wore gold because of tradition, protection, and ethnic identity. Those who wore gold for ethnic identity also wore it because of tradition and status.

Implications. Traditional adornment patterns are being retained by Chinese in American including gift giving and the reasons why jade and gold are worn. The higher frequency for wearing gold over jade, especially for status, and purchasing gold to wear may indicate gold jewelry has greater importance in the Chinese community. These findings may reflect a more fashionable aspect of gold over jade jewelry; this warrants further study. The extent to which jade and gold adornment is retained may indicate the strength of traditional patterns among these Chinese adults.
DRESS AS A SYMBOL OF HMONG AMERICAN ETHNICITY

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The purpose of this study was to develop a conceptual definition of ethnic dress using Hmong American dress as a case study. It is a contribution to the examination of the terms we use to designate "dress of the other" in our literature (see Baizerman, Eicher & Cerny, 1989) and to the study of the relationship of dress to ethnic identity (see Forney & Rabolt, 1986).

In the Lao homeland the substyles of Hmong dress indicated membership in specific regional subgroups. In urban immigrant communities in the United States Hmong American adolescents draw freely from the dress associated with all the Hmong subgroups when they create their costumes for the New Year celebration. While adolescents are aware of the costume of their own subgroup, they nevertheless wear the dress styles of the other groups either in combination or as complete ensembles. Using Sarna's (1978) work on American ethnicity this transformation of regional substyles into a cohesive Hmong American style can be interpreted as symbolic of Hmong American ethnicity. Sarna argues that immigrants are discriminated against based on boundary lines ascribed by American institutions and power structures. The externally ascribed boundary imposed on the immigrant group is internally accepted and celebrated, according to Sarna, through creation of symbols of ethnic cohesiveness. Thus fragmented immigrant groups become cohesive ethnic groups by accepting and eventually symbolizing externally drawn ethnic boundary lines.

Data were gathered over a two year period in a variety of contexts including two public celebrations of New Year, high school classrooms, and home environments. Fieldwork techniques included participant observation, interviews and photography.

A continuum for analyzing dress marking opposing cultural identities is proposed. Using Comaroff's (1987) distinction between totemic and ethnic social classification, the continuum stretches between dress expressing symmetrical totemic relationships between structurally similar groups to dress expressing asymmetrical ethnic relationships between structurally dissimilar groups. It is proposed that regionally distinct Hmong dress styles worn in Lao villages marked totemic differences between the Hmong subgroups. In contrast, Hmong American style dress worn to the New Year celebration marks an ethnic boundary between the Hmong and outside more politically and economically powerful groups.

References


The Process of Westernization:

Korean Women in the Acculturation Period of 1945-1962

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In the twenty-five years following World War II, Korean women virtually abandoned the traditional hanbok in favor of western-style dress. This study searched for the reasons behind this rapid change and the patterns of adoption by analyzing the reactions of Korean women who adopted western-style dress in the post-World War II acculturation period of 1945-1962. The anthropological concept of acculturation provided the theoretical base. Of mankind's basic needs, food, clothing and shelter, clothing represents the first and most visible step in cultural adaptation. Their adoption of western clothing reflected Korean women's cultural adaptations from centuries-old Eastern traditions to the broader world view of the latter part of the twentieth century.

Using oral history methodology, and in their native language, the researcher interviewed twenty-one Korean women over fifty years of age, now living in the United States, to assess their responses to a set of nine questions designed to plot the course of adoption from hanbok to western clothing. Questions and conversations addressed such factors as national religious and familial traditions, ethnic identity, education and socio-economic status, age at the time of adoption, first point of personal contact with western dress, peer pressure, sources of western clothing, color choices, physical and psychological acceptance, conformity.

By considering acculturation as the framework for understanding the different reactions of Korean women, we found that the dramatic change was influenced by two major factors, age and educational background.
Isolation, purification and concentration of textile dyes are tedious, time-consuming, and often expensive procedures encountered by textile scientists. Typical dye recovery and concentration procedures include (1) extraction of dye from a material, (2) concentration by heat evaporation, and (3) analysis. This sequence is not applicable to all textile dyes because some dyes are unstable to evaporation by heating.

This report describes a simple and direct method for concentrating dilute solutions of water soluble dyes without the use of heat. Freeze concentration of direct, acid, basic and reactive dyes was accomplished by subjecting dye solutions to a temperature of \(-10^\circ\text{C}\). Concentration of dye occurred when its solvent (water) was frozen at a temperature below the melting point and above the eutectic point of the solution. As freezing progressed, the dye collected in the center of the vessel in a spheroidal liquid pocket surrounded by ice. The concentrated form of the dye solution was then drawn from the vessel by inserting a hypodermic needle and syringe into the liquid pocket.

One freezing cycle was found to concentrate a dye solution up to 500%; three repetitive freezing cycles concentrated the dye 13,000%. It was found that the higher the water solubility of the dye, the lower the ability to concentrate during freezing. The rate of freezing was found to be independent of molecular weight of the dye.

Freeze concentration of other substances commonly found in dyebaths, such as sodium chloride, produced a concentration of 700%, detergent solution (sodium dodecyl sulfate) concentrated 400%.

The procedure described above is a useful method for concentration of water soluble dyes, particularly heat labile dyes. It requires only a beaker and a freezer. Since volumes as small as one milliliter can be conveniently processed through this technique, freeze concentration could be of utility to the analysis and characterization of very dilute solutions, including dye identification on an analytical scale for textile science, historic textiles, food, pharmaceutical, cosmetic, and forensic applications.
Textile product failure due to incorrect care labels resulted in a survey by the International Fabricare Institute (IFI) which collected data on problem garments as well as consumer concerns with care labeling (Anonymous, 1988). Beginning in 1988, data was collected and forwarded to the Federal Trade Commission. Although the data has shown higher product failure in imported than domestic items (Kapesis, 1989), the lack of care labeling accuracy was not determined until after the product had actually failed when cleaned by the method specified on the label.

Another approach to this issue would be to survey care labels found in garments in terms of compliance with the Care Labeling Rule. The purpose of this research, therefore, was to conduct content analysis of care labels to determine the accuracy of care label information available to consumers.

Care labels and fiber content labels were surveyed over a three-year period. Data for 1139 samples in six clothing categories: women’s slacks, blouses, or sweaters; or men’s trousers, shirts, or sweaters, were collected from discount, department, and specialty stores. Chi-square analysis was conducted to determine whether statistically significant differences could be found in labeling on the basis of country of origin. Differences before and after the 1988 care label campaign were also determined. Several of the findings follow.

In all store categories, the number of samples with washing instructions alone was greater than those having dry-cleaning or a combination of washing and dry-cleaning instructions on the same label. No significant differences in post-1988 labels that were specific to store type were found. Discount stores showed an increase in the number of samples with dry-cleaning or a combination of washing and dry-cleaning instructions on the same label. Department stores showed a decrease in the number of dry-cleaning labels and an increase in the number of labels with a combination of washing and dry-cleaning instructions.

Specialty stores showed a decrease in both the number of dry-cleaning and combination of washing and dry-cleaning labels.

Laundering temperature was more frequently not specified on imported items after 1988. This does not necessarily indicate noncompliance since the temperature does not need to be specified if regular use of hot water will not harm the product (Bureau of Consumer Protection, 1984). Labels specifying cold laundering temperatures were more likely to be found on imported items, while those specifying warm laundering temperatures were more likely to be found on domestic items.

Prior to 1988 there was no significant difference between domestic and imported items in bleaching warnings. After 1988 there was a significant difference in that labels on domestic items were more likely to specify the use of no bleach compared to the use of nonchlorine bleach on labels on imported items.

Although there were significantly more incorrect labels on imported items regardless of when the labels were surveyed, the number of incorrect labels on domestic items decreased after 1988. Incorrect labels included those that lacked country of origin information as well as those that specified more than two methods of laundering.

References
Starch as a Renewable Finish to Improve Pesticide-Protective Properties in Conventional Workclothes


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Because many pesticide handlers wear and reuse conventional workclothes, a renewable fabric finish that enhances the pesticide-protective qualities of these garments is needed. Starch is a potential polymer for pesticide encapsulation and a well-established laundry aid. Starch adheres well to cotton, is biodegradable, inexpensive, familiar to most consumers, and can be strategically applied to garments or garment areas that experience intense or repeated chemical exposure.

The effects of starch and three other finishes on the retention and distribution of methyl parathion (MeP) on 65% polyester/35% cotton fabric were studied. Starch and carboxymethyl cellulose (CMC) are renewable finishes; durable press resin (DP), and carboxymethyl cellulose/durable press (CMC/DP) are durable finishes. Treatment with a 4% starch solution, to attain an average 8% (w/w) add-on, effectively reduced the area of contamination when 10uL of MeP was applied. Gas chromatography and x-ray microanalysis showed that starched samples retained less MeP after laundering than did the samples finished with CMC, DP, or CMC/DP. Starch did not alter the distribution of MeP on laundered fabrics; starch did lower the concentration of MeP within the cotton fibers and on the cotton fiber surface.

Using fabrics of 100% cotton and 65% polyester/35% cotton, radiosotope studies compared the MeP retention of starched and unstarched samples before and after laundering. Starched 65% polyester/35% cotton fabric retained less MeP than the unstarched, while no differences were observed for 100% cotton fabric.

Penetration studies measured the MeP that passed through starched and unstarched denim. Starch had no measurable effect on pesticide penetration through denim, but data are inconclusive because other fabric weights and weaves were not examined.

The wicking rates and air permeability of starched and unstarched denim were also measured. A t-test on wicking means (warp and weft combined) determined that starched denim wicked water almost four times further than unstarched denim. Starched fabric did not show the differences in wicking between warp and weft that were observed for untreated fabrics. The t-test results for air permeability showed a significantly higher rate of air flow through the starched denim.

An AATCC crockmeter method to test colorfastness was adapted to simulate the rubbing of contaminated fabrics against another surface. Recovery of the radiolabelled MeP by liquid scintillation found that the starch finish reduced the pesticide transfer from 100% cotton fabric, but had no effect on the transfer from the 65% polyester/35% cotton blend.

These investigations support the theory that starch can act as a pesticide trap on the fabric surface to reduce the area of contamination, to increase pesticide removal by laundering for some fabrics, to reduce pesticide concentration on cotton fibers after laundering, to reduce pesticide transfer by rubbing from 100% cotton fabrics, and to enhance thermal comfort through increased air permeability and wicking. The authors caution, however, that additional studies on fabric parameters, other pesticides, and field use are needed.
A Forensic Investigation into the Cause of Fabric Damage

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This research was carried out to present experimental scientific evidence before an Australian Royal Commission of inquiry into a murder conviction. A mother had been convicted of murdering her 9 week old child. The body and murder weapon were never found. The mother claimed that she saw a dingo leaving the tent at their camp site with something in its mouth. Seven days after the child's disappearance, three out of the four clothing items were found 4 km from the camp site. No saliva was detected as the outer garment was still missing. The fabric damage played a very significant role in the conviction. The textile scientific evidence was based mainly on the scanning electron microscopic (SEM) examination of the severed yarn ends (X20-X60) and fiber ends (X100-X1000). Experimental evidence was presented at the trial to suggest that the fabric was cut and not torn, and that the fabric was cut by scissors. No SEM micrographs of canine damaged fabric were presented. Experts expressed the opinion that canids were incapable of cutting textile fabrics with their teeth.

The objectives of this investigation were first to determine if canids could cut fabric with their teeth and, if so, to establish a series of comparative characteristics to distinguish between fabric damage caused by canids and sharp instruments (scissors and knife). The characteristics of canine damaged fabrics have not been studied previously in an experimental situation.

This study has established that canids can shear as well as tear textile fabrics. The results illustrated that both canine and carnassial teeth were capable of shearing fabrics. Eight out of the 17 canine characteristics were similar to scissor shearing while only 2 out of 10 (that applied) were similar to tearing. Furthermore, 7 of the 17 were dissimilar to scissor cut fabric while 8 of the 17 were dissimilar to a knife slicing action. These results were based on over 90 experimental specimens. Both woven and knitted fabrics were used in the study. These findings did not support the expert opinions which were based on fabric characteristics resulting from dog attacks.

The observations made during this investigation have suggested that SEM micrographs of severed fiber ends should be viewed with considerable caution in attempting to identify the type of implement creating the damage as a significant overlap was observed in the fiber end appearance of canine, scissor or knife severed fibers. Forensic scientists appear to be placing too much emphasis on SEM techniques when examining damaged textile structures. This study has highlighted the fact that forensic scientists need to appraise both the macro and micro aspects of textile fabric damage. The combination of a low power optical stereo-microscope (the macro) and the scanning electron microscope (the micro) should be used to view fabric damage as both systems would yield valuable information.

This research has demonstrated that the textile properties, the force applied, the direction of severance and the implement creating the damage all contribute to the resulting appearance, and should not be considered in isolation to one another.
INTERPRETING THE MEANING OF CONSUMER PERCEPTIONS OF CLOTHING QUALITY

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Some researchers consider quality to be nothing more than how a consumer judges a product in terms of its functional benefits. Others view product quality as a perceived attribute rather than an overall evaluative judgment. Still others suggest that the only way to understand the meaning of quality from the consumer's perspective is to evaluate the concept in everyday language. Research on perceived quality of clothing and textiles products has explored the effects of intrinsic, extrinsic, or a combination of information cues on the perception and evaluation of quality. Recently the meaning of clothing quality from the consumer's perspective has been assessed and the concept found to be multi-dimensional. Expectancy disconfirmation theory (Oliver and Bearden, 1985) suggest that expectations serve as a frame of reference about which evaluation of product attributes take place. Therefore, it is believed that expectations serve as a reference point around which quality is assessed. The purposes of the research were to, 1) determine if the concept clothing quality is found to be multi-dimensional using a hermeneutic approach to interpreting its meaning when given in the everyday language of the consumer, 2) determine expectations relative to each dimension, and 3) assess the appropriateness of the hermeneutic approach to interpreting the qualitative data obtained.

Three semi-structured focus group interviews, consisting of a total of 29 individuals, were conducted in which consumers were asked questions relative to the meaning of clothing quality. Since meaning is context and culturally bound a hermeneutic stance in interpreting the text was taken in which meaning was interpreted within the context of the interview narrative. The methodology consisted of developing a reading guide to structure a way of reading and interpreting the text, having the text read by three interpreters, the completing of summary worksheets by the interpreters and, the use of a coding typology based on the presence and dominance of the dimensions and the expectations associated with the dimensions. Such categorization permitted the researchers to ascertain degree of agreement among interpreters.

Results of the interpretative method substantiated the multi-dimensionality of the concept clothing quality and the five dimensions were more clearly defined than in previous research (O'Neal, 1988). The dimensions consisted of physical, performance, connotative, affective, and aesthetic attributes. Expectations relative to each attribute were identified. When viewed in terms of expectancy disconfirmation theory, perceptions of clothing quality are based on the degree to which the clothing object conformed or deviated from expectations. The interpretative method used was deemed reliable in that agreement in interpretation of the text was evidenced by agreement in underlined parts, summaries captured by worksheets, and interpretations of expectations.


Handcrafts are an important source of income in the rapidly changing economies of the third and fourth worlds. Handcrafts provide income essential to meeting the subsistence needs of millions of families. Historically, handcrafted items fulfilled daily needs within the craft producers' community. Today, mass produced items are replacing or have replaced handcrafts. Economic necessity is forcing craft producers to seek new markets with nontraditional consumers. One potentially lucrative market available for handcrafts is the handcraft export market. In 1983, craft exports from developing countries were $US 8.45 billion. The estimated total market for handcraft exports may be as large as $US 25 billion. The development of a sustained export market could provide craft producers with a continuing source of income and the craft producers' country with a source of foreign exchange.

Marketing research has identified consistent product quality as an essential component for building a sustained market through consumer loyalty and repeat purchases. Previous research and quality assurance models have focused on manufactured goods, rather than on handcrafts. Rao (1985) developed a model that identified the components of quality assurance and the relationship of the components to each other. Because no handcraft quality assurance models were found, Rao's model provided the framework for examining the quality assurance practices as applied to textile handcraft production.

Teotitlan del Valle, Oaxaca, Mexico, was selected for the study of craft producers who have developed international export markets. Historically, Teotitlan produced textiles, known as sarapes, for local use and local trade. During the last 30 years, increased tourism in Oaxaca provided an opportunity to shift from sarape production to the production of hand woven rugs and wall hangings. In recent years, some entrepreneurial textile producers have developed, sustained and expanded the production of these textiles for export markets.

Purpose of this study was to examine the quality assurance practices used by Teotitlan textile producers who have developed and sustained export markets. To understand the quality assurance practices, workshop observations and in-depth interviews were conducted during intensive field research January-May 1988. Purposive sampling was used to select the 27 major production households identified in Teotitlan. Qualitative methods, such as content analysis, were used to identify quality assurance practices.

All producers had clearly defined quality standards for yarns, yarn counts, and weaving based on the targeted export market. The two export markets were the "mass production market" and the "art gallery market." Quality assurance practices common to all producers began with the selection and inspection of component materials and extended through the inspection of the finished products. Specific practices included training weavers to meet the required skill level, supervising the dyeing of yarns to insure colorfastness and color uniformity, supplying measured quantities of dyed yarn to weavers, and inspecting each completed textile for defects. The quality standards developed for mass market items focused on maintenance of product similarity with products targeted for low to moderate wholesale prices. Producers stated that quality standards for mass production were maintained by selecting low twist commercial yarns, standardizing sizes, knowing the quantity of yarn needed for specific target prices, and by weighing the finished product. For the mass production market, 18 producers (67%) standardized designs and colors to meet quantity export demands. Items produced for the art gallery market included high twist hand spun yarns, higher yarn counts than mass produced items, and design individuality.

A comparison of Teotitlan producers' quality assurance practices with Rao's model identified many similarities in the areas of product development and manufacturing strategies. The similarities have implications for application of manufacturing models to handcraft production.

Retailers are aware of the increased demand for quality merchandise today. Understanding quality perceptions is the first step in providing consumer satisfaction with apparel. This study sought to determine how consumers perceive apparel quality, what problems they have with apparel, and the characteristics of the consumer who seeks high apparel quality.

Method. A sample of 183 women who belonged to women's organizations or taking community college classes completed a questionnaire. Ages ranged from 20-70 and were evenly divided among ten year intervals; over 40% were employed; average income was $40,000. Independent variables consisted of age, income, and education of respondents, and country of origin (USA or Orient) of the majority of their clothing purchases. Dependent variables included: 1) 22 attributes representing possible quality indicators in clothing, and 2) 10 clothing problems. Correlations and t-tests were performed.

Results. The majority of the sample defined quality of apparel by construction features. Plaids matching at seams had the highest mean score (indicating perceived quality), followed by even hems, well-stitched seams, seam finishes, secure buttons, and lining inside the garment. The most important attribute related to fabric was not stretching out of shape, followed by does not pill, does not shrink, and does not fade or wrinkle. For garment features, comfort was most important. Price, style, easy care, designer label and dry clean only were considered relatively neutral indicating these do not necessarily define high apparel quality for the respondents. Mean scores for fiber were also neutral; however, garments made of natural fiber blends and natural fibers only received the highest mean scores within this group followed by blends of natural/synthetic fibers, blends of synthetics, and synthetics only. The priority given to construction features to define apparel quality supports other studies in the literature. 

Correlations between quality attributes and age, education, and income indicated that age significantly correlated more often with quality indicators. Older respondents saw care, comfort, and fabric does not wrinkle, fade or shrink as indicators of higher quality, while younger respondents identified natural fibers, high price, and dry clean only as quality indicators. Education and income showed some relationships with quality attributes.

Mean scores indicated that respondents sometimes experienced the quality problems listed in the survey. The largest problem was buttons popping off, followed by fabric pilling, and looking old and limp after wearing or laundry. Significant correlations indicated that older and more educated respondents experienced fewer problems than those younger and less educated. t-tests indicated that respondents had more quality problems with imports than domestic apparel.

Implications. Retailers and manufacturers must be aware of how consumers are perceiving quality in apparel and what quality problems exist if they are to meet consumer needs. This study indicated that younger and older consumers have different perceptions of quality. The younger and less educated have more problems indicating consumer education programs both in schools and sponsored by retailers or manufacturers are important.
The perception of quality may involve evaluation of a product's many attributes or cues. Intrinsic cues, including aesthetic, care, and performance components, have been found to serve as primary criteria in the evaluation of perceived quality of apparel. However, in previous studies of perceptions of quality of apparel, aesthetic cues presented in stimuli or questionnaires have been measured only generally or held constant. The present study is an exploratory attempt to find relationships among intrinsic characteristics, including a variety of aesthetic cues, that the consumer may consider while judging quality during an apparel purchase decision.

Method. Subjects consisted of a convenience sample of female students at a midwest university. Personal data revealed a high degree of homogeneity of subjects on measures of age, college major, marital status, and home state. Stimuli were nine pairs of women's pants, lent by Spiegel, that included a range of styles with simple to complex styling and surface designs. Construction techniques, care requirements, and fiber content also varied. Price and brandname varied but were masked from view as they are extrinsic cues, outside the focus of this study.

Seven-point Likert type scales were employed to measure subjects' evaluations of garment features, including style elements, fiber content, care, fashionability, and uniqueness. Garment feature terms were gleaned from previous research of the apparel purchase process and aesthetic aspects of apparel. Global measures of liking, quality, and interest in buying were also included. In a laboratory setting, subjects rated each pair of pants on a separate set of the same scales in a repeated measures format. During evaluation, respondents viewed and touched the pants and observed the catalog photographs of the pants on models.

Results and Discussion. Principal components analyses with varimax rotation of all item ratings for all pants revealed three distinct factors. Aesthetic attributes were highly loaded items in each factor. Items defining the first factor, Layout, included evaluations of several components of shape, interaction of style with the body, fashionability, overall liking, and intent to purchase. The second Fabric factor included items related to textural qualities of fabric, use of fabric in the design, construction, and care. The third factor, Newness, contained two items related to novelty of style.

Factor scores and single item scales were entered into stepwise maximum R regression analyses to predict ratings of overall quality. For ratings across all pants, Fabric and Layout were best predictors of overall quality ($R^2=.64, p<.0001$), supporting the importance of aesthetic attributes in perception of quality. Regressions of perceived quality of individual pants indicated that Fabric explained the most variance in each equation. However, the configurations of additional predictor variables differed for each pair of pants; Layout was not an important predictor for each pair. Although we must take care in generalizing from this sample, the finding of unique sets of predictors of perceived quality of different pants suggests that consumers base judgments of quality upon composition of a garment. Apparel quality perception is a process in which consumers integrate complex combinations of product characteristics. Thus, researchers must understand the inherent limitations of univariate research designs in which one or two product cues are varied.
The U.S. apparel industry is a large, highly fragmented and highly price competitive industry. While this industry is comprised primarily of small businesses, there is great diversity in size ranging from huge companies like Levi-Strauss to small family owned businesses. Currently, the competitive environment can be characterized as predatory, given the fact that domestic demand for apparel consumption is constant and imports comprise well over 40 percent for many apparel categories in the domestic market.

Strategic planning focuses on the analysis of the competitive environment; its goal is to maximize corporate strengths, minimize corporate weaknesses and enable a firm to maintain a competitive edge by adapting itself to the environment. Past research has linked superior financial performance to application of the strategic planning process (Rhyne, 1986; Chakravarthy, 1986).

No research was identified that examined strategic planning within the U.S. apparel industry. The purpose of this research was to assess the extent to which strategic planning is used within the apparel industry and to identify differences in the attitudes toward selected business strategies (i.e. Quick Response, automation, etc.) between short range and strategic planners.

A self-administered mail questionnaire (adapted from Rhyne, 1986) was mailed to a stratified random sample of apparel manufacturing CEOs. The sample was selected from the American Apparel Manufacturer's 1988 Directory and American Business Directory. Eighty-nine usable questionnaires were returned.

Results indicated that 53 percent of the sample were strategic planners. Principle components factor analysis was used to analyze ten items regarding attitudes toward business strategies. Three factors with eigenvalues greater than one were derived from this analysis. Factor 1 was labeled Reactive (a tendency to take control of the environment); Factor 3 was labeled Quick Response (positive attitude toward Quick Response). These factors accounted for 59.4 percent of the variance. The sample was then divided into short range and strategic planners (independent variable). To minimize the chance of a Type I error, MANOVA with Hotelling's T statistic was used to test whether differences in attitudes (Factors 1, 2 and 3) existed between strategic and short range planners.

Hotelling's T statistic was not significant. This indicates that strategic and short range planners do not have significantly different attitudes toward reactive and proactive business strategies. One univariate F statistic (for the Proactive factor) was significant at the p<.05 level (3, 66 F=4.63).

Strategic planners had a more favorable attitude toward proactive business strategies (i.e. exporting) than short range planners.

Results of this research were unexpected; it was hypothesized that strategic planners would have a more favorable attitude toward proactive and Quick Response business strategies because their strategic focus is to adapt their business strategies to the competitive environment. Further research is needed to identify areas in which these two types of corporate planners may differ.


INFLUENCE OF BUYER CHARACTERISTICS ON RATINGS OF DECISION FACTORS

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This research investigated the relationship of buyer characteristics and ratings of merchandise factors, vendor factors and information sources. Sheth (1973) posits that buyer characteristics—lifestyle, role orientation, and specialized education—influence the decision making process.

A survey was mailed to 442 retail buyers 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 from Sheldon's Directory (1988). Two hundred twelve usable surveys yielded a 49.5% response rate.

Lifestyles were studied using Kahle's (1985) List of Values scale. Role orientation was measured using an adaptation of the Rizzo, House and Lirtzman (1970) role conflict and role ambiguity scale. Specialized education was studied by measuring level of formal education, years as a buyer, years in present position and years at present store. Likert scales were used to rate the importance of merchandise and vendor factors and information sources when making a purchase decision.

Factor analysis was used to identify the underlying constructs of each scale. Seven decision factors emerged: two merchandise factors (distinctiveness, quality), three vendor factors (dependability, negotiation, reputation), and two information source factors (personal, non-personal). Buyer characteristic factors included three lifestyle factors (belonging, self-esteem, excitement) and three role orientation factors (conflicting requests, resource conflict, clarity of behavioral requirements). These factors were consistent with previous research.

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Buyer characteristic factors were related to decision factor ratings. In most cases, the decision factors had significant positive correlations with all of the lifestyle factors. Only two of the decision factors failed to follow this pattern. A few significant correlations were found between the decision factors and the role orientation factors. Analysis of variance revealed no differences in buyer ratings of merchandise factors and information source factors based on specialized education. However, differences were found for some of the vendor factors.

Results support Sheth's (1973) proposition that buyer characteristics have a significant influence on the decision process. Further research might focus on a predictive model of buyer characteristics and use of decision factors.

Industrial buying models (e.g. Sheth 1973) suggest that retail buying decisions can be affected by information sources. Previous research on this topic has been based on buyer's self-reports of their use of information sources (Francis and Brown 1985-86; Hirschman and Mazursky 1982). These self-reports are often poor surrogates for the actual decision-making process. Industrial buying models also suggest that retail buying decisions might differ by level of buying experience. Conjoint analysis, a method borrowed from decision-making researchers in psychology, was used in this research to meet two objectives: (1) to evaluate the effect of eight information sources on the purchase decisions of retail buyers, and (2) to compare the use of information sources by experience level. The conjoint method is superior to self-reports in that it more realistically models the decision-making process.

One hundred and twenty-seven buyers who were members of the Fashion Group International completed a research instrument administered by mail. A 2^8 mixed 1/16 fractional factorial design was used to create a set of 32 scenarios (16 scenarios with a full replication) in which buyers were asked to make purchase decisions. The scenarios were based on eight information sources varied at two levels, including sales representatives, articles in trade publications, buyers from other stores, customer requests, sales records, vendor ads, consumer magazines, and personal opinion. Sixty usable instruments were returned, yielding a 47% response rate.

Individual subject analysis of variance (ANOVA) and Hays' omega squared ($\omega^2$) were used to determine which information sources were used in the buyers' decisions and to assess the relative importance of each. The most important information sources were the buyer's own opinion and customer requests, followed by consumer magazines, sales records, buyers from other stores, sales representatives, articles in trade publications, and vendor ads. These results were similar to Hirschman and Mazursky's (1982), in that a buyer's own opinion was the most important information source, but were different from those of Francis and Brown (1985-86) in which the sales representative was the most important information source.

A two-way ANOVA, in conjunction with a Tukey test, showed that the more experienced buyers (buying for five or more years) relied on their own opinion more than did the less experienced buyers (buying for less than five years). This finding lends support to the Sheth (1973) model. Future research is recommended to compare the use of information sources by degree of perceived risk in the purchase decision.


Apparel retailers have begun using Electronic Data Interchange (EDI). EDI usage is expected to increase, yet limited information is available regarding the impact of these technologies on retail employees. The use of new technologies has been shown to alter employee role perceptions and may even contribute to role ambiguity and role conflict. Demographic characteristics of individuals have also been shown to influence role perceptions. Retail buyers are likely to be directly affected by the use of new technologies since their jobs require interactions with many components of the apparel complex. Phase I of this study focused on the influence of new technologies on role perceptions of retail apparel buyers (Summers, Williams, & Black, 1989). Buyers indicated they were experiencing little role ambiguity or role conflict and tended to be satisfied with their jobs and committed to their organizations. 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.

The purpose of Phase II of this study was to further explore the influence of new technologies on role perceptions of retail buyers by determining the effects of buyer demographic characteristics. The questionnaire used in Phase I also determined buyer workload, sales volume of store, buyer experience, years on present job, education, age, salary, and training program experience. Buyers in Phase I were identified through store contact, 90 questionnaires were distributed, and 51 usable questionnaires were returned. Data in Phase II were analyzed using frequency tabulations, a series of one-way analyses of variance, and Duncan's Multiple Range Test. 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. Analyses of effects of demographic characteristics revealed significant differences in certain buyers' role perceptions and perceptions of the influence of new technologies. Buyers with less than two years on the job and working for stores with sales volumes over $100 million experienced more role ambiguity. Role conflict was experienced by respondents with workloads of 6-10 stores, who were in stores with sales volumes over $100 million, and who had completed training programs. More job satisfaction and organizational commitment were shown when buyers had workloads of under six stores, were in stores with sales volumes under $100 million, and had not completed training programs. Means were significantly higher on Success through Computers for buyers in stores with sales volumes of $1 million to $100 million and who were between the ages of 20-30. Buyers in stores with sales volumes of $1 million to $100 million had significantly higher means on Computers Aid Business Realism. Buyers with two or more years on the present job had a significantly higher mean for Computer Performance, and buyers in stores with sales volumes of $1 million to $100 million had a significantly higher mean on Computer Confidence.

Demographic characteristics of buyers did influence their role perceptions and their perceptions of the influence of new technologies. Additional research is needed in other types of retail stores and with larger samples.

THE ANALYSIS OF TASK-RELATED MOVEMENT OF ASBESTOS ABATEMENT CREWS

AS A BASIS FOR THE DESIGN OF PROTECTIVE COVERALLS

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Graduate Student Paper Competition Winner

This research focused on the development and evaluation of a design for disposable protective coveralls used in the removal of hazardous asbestos from buildings. The frequent tears that occur in the coveralls, the large number of asbestos abatement projects in this country, and the seriousness of the asbestos hazard make effectively designed protective apparel for asbestos removal critical to the health of many workers and their families.

The research design was as follows:

1. Background research to define the problem and set design criteria: a review of literature; interviews with removal company owners, training personnel, and workers; a questionnaire on current practices for workers and supervisors; and observations of removal projects, worker training sessions, and training videotapes.

2. Data collection using a movement study of workers wearing coveralls, to identify areas of stress.

3. Design development resulting in a series of prototypes developed from the graphic data obtained from the movement study.

4. Prototype evaluation in which the prototypes were tested and judged using the design criteria set in the first stage of the research.

5. Design evaluation in which a laboratory test and a field test were used to compare the performance of the final prototype to that of a currently used coverall.

The movement study adapted a method developed by Crow and Dewar (1986) in which the location and direction of stresses caused by body movement were identified using slashed garments. In this adaptation a videotape record was made of five subjects who performed tasks typical of asbestos removal projects, while wearing a series of three coveralls, each slashed in a different orientation. With the aid of a computer drafting program the stresses observed in the videotape were recorded onto a flat pattern of the coveralls. Three sets of stresses resulting from the differently oriented slashes were superimposed on the computer screen, creating a comprehensive picture of all the stresses. This graphic form of the data provided a blueprint for pattern development of alternate designs.

The same slashing and videotaping process was used to evaluate the coveralls in a laboratory test, in which the performance of the redesigned coveralls was compared to that of the original coveralls. The redesigned coveralls were judged to accommodate movement better than the original coveralls.

Field tests were also conducted to compare the overall effectiveness of the two models. Seventeen workers at actual removal sites were assigned identically packaged coveralls of the original and the new design in an alternating order during two of their work shifts. At the end of each shift, workers rated the performance of each coverall. The new designs were rated significantly higher in lack of binding points, general fit, and overall function (paired t-test, 0.05 level of significance).

The movement study developed for this project produced graphic data easily translatable to design solutions, and would be a useful tool for research into other movement problems in apparel.

References

Evaluating Attractiveness in Apparel Design:
A Comparison of Chinese and American Consumers

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Aesthetic theory suggests that design is composed of a series of related elements. In evaluating design, consumers combine visual impressions of these elements to arrive at an overall judgement of attractiveness (Feldman 1980). The purpose of this research was to explore the effect of a set of design elements on consumers' evaluations of attractiveness in apparel, and to compare those evaluations in two cultures -- the People's Republic of China (PRC) and the United States (US).

The research method was conjoint analysis, a technique borrowed from decision-making researchers in psychology. In this approach, it is assumed that consumers make judgements by simultaneously evaluating and integrating multiple items in an array of information (Tull and Hawkins 1984). In this research, it was assumed that in judging the attractiveness of apparel design, consumers evaluate and integrate their visual impressions of elements of design.

This study was administered in January and February, 1990. Subjects were 25 faculty and staff members of a 4-year textile institute in the PRC and 25 faculty and staff members of a college of human ecology in the US. Subjects were shown slides of 40 pantsuit and 40 skirted suit designs, each of which had been created using a 2x2x28 1/16 fractional factorial design with full replication. The between-subject variables were country (PRC and US) and style (pantsuit and skirted suit). The within-subject variables were 8 elements of design, varied at two levels each. Subjects evaluated the attractiveness of each design by placing a slash along a 100 mm. continuum with ends marked "Not very attractive" and "Very attractive."

Individual subject analysis of variance (ANOVA) and Hays' omega square (W2) were used to analyze the effect of each element on the subjects' evaluations.

The results showed that the order of importance was: jacket length, silhouette of bottom, pattern of bottom, length of bottom, pattern of jacket, silhouette of jacket, color, and jacket detail. Post hoc ANOVA's showed that: 1) the elements of design were used differently by Chinese and American consumers, and 2) the elements of design were used differently in evaluating the pantsuit and the skirted suit. The results of Tukey tests demonstrated that: 1) length of jacket was more important to the Chinese, and the pattern of the bottom was more important to the Americans, and 2) silhouette of the bottom was more important in evaluating the pantsuit, and length of the bottom was more important in evaluating the skirted suit.

The results of this research contribute to the development of aesthetic theory. They also suggest that as the apparel industry becomes more global, designers, manufacturers, and retailers, must be sensitive to cross-cultural differences in aesthetic judgements.


Investigation of the Product Life Cycle of Man-made Fibers and Its Implication on Advertising Strategies

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Few marketing concepts have been so widely accepted or thoroughly criticized as the product life cycle (PLC), which views a product life consisting of introduction, growth, mature and decline stages. In spite of the weakness of the PLC concept as a predictive or normative model, the value of the PLC concept as a systematic framework for explaining market dynamics has been widely recognized. One of the most valued aspects of PLC is its role in the formulation of different marketing strategies. Previous research has found the empirical evidence that promotion and advertising strategies differ according to the stages of PLC. However, these studies have focused only on the size of promotion and advertising expenditures, while the relationship between the PLC and other promotion and advertising decisions has not been examined.

The main purpose of this study is to examine the changes in content as well as magnitude of consumer advertising on man-made fibers from the perspective of product life cycle. A product class such as man-made fibers has been suggested as the most appropriate unit of PLC analysis (Lambskin & Day, 1989). Four consumer magazines—Vogue, Cosmopolitan, Better Homes & Gardens, and Good Housekeeping—were selected for the study based on circulation rate. A total of 210 advertisements on man-made fibers was identified for content-analysis from the March and September issues of the magazines published in even years from 1950 to 1988. The period was selected to exclude the shock effects of World War II in fiber consumption. The variables from the content analysis included frequencies of advertisement, joint-sponsorship, type of joint sponsors, type of advertisement, fiber characteristics, frequencies of brand, company and generic names, and size of advertisement. Inter-coder reliability on the variables ranged from 85% to 95%. The PLC curve of man-made fibers was developed based on mill consumption and indicated three stages of PLC: introduction from 1950 to 1961, growth from 1962 to 1973, and mature stage from 1974 to 1988. As Levitt (1965) noted in the PLC's of other product classes, there was no sign of decline stage in the PLC of man-made fibers. Chi-square tests were applied to test the independence between the variables under consideration and the stages of the PLC.

The results indicated that there were more advertisements at the initial and growth stages than at the mature stage. Also, single sponsorship has decreased over the PLC. In the introduction stage, single-sponsored advertisements accounted for 70% of total advertisements, while in the mature stage, 61% of ads were joint-sponsored with minor emphasis on fibers. These findings were consistent with the previous studies reporting the declining importance/emphasis of promotion over the PLC. The content of the advertisements was dominantly emotional, and apparel companies most frequently co-sponsored the advertisements on man-made fibers throughout the PLC. Quality-related characteristics of fibers such as ease-of-care were more emphasized at the introduction stage; at the growth stage, style was emphasized more and at the mature stage, both were equally emphasized. Frequencies of brand names of fibers increased through the PLC, while no significant changes were found for company or generic names.

In summary, the study showed an empirical evidence of close relationship between the PLC and advertisement strategies of man-made fibers. It is also shown that PLC can be well used as a framework for industries or companies in developing successful marketing strategies.

References:
CHANGE IN RETAIL MARKET STRUCTURE AND THE CONSUMER'S VIEW OF VALUE:

IS THERE A RELATIONSHIP?

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Change in the apparel retail market structure is occurring at an unprecedented pace. During the 1980's, off-price stores, manufacturers' outlets, and catalogs experienced significant market share gains in the apparel product category while more traditional forms of retailing such as department stores lost market share (Kivestu, 1989). The purpose of this study was to explore the possibility of a relationship between these changes and consumers' perceptions of value.

How a consumer perceives the "value" offered by various retail stores is a major factor in the consumer's decision to patronize a particular retail outlet. According to the theoretical model of value as proposed by Zeithaml (1988), consumers attempt to maximize the tradeoff between benefit components and sacrifice components in the exchange process. Benefit components, according to Zeithaml, include intrinsic attributes, extrinsic attributes, perceived quality, and other relevant high level abstractions. Sacrifice components include monetary prices and non-monetary prices. Quality, as a major benefit component of value, and price, as a major sacrifice component of value, was the focus in the present study.

Data from interviews with 900 consumers throughout the United States were collected and analyzed in relationship to quality and price offerings for various types of apparel retail stores. Four-point Likert scales with "four" equivalent to excellent quality and "one" equal to poor quality were used. Perceived price was measured on a four-point scale with "four" equivalent to high price and "one" equal to low price. Consumers were asked to evaluate the quality and price of apparel sold through department stores, discount stores, off-price stores, manufacturers' outlets, catalogs, and television. The differentials between quality and price scores were statistically analyzed across each of the six retail types and related to market share gains or losses. Results indicated that while the overall quality rating for apparel sold through traditional department stores was rather high, the price rating was significantly higher. Thus, less than an ideal tradeoff between quality and price was found. In contrast, price scores were significantly lower than quality scores for off-price stores and manufacturers' outlets. Interestingly, the price offerings of apparel sold through catalogs were perceived to be significantly higher than quality offerings. While catalogs have experienced market share gains, most likely they attract customers on the basis of additional "benefit" components of value such as the convenience associated with in-home purchasing.

Implications from these findings suggest that, in the future, non-traditional retail forms such as off-price stores and manufacturers' outlets most likely will continue to experience market share gains as consumers seek value through maximizing tradeoffs between "sacrifice" and "benefit" components in the exchange process. Future studies including additional benefit and sacrifice components of the value model are recommended.


DIFFERENCES IN CLOTHING SATISFACTION AND STYLE AND FABRIC PREFERENCES AMONG SHORT, AVERAGE, TALL, AND BIG MEN

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The purpose of this study was to investigate differences among four groups of males (short, average, tall, and big) in terms of: 1) satisfaction with fit at specific body sites; 2) satisfaction with fit in ready-to-wear clothing; 3) satisfaction with availability of clothing; and 4) style and fabric preferences.

Data (n=269) were collected via a mail questionnaire sent to a national random sample of 1,430 subjects in April, 1989. The majority of respondents were in the 25 to 54 age category; median income was between $30,000 and $39,000; eighty-two percent had earned some college credit; sixty-nine percent were married.

Based on actual height and weight data the subjects were grouped into short (23%), average (39%), tall (27%) and big (10%) men. One-way ANOVA analyses on height and weight revealed significant differences among the four groups (F=47.8, p < .001).

The survey instrument items were structured using a Likert scale of 1 (dissatisfied) to 5 (satisfied) concerning satisfaction with fit, and 1 to 5 strongly disagree/agree for style and fabric preferences. A series of one-way ANOVA analyses were used to quantify differences among the four groups of male consumers. There were significant differences in levels of satisfaction with fit at the specific body sites of: neck, chest, stomach, arm length, waist, crotch depth, hip, thigh, and leg length. The big man was least satisfied with fit at all sites, followed by short men; average and tall men were the most satisfied with fit at all sites. Respondents were asked to rate their satisfaction with fit in four categories of ready-to-wear clothing: formal, casual, accessories, and t-shirts/underwear. There were significant differences in levels of satisfaction with fit in two of the categories among the four groups of men: casual wear and t-shirts/underwear. Again, big men were the least satisfied. There were significant differences in levels of satisfaction with availability of clothing in the subject's size among the four groups, with big and short men being the least satisfied. In style preferences there were significant differences among the four groups; with big men preferring more ease in the cut of their shirts and jackets, and tall men showing a preference for more closely fitted shirts and jackets. In fabric preferences the short man was significantly different from the other groups in his preference for solid color shirt fabrics and for a negative response to bright tie fabrics.

Results of this research show that there are problems concerning satisfaction with fit and availability of clothing in the subject's size among the two groups big and short. Fit problems reported by big men suggest that there is a need to change the sizing for this group by adding length to shirt and jacket fronts, and increased circumference in the chest area. There is a need for greater quantities of casual clothing and t-shirts/underwear to be manufactured in sizes appropriate to the big and the short populations. Just as the petite and the large sized female apparel markets had to be "discovered", possibly the short and the big apparel markets are being acknowledged for men.
Expectations of excellence and satisfactory performance for academics in clothing and textiles has changed in the last 20 years (McFarland, 1982; Tortora, 1981). It was the purpose of this study to determine 1) what are research and teaching expectations for the granting of tenure at four year institutions for textile and clothing faculty, 2) what are the standards for excellence for teaching and research, and 3) what are the grant and publication sources that are currently utilized in work by textiles and clothing faculty?

Questionnaires were sent to 180 four year institutions. There were 64 returned responses from 6 private colleges/universities, 15 land-grant universities, 32 state colleges/universities, 36 to 500 at the state college/universities, and from 20 to 325 at the state colleges/universities. Full time equivalent positions ranged from 1 to 6 at the private institutions, 2 to 18 at the land-grant universities, and from 1 to 11 at the state colleges/universities.

Teaching loads were the heaviest at the private colleges/universities ranging from 9 to 16 hours a term; the state colleges/universities ranged from 6 to 13 hours a term. The teaching loads at the land-grant universities ranged from 3 to 9 hours a term.

Questions were asked concerning the expectations for tenure. Most tenure expectations included teaching, research, and service. At four private institutions and seven state institutions (non land-grant) individuals were granted tenure without any in print peer review journal articles or in print proceedings. For the institutions reporting the granting of tenure to include in print peer reviewed journal articles, the average number of in print peer reviewed journal articles for individuals granted tenure was 4.6. The range was 1 to 12. The average number of in print proceedings articles was 3.7; the average number of presentations was 8.5. Excellence in research was generally defined as publishing peer review articles, grantsmanship, presentations, and the advising of graduate students.

Only one private college reported published articles. The land-grant institutions reported publications more frequently than other state programs. Eleven of the 32 state institutions reported journal publications. Respondents were asked to list the three journals in which the greatest number of articles appeared for five different textile and clothing subject matter areas. Those journals which were most frequently mentioned as publication sources were (listed in order of frequency of publication): Clothing and Textile Research Journal (3), Home Economics Research Journal (12), Dress (13), Textile Research Journal (9), Textile Chemist and Colorist (9), Perceptual and Motor Skills (5), Journal of Home Economics (4), Journal of Consumer Affairs (3), Journal of Home Economics and Consumer Studies (3), and Journal of the Textile Institute (3).

Teaching effectiveness was a tenure consideration at 96% of the institutions. Teaching evaluation instruments were utilized at 47 colleges and universities. Half of the institutions reported the teaching evaluation instruments as being very important in the determination of teaching effectiveness, and the remaining half reported their use as being varied or minimal. Other criteria which are utilized to determine teaching effectiveness included peer review, development of course materials, involvement in college and department activities, and professional involvement.

Questions were also asked concerning grantsmanship. Forty-six of the institutions had some type of research funding available on campus. Teaching and research assistantships were available at less than half of the institutions. The average number of RA's and TA's per program was 3.9.

Sources of off campus funding included: AHEA, AAMA, NSF, NEA, NEH, U.S. Army, Office of Naval Research, Rockefeller Foundation, Whittaker Foundation, and a variety of private companies.

Only 2 of the 15 land-grant institutions which responded did not have access to experiment station funds. AES appointments ranged from 8 to 50% of full time appointments. The average was 26%. The average dollar amount of support which accompanied the AES position was $8,000.

References


The issue of health and women's dress encouraged the reform of female dress practices during the latter half of the nineteenth century. One form of female dress affected by this issue was mourning dress. Late nineteenth century advice literature suggests that the healthfulness of mourning dress was a significant concern, one which may have contributed to its abandonment.

The objective of this research was to identify and describe the implications of perceived healthfulness on mourning dress prescriptions, 1880-1920. Women's magazines, etiquette books, and home hygiene manuals were consulted for information about the healthfulness of mourning and the possible implications for prescribed mourning dress.

The evidence suggests that the unwholesomeness of mourning dress, particularly of mourning "crape", was one of the key arguments against its use. Beginning in the 1880s, physicians condemned the use of mourning dress based upon its presumed physiological and psychological effects. According to one physician, "...persons who are in deep mourning, especially those who wear heavy folds of crape, often suffer serious depression and constant discomfort" (Wilson, 1885, p. 180). Physicians and advisors targeted English crape as a physical menace because of its dye and finish. Even though crape was reportedly improved in the 1890s, physicians continued to attribute pulmonary, skin, and eye diseases to its use.

The advice literature reveals that these health warnings had implications for prescribed mourning dress. Beginning in the 1880s, modifications were made in millinery and outerwear prescriptions to safeguard health. Changes were most obvious in the form and mode of wearing mourning veils. By 1910, wearing the crape mourning veil over the face was essentially outmoded.

During the 1880s, white collars and cuffs began to replace black crape trim on mourning dresses. This modification was made at first for hygienic reasons, but by the turn of the century, white accents were regarded as necessary in order to relieve the somberness of mourning dress (New York Fashions, 1899). Concern about the psychological effect of mourning dress upon the survivor and her family and friends continued to be an important issue throughout the period. Reaction to this concern in mourning dress prescriptions is suggested by increasingly fanciful designs in millinery and outerwear, emphasis on attractive mourning dress, and outright suggestions by advisors to discard mourning dress for the sake of family and friends.


The purpose of this paper is to explore the aesthetic components of dress reform in Germany and Austria, particularly the clothing promoted by architects, artists and designers associated with the "modern design movements" of Jugendstil, Art Nouveau and the Vienna Secession at the turn of the century. Much has been written about British and American rational dress reform which has been associated with various forms of the bloomer costume and the introduction of rational undergarments. And while there has been a flurry of interest in the aesthetic dress promoted in England and America, little has been written in English regarding the reform movements on the Continent. We know little about the feminist efforts toward reform and still less about the subject of this paper, artistic (aesthetic) dress reform.

In this paper I argue that artistic dress was a type of reform or rational dress and that this was especially true in Germany and Austria. The paper is based on evidence taken from contemporary nineteenth and twentieth century theories of dress written by respected members of the modern design movement -- Henry van de Velde, Josef Hoffman, Kolomon Moser, Adolph Loos, Alfred Mohrbutter, Peter Behrens, Anna Muthesius, Paul Schulze-Naumberg and Else Oppler. It also draws on reports of dress exhibitions and reform clothing that appeared in art and fashion journals (Dekorativ Kunst, Wiener Mode). Photographs, drawings and descriptions of artistic reform garments, as well as the researcher's observations of garments housed in museums also serve as supporting evidence.

I argue that while the aesthetic dress reform on the continent was greatly influenced by the British Aesthetic and Arts and Crafts movements, the actual style of garments differs from the British. The underlying philosophical issues regarding the need for artistic reform in women's dress appear to go beyond the need to free women from corsets and heavy clothing. Supporters of artistic dress believed in the aesthetic principle that beauty lies in the fitness of an object to its purpose. And they felt a need to create personalized beauty that could reflect an individual's soul, rather than the uniformity of current fashion. They also held the view that all objects in the environment of a house should be in accord, including the clothing. This placed dress, according to van de Velde, in the position of being comparable to works of art. Finally, I argue that from the evidence it appears that artistic reform dress in Germany and Austria had considerable influence on fashionable dress.
Nineteenth century Montana was often termed high, wide, and handsome, and one might say, lonesome. Among those few who populated the State were ranchers and the cowboys they hired to keep track of the cattle which roamed the range. These cowboys required some clothing which was somewhat specialized in order to do their jobs. How did they obtain clothing in a region in which there were few towns and limited roads and railroads?

The following sources were used to investigate this question: newspapers and store accounts from ranching communities, ranch records, catalogs which catered to ranchers and cowboys, and the diaries and published reminiscences of ranchers and cowboys. Additionally, extant clothing used by cowboys was searched for makers' marks or verifying documentation showing origin. Content analysis (Holsti, 1969), now commonly used in historical studies, was used to collect and organize data.

Cowboy gear included ordinary work clothing such as shirts, bandannas, trousers, vests, gloves, and hats, and more specialized gear like wrist cuffs, chaps, boots, and spurs. Winter clothing—heavy coats, hats, and gloves—was also needed by cowboys who were retained by ranchers for winter work.

Cowboys obtained their clothing from a number of sources. The general stores in this sample provided only the more generic clothing and some of the winter gear used by cowboys. Some ranches were so isolated that they had their own stores with stocks of some of the more commonly needed garments. One of these ranch stores advertised its wares in Miles City newspapers as "a complete stock of ranchers and hunters goods sold at Miles City prices" (Yellowstone Journal, Jan. 7, 1882). During spring and fall roundups, the Orshel Brothers Mercantile of Miles City sent out a "band wagon" stocked with hats, gloves, underwear, and other items to meet cowboys' clothing needs (Fletcher, 1960). Saddleries were the sources for most leather goods used by cowboys including boots, leather cuffs, and chaps. By the late 1890's these could also be obtained through mailorder companies specializing in leather articles. Complete outfits for cowboys were supplied by Montgomery Ward's catalog; however, these must have had characteristics disdained by many cowboys because a "Montgomery Ward cowboy" was considered a greenhorn (Burroughs, 1980).

Often those in occupational groups having specialized requirements had difficulties meeting their clothing needs. The merchants and ranchers of nineteenth century Montana made a business of meeting the clothing needs of cowboys in a variety of ways and based their inventories on specific market segments.

Advertisement (Jan. 7, 1882). Yellowstone Journal. Miles City, MT.
A WRINKLE IN TIME--USING A HISTORIC GARMENT LIBRARY AND COMPUTER AIDED DESIGN AS TOOLS IN THE DESIGN OF APPAREL

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Increasingly, the apparel industry is using computer aided design (CAD) in the design and production of clothing and textiles as described in a recent article by VanDeBogart (1990). The more common industrial systems used (Gerber, CDI, Microdynamics, Moda Cad, etc.) are very expensive and often not available to students in apparel design programs. The challenge is then how to provide students with some computer design experience on available systems.

Specifically, I wanted my students in an apparel design and illustration course to explore using CAD as a tool in designing garments. At this time I also had an honors student who was interested in using CAD in period costume design. Putting the two components together, an electronic garment library, a design assignment and a research project were developed which explored the use of CAD as a design tool and the use of an electronic garment library as a resource in creating period costumes as well as new garments.

While none of the major commercial computer systems for apparel design were available to us at that time, we did have access to Macintosh hardware and Freehand software.

An electronic library of garment segments was created based on styles representative of five, 10-year periods from 1900-1950. Line drawings of segments were scanned in so that bodices were aligned to but not attached to skirts, sleeves, and collars. This allowed for ease in mixing. Students were then able to evolve either period costumes using just one time period, or new designs mixing components from any of the 5 periods. For example, they could use a skirt from the 1900's, a bodice from the 1920's and sleeves from the 1920's. They could also modify any of the segments should they wish to do so. For instance a collar could be reshaped into a bodice, or an ankle length shirt could be shorted into a mini length or visa versa.

The class assignment required students to design a line of six garments using the historic garment library as a reference source. Three garments were designed using standard paper and pencil techniques and three using CAD. The library was available in hard copy format for the paper and pencil designs, and in electronic format for the computer designed garments.

The use of a CAD as a design tool was compared to designing with pencil and paper techniques by looking at the number of design alternatives explored, the number of variations within alternatives, and the design production time per garment. Innovativeness of design solutions and student perceptions were also looked at. The class was randomly assigned to one of the two counterbalanced treatment sequences. Each treatment was two weeks in duration.

There were no significant differences between the two treatments in number of design alternatives and variations. While paper and pencil designs were significantly quicker to complete than the computer designs, the time difference is most likely due to the computer learning curve. While the overall degree of innovativeness was not significantly different, the most unusual modifications of the garment segments happened in the computer designed garments.

The implications for using a historic garment library for the design of new and period garments, especially in an electronic format, is very exciting. The library provided an immediate resource of styles, it allowed for easy and expansive modification, and it allowed for a wide range of design solutions. The project proved to be a good way of integrating CAD into an apparel design course with students of varying computer experience. The hard copy library also appeared to increase the number of design alternatives and variations students considered before developing garment designs with paper and pencil techniques.

NEEDS ASSESSMENT FOR EXTENSION PROGRAMMING IN CLOTHING AND TEXTILES

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The charge of Cooperative Extension is to conduct in-depth educational programs which result in the audience understanding and adopting behaviors that solve or prevent problems. Because of the variety of program requests in the last year, it was necessary to develop an organized mechanism to identify program needs. The objective of this study was to survey extension units to determine adult and youth programming needs in clothing and textiles for the 91 - 95 Plan of Work.

A survey instrument was developed using topics of programs requested of the specialist in the last year. Topics were categorized by adult and youth audiences and the national initiatives for programming, i.e., economic, social and physical well-being. Agents were asked to rank the top 3 adult and youth programming topics based on their greatest need over the next 5 years. For those topics ranked, agents were also asked to check the forms of assistance needed. Forms of assistance listed included: mass media materials, home study course, printed resource materials, audio visual materials and in-service training. The instrument was pilot tested with 12 agents in the SW district and revisions were made.

Surveys were mailed to 107 units in December 1989 with a due date near the end of January 1990. Agents were asked to confer and submit a unit report. Sixty surveys were returned, 52 were usable for a return rate of 49%.

For adult programming, 43 units ranked information on selection, use and care of textile materials as their first, second or third greatest need. Forms of assistance needed and number of units checking that item were: printed resource materials (39), mass media materials (30), audio visual materials (20), home study course (18), and in-service training (11). Other identified needs for adult programming included: clothing related home businesses, developing a work wardrobe for social service and other low income clients, laundering pesticide contaminated clothing and chemical protective clothing.

For youth programming, 32 units ranked the new 4-H PACT materials, Personal Appearance, Clothing and Textiles as their first, second or third greatest need. Forms of assistance needed and number of units checking the 4-H resource materials were: audio visual materials (24), printed resource materials (21), in-service training (12), mass media materials (10) and home study course (3). Other programming topics receiving high ranking include: developing a wardrobe for school and work, spending clothing funds, care of clothing and dealing with peer pressure relating to clothing. These topics are partially covered in the 4-H curriculum and supplemental materials are available.

Results from the needs assessment have and will continue to be used to make decisions about Extension programming in clothing and textiles. The needs assessment was used to: develop three planning papers for the next 4-year Plan of Work, purchase audio visual materials, distribute mass media materials through the Extension Information System to agents, newspapers and magazines, revise and promote a home study course on care of clothing, and propose in-service training for agents on two topics. Results from the needs assessment will also be used to identify research needs and develop future Cooperative Extension programming.
The long range goal of this curriculum project was to provide technical assistance to craftspeople in Third World countries so as to enhance and increase the marketability of their product lines. Apparel, Textiles and Design faculty members were approached during the summer of 1988 by a representative of a Bolivian knitting cooperative requesting technical assistance with knitwear design, production and marketing. Needs were assessed by faculty members on a site visit to Bolivia in spring of 1989. The researchers realized that the cooperative seeking help was not producing garments that satisfied American fashion tastes or size and product quality standards. In addition, the faculty learned that most managerial personnel employed in Bolivian cooperatives can read and write Spanish, a language that is not necessarily their native tongue, and that several cooperatives do have access to video tape players. With this knowledge a decision was made to produce two video tapes and corresponding booklets providing technical information. One of the tape/booklet packages discussed principles of good design and factors descriptive of marketable products in the U.S. such as sizing garments to meet American standards. The second set of materials examined the factors that affect the purchasing decisions of American consumers and the operational structure of U.S. channels of distribution.

Faculty members debated what information to include in developing educational materials that would positively impact business practices of the Bolivian craftspeople. Because of limited and varied educational levels of the craftspeople, written materials were developed in Spanish at a junior-high reading level. Several translators were used, one of whom served as narrator for both video productions. Cultural and societal factors were considered in producing the educational materials.

The educational materials were sent to the Bolivian cooperative in March 1990. Twenty-six craftspeople in various managerial and production positions read the written materials and viewed the video tapes. Each participant completed evaluations to assess understanding of the informational content. Test scores relative to subject matter revealed the effectiveness of instructional methods. Respondents also indicated their media preferences. Findings showed a positive response to the educational presentations with seventy-three percent of the craftspeople preferring the video tapes to the written booklet. Reasons given for preference were that tapes explained the subject matter better and were more interesting and enjoyable.

Favorable evaluations of instructional materials suggest the value of such educational presentations for Third World audiences. A continued working relationship between the faculty and the Bolivian cooperative will reveal the long-term effectiveness of this project. These materials will be made available to organizations working with Spanish-speaking Third World craftspeople.
TEACHING HIGH PERFORMANCE FIBER AND FABRIC DEVELOPMENTS

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INTRODUCTION: With all the new fibers, fabrics, coatings, and insulations available in the marketplace today, incorporating these developments into a textile or interior design curriculum becomes a problem. A logical place is in a seminar devoted exclusively to these new developments or a unit in an advanced textile course. In the past, these high performance fiber and fabric developments were incorporated into the curriculum in two ways at Central State University. One in a graduate/undergraduate class in Current Developments in Textiles and later as a separate unit in a textile class.

PURPOSE: The general purpose of this presentation is to share information and teaching techniques for presenting high performance textile developments in textiles and clothing classes. The specific purposes are 1) identify and describe these textiles and typical uses for them, 2) identify and briefly describe new developments in fibers, yarns, fabric insulations and films, and 3) report new developments for apparel and household textiles.

PRESENTATION ORGANIZATION: The presentation included 1) a discussion of new developments and their effect on consumers; 2) the organization of new textile developments and how they fit into the curriculum of textiles and clothing classes; 3) sources of companies producing these products; and 4) consumer uses of these new products. The Program presentation included a presentation comprised of transparencies, slides, consumer uses and actual examples of the new developments.

SUMMARY OF DEVELOPMENTS: For active sports apparel, the five areas of newest developments are: 1) heat retention, 2) moisture transfer, 3) water repellancy, 4 stretch and 5) fabrics changing color. For household textiles, stain resistant carpeting (by finish or fiber technology) and lower cost fabrications lead the field in developments.


NEW FABRIC CONSTRUCTIONS: Borglite, Chinella, Cobblestone, Coolmax, Darlexx, Dryline, Field-sensor, Gysmar, H20ff, Hellytech, Lifa, Petromat, Polytherm, Quintura, Sandel, Solar A, Sportlite, Spot Stop, Stunner, Super Microft, Supernskin, Supplex, Sway, Symptex, Thintech, Thermaz, Trek, Ultra, Ultraleather, Ultratech, Ventura Twill, Versatech, Zefspor.


INSULATIONS: Filip-Gard, Game-Mate, Gore-XCR Knitwear, loftguard, Polartex, Sportlite, Thermo-dry, Thermodelite, Thinsulate, Thinsulate Stretch.

YARNS: Alamera, Chedex, Fortrel, ESP, Great Feelings, Polarguard, Tacteem, Tactel.

SOURCES: Fabric Swatch Packets and slides on High Performance Textiles are available from Darlene Kness, 2401 Summit Drive, Edmond, Oklahoma 73034.

Conceptualizing Social Aspects of Dress Through an Interactive Approach

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The symbolic interactionist's perspective is a viable option to teach the social aspects of dress. This perspective is used to understand how meanings are established and interpreted in sociocultural contexts, and why individual differences exist among people from the same society. Its application to clothing and personal appearance is well documented. The purpose of this paper is to establish linkages between the symbolic interactionism perspective and the conceptualization of social aspects of clothing through an innovative teaching strategy that promotes active learning.

Symbolic interactionism is the process of role taking in which human beings mutually act and react to each other. The symbolic interactionism perspective has seven fundamental propositions (Manis and Meltzer, 1978, pp. 5-9). First, "the meaning component in human conduct" that refers to the use of symbols and their meanings in the social interaction process. Second, "the social sources of humanness" deals with the development of self as a result of social interaction. Third, "society as process" emphasizes the processual as opposed to a rigidly structured orientation of defining society. Fourth, "the voluntaristic component of human conduct" suggests that people have the right to be selective in their perceptions. They can accept, adapt or reject the existing social norms. Fifth, the "dialectical conception of mind" involves conscious and/or unconscious interaction with oneself. Sixth, "the constructive emergent nature of human conduct" suggests that individuals partially construct their own world view that may or may not be predictable by others. Seventh, "the necessity of sympathetic introspection" refers to the understanding of covert behavior of an actor for complete understanding of his/her conduct.

A course in the social aspects of dress can cover all seven assumptions of symbolic interactionism. Kaiser's (1990) book provides good theoretical and empirical evidence and documents the use of the symbolic interactionism perspective to personal appearance and clothing. The social psychology of dress covers why people wear what they do and how they determine what to wear in various settings and situations they encounter in their everyday lives. A multidimensional approach would be the best to help students conceptualize behavioral aspects of clothing as they relate to the individual and society, and enable them to critically evaluate and apply concepts related to cross-cultural unity and diversity in dress to personal and professional settings in lieu of the seven assumptions. The assignments designed for the course could provide them the opportunity for further understanding of integrating the symbolic interactionist's perspective and the social aspects of dress.

The writing-intensive (WI) approach of teaching is an interactive technique that promotes several learning abilities in students, such as posing good questions, evaluating the adequacy of an argument, understanding how theories are developed and applied, giving and receiving criticism profitably, and extending a line of thought beyond the range of first impressions. WI courses emphasize revision as an important element to improve students' critical thinking and writing abilities. Their revised version should reflect their consideration of criticism from their peers and/or instructor. The experience suggests that WI assignments sharpen students' understanding of a theory, its application to clothing-related practices and attributes, and their ability to recognize the theory's strengths and weaknesses. Specific examples of tested and possible assignments will be included in the paper to put this new approach in perspective and illustrate its appropriateness for conceptualizing the teaching of the social psychology of dress.

Clothing in Contemporary Society is an introductory course designed to develop an awareness of the interrelationships among the cultural, social, psychological, aesthetic, and economic factors that influence clothing and human behavior. To accomplish this objective, the course is divided into four segments. Part One investigates the impact of a society's culture on the clothing patterns used by its members. Parts Two and Three concentrate on the social and psychological aspects of dress, while Part Four concentrates on the economic aspects of dress. The course serves as a foundation for an advanced level course in the social psychology of dress where students design and complete a research study.

To encourage the active involvement of students in the course and to prepare them for the advanced level course, students complete a number of data collection instruments and conduct mini research projects related to course concepts. The completion of selected data collection instruments, related to research reported in the text or in lecture, helps students to gain an appreciation for, and a better understanding of, the techniques used by researchers in developing the theories and concepts discussed in the course. The feedback of personal responses to the various data collection instruments facilitates comprehension and retention of the text information. In addition, recognition of the impact of change over time on responses, age of subject, and individual response versus group average can be assessed by the student through their personal reactions and responses to the instruments and the reported results.

The carefully designed project assignment sheets expose students to research techniques. Students are introduced to and provided practice in observation, survey, and inventory data collection methods; descriptive data analysis procedures, and research writing skills. The students' personal experiences with the research process enables them to understand some of the difficulties involved in conducting research on certain concepts which may affect the consistency of reported results. In addition to the appreciation for the research process and the concepts supported through the research, students have an increased awareness of themselves, their clothing behavior and its effect on others. An Import Survey Project has increased awareness of personal consumption of domestic and foreign produced apparel products. For some students, this awareness has resulted in a concern for the continuation of the domestic industry and a conscious effort to purchase American merchandise.

Students enrolled in the course have indicated the value of these activities in reinforcing lecture and text concepts. The application of concepts to practical assignments reinforces their knowledge base, increases their understanding of the complexities and difficulties of conducting research, and enables them to gain an appreciation for the research which has been completed in the field.
Question:
Why are social aspects of dress taught within the context of the department?

Multiple Choice:
a) Many undergraduate students believe that the set of values related to clothing and textile products (aesthetics, quality, functionality) held by themselves and/or their families are homogeneously held by everyone.
b) Societies or cultures or nations which appear to have another set of values are “wrong”.
c) Product development—design for a given society must consider the values of that society to be accepted in that market.
d) A society’s utility for an item of dress determines the demand for that item.
e) International trade for most commodities is based on differences in tastes and preferences even when the endowment of factors of production is identical between the two countries.
f) All of the above.

Answer:  
f...
This session has illuminated the advantages of identifying and articulating the philosophies underlying our teaching. The papers by Chowdary, Snyder, and Sinnott highlight what on the surface seems to be different dimensions of teaching the social aspects of dress: (i) using writing as a device to teach theory to undergraduates, (ii) integrating the research process into the curriculum, and (iii) evaluating the importance of the social aspects of dress from an economic viewpoint. Yet if we shift our focus toward underlying philosophies, some commonalities emerge. In fact, a major point that seems to guide all three of the papers is as follows: As humans, we all have taken-for-granted notions about dress and its meaning(s). That is, we assume that we know all about clothes because we get dressed daily and, for the most part, see the people with whom we interact in the "dressed" state. It follows (seemingly) that the meanings we assign to clothes and appearances are the same as those that everyone else assigns. Our students probably come to us with assumptions such as these in mind, because such assumptions are part and parcel of being human in the world of everyday experience. Such expressions as "everyone knows that...." characterize the "common-sense problem" in the social sciences in general, and in the study of the social aspects of dress, in particular. Students may wonder why they should spend their time learning about something they assume they already know. But each of the preceding papers provides a different angle or mechanism for illustrating to students that they do not necessarily share the same assumptions about the meaning(s) of clothes with others in the "real world," including prospective clients (in their present internships or future careers).

So the "bottom line" throughout the three papers is that variability of meaning exists in interpretations of dress, and to identify the source of this variability we can turn to the symbolic-interactionist perspective, as Chowdary acknowledged in her paper. A fundamental idea in this perspective is that humans bring different past experiences, frames of reference, and values to everyday experience, and hence they have the potential for interpreting symbols in very different ways. It is through symbolic interaction by means of negotiation processes that humans are able to mesh their meanings and to make sense of symbols such as dress signs in everyday life. If students are to succeed as designers or marketers of textiles and apparel, they need to grasp that the user groups comprising their target markets may hold very different assumptions about clothes. Having conceptual frameworks that allow our students to account for such variations become useful intellectual and practical tools for them, as do the methods that provide the means for examining such variations. As cultural diversity becomes increasingly important as a function of the global marketplace and specialization in subcultural, ethnic, and lifestyle-based, domestic user-group markets, the implications of teaching conceptual frameworks and methods for studying meaning(s) of dress become especially apparent.

In the spirit of preparing (not simply training) our students for future, well-rounded professional and personal lives, we also need to address the social aspects of dress in relation to the enhancement of general education. Part of our mission in higher education, after all, is that of promoting intellectualism and enlightened concern for others (Lavin and Prull, 1989), and by emphasizing the variability of meaning(s) with respect to dress we can simultaneously stimulate critical and creative thinking and promote an empathetic understanding of others.

Here too, the papers in this session provide some valuable guidance. Chowdary illustrates a mechanism for making theory more accessible to students, by encouraging them to think with theory through the process of writing. She uses the symbolic-interactionist perspective in her assignments and has students relate to the different types of social processes this perspective brings to the surface by applying them to their everyday lives. Thus Chowdary allows the students to integrate a conceptual framework with their own thought processes, and the
apparent outcome is their ability to understand the value of theory in their own terms, along with the use of a framework for interpreting the variability of meaning in clothing and appearance. Of course, the symbolic-interactionist perspective is not the only perspective that one could use in this regard, but it does have the following advantages: (i) it emphasizes meaning as its primary focus at every level of analysis, (ii) it promotes richness of interpretation by means of interactive and negotiated understandings, and (iii) it is process-orientated, illustrating concepts such as change and emergence. Yet as with any theoretical perspective, we need to continue to evaluate the symbolic-interactionist perspective critically and to teach our students to identify those aspects of dress that it does not explain fully. In this way, other perspectives such as cognitive social psychology and cultural studies (including semiotics) can be introduced and compared. Then students can become acquainted with the process of shifting one's explanatory focus depending on the context at hand.

Snyder points to research as a strategy for promoting critical thinking as well as indicating the variability of meaning in interpretations of clothing. As any researcher in the social aspects of dress knows, each time we engage ourselves in a study of people's interpretations, we learn something new in the form of a new meaning or a novel insight. Thus we learn from the people we study, and by engaging students in the research process we not only teach them some valuable methods for future use, but also illustrate to them that meaning is variable and that they should not assume their interpretations mesh automatically with those of others. A point about the types of methods we teach seems to be appropriate here. Snyder incorporates a range of research methods into her course assignments. And if we truly want students to learn about the variability of meaning, there is considerable merit in incorporating this kind of multi-method approach, that is, qualitative as well as quantitative approaches, open-ended as well as closed-ended formats, and interviewing as well as observational techniques. In this way, students learn that different methods yield different information, and they will understand the importance of critical thinking in the process of selecting the appropriate method to obtain the desired information. Although it may be difficult in the confines of academic terms to have students actually use all of these different methods in depth in a course assignment, the idea of employing multiple methods can be introduced at least in a limited way. As we review research findings in our teaching, we can point to the relationship between the methods used and the type of information obtained.

Sinnott's paper presents some refreshing insights that not only shed light on the importance of the social aspects of dress, but also characterize the nature of the linkages between social and economic dimensions. These are linkages that should be fundamental to any merchandising- or marketing-oriented textiles/apparel curriculum, yet a recent survey of ACPTC members suggests that we do not often combine these particular dimensions in our own spheres of expertise (Kaiser and Damhorst, forthcoming). Sinnott has provided a valuable service by developing a logical argument for the social aspects of dress from an economic perspective. She shows how variability of meaning(s) of dress needs to be obvious to students before they can grasp differences among user groups' demand curves, because tastes and preferences are integral components of both social and economic analyses. Sinnott has engaged in an exercise that could be replicated in relation to other components of textiles and clothing curricula. That is, she has demonstrated the value of considering the importance of subject-matter content in one component (social aspects of dress) through the "lens" of another component (textile/apparel economics). This exercise is analogous to teaching students how to think with theory (as demonstrated in Chowdhary's paper), thus revealing how an "outside" perspective or framework can be integrated with the thought processes and experiences we come to know as our own. In other words, with the variability of meaning as a focal point, we can approach any problem from more than one viewpoint and hence address a different dimension of the problem. In an interdisciplinary area of study (such as our own) that addresses highly complex products (textiles and clothing) used in diverse ways by different people, we should continually remind ourselves and encourage our students to: (i) be able to shift points of reference freely, (ii) see connections rather than boundaries in relation to knowledge, and (iii) understand variability of meaning from the standpoint of acknowledging and appreciating the value of diversity in approaches to (a) the study of textiles and clothing, in general and (b) values and preferences influencing consumers' interpretations of dress, in particular.

As we consider the value of the social aspects of dress, then, we should consider the intellectual and empathetic possibilities associated with this area of study, along with professional advantages for our students. Students of the current generation have been characterized as holding more conservative, more pragmatic, and less purely theoretical orientations, as compared to students of twenty years ago. Consistently, there has been a
twenty-year decrease in the number of students majoring in the liberal arts and sciences, and an increase in those pursuing "practical" and "professional" degrees such as in business or computer science (Lavin and Prull, 1989). Our programs in textiles and clothing have increased in student numbers, most likely, as we have been riding the wave of this orientation toward business- and professional-oriented concerns. Trends in students' interests and values, as history reveals, may well shift in the future, however, and already we may be seeing signs of such a shift. At the present time, it seems appropriate to evaluate whether we have swung too far in the direction of emphasizing business practice and whether we have been able, in the process, to maximize our potential for promoting intellectualism and an enlightened concern for others. If we do not maintain an emphasis on knowing about the intrinsic characteristics of textiles and clothing as products, alongside a focus on understanding variability in consumers' usage of these products, then how do we differ in content from business or marketing programs? The connection between the products we study and the meanings they hold for the people who use them seems to be the implicit focal point in textiles and clothing curricula. To maximize our potential for promoting intellectualism and an enlightened concern for others, we need to remind ourselves—as do the papers by Chowdhary, Snyder, and Sinnott—about the extraordinary capabilities associated with the study of textiles/clothing and their relevance in people's lives, as well as about the remarkable interconnectedness within textiles and clothing as a whole.

References


Two factors that are shaping trends in the retailing industry are demographics and the homogeneity of product offerings in the marketplace. Changes in America's demographics have forged a more segmented market and are causing retailers to re-think how they merchandise apparel. Many retailers have switched from a mass market approach to lifestyle and niche merchandising (Stores, 1989). Homogeneity of products on the market is forcing retailers to seek unique methods of differentiating their products from those of competitors. Retailers are utilizing clothing label information to increase consumers' awareness and acceptance of their products. If properly developed, information conveyed through clothing labels can shape positive attitudes about the product and the retailer (Davis, 1987). To develop label information that is responsive to consumers needs, it is imperative that retailers understand consumers' requirements as influenced by their demographic characteristics.

**Purpose.** This exploratory research examined relationships between consumers' socio-demographic characteristics and clothing label information. It tested the hypothesis that socio-demographic differences exist in consumers' (a) interest, use and knowledge of labels and (b) desire for specific label information.

**Method.** A survey approach was used. Data was collected by a self-administered questionnaire. A non-probability sample consisted of 199 subjects from three geographic regions in the U.S. Independent socio-demographic variables measured were gender, marital status, occupation, educational level, age, income, ages of children and geographic residence. Dependent clothing variables were: interest in specific types of label information, influence of label information on purchase decision and knowledge of label laws and regulations. Cronbach's alpha measured internal consistency and descriptive statistics were used to describe the sample. A general linear model (GLM) least squares analysis of variance was used to analyze the simultaneous and separate relationships of independent to dependent variables. Significance was set at .05.

**Results.** Collectively, socio-demographic characteristics contributed to differences in consumers' interest in label information, $F(39, 165) = 1.88, p < .003$, use of label information for purchase decision, $F(39, 165) = 1.55, p < .03$, and knowledge of label laws and regulations, $F(39, 165) = 2.78, p < .001$. Separate contributions of gender, educational level, income occupation and age resulted in significant F values.

Results indicate label information is important to consumers. Consumers with different characteristics desire different clothing label information. These findings suggest that as retailers direct more specialized products to more diverse groups in the population, they should consider customizing labels to address the informational needs of their target groups.

**References**


Children as consumers are conscious of brands and labels of clothing. Belk, Bahn & Mayer (1982) found that children's ability to recognize the social implications of automobiles and houses is minimal among preschool and significant by second grade.

There is a lack of information on the young consumer and factors which influence perception of consumer labels and fads. The purpose of this study was to determine which factors affect the young child's perception of labels related to clothing.

A total of ninety children and their parents participated in the study. Children attended classes at two preschools, one rural and the other small town, and two elementary schools in small towns. Questionnaires and personal interviews were used to elicit subjects responses to four different clothing and accessory items: jeans, sneakers, shorts and sweatshirts. A preliminary study was conducted to determine popular consumer labels and fads. The items were controlled for size and color. Variables examined were gender, age, parent and peer influence, siblings, parent's income and educational level and amount of time children spend watching TV.

Chi square for independence was used to determine the effects the various factors had on consumer labels and fads and children's perception. Frequency distributions were done on all data collected.

Significant differences were found for age of the child and sneaker selection, as well as influence of sibling versus no sibling on short selection. The gender of the child also proved to be significant in the selection of sneakers, shorts and sweatshirts. Parents income was significantly related to short selection. Overall, popular name brands were more often selected than no-name brands.

Results of this study indicate that children as young as four are aware of consumer labels and fads. It also appears that there are a number of factors that influence their selection.

VANITY SIZING AS A FACTOR IN CONSUMERS' PERCEPTIONS OF GARMENT QUALITY AND LIKELIHOOD OF PURCHASE

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Body measurements and size labels operate as sales devices for any garment (Solinger, 1980). Vanity sizing has been used in the apparel industry as a means of promoting sales of 'better' dresses (Handford, 1980). In this practice, the size tickets of garments were changed to one size smaller, thus a size 12 ticket was ticketed a size 10 and this enabled a woman to wear a "smaller" size. This technique was designed to appeal to a customer's vanity and serve as a promotion technique that could be achieved at little or no cost. This technique also took advantage of the notion that the amount of ease in a garment indicates quality and gave the impression that the manufacturer did not cut corners on the amount of fabric used. The purpose of this study was to determine if vanity sizing affected consumers' perceptions of garment quality and likelihood of purchase.

Method. Ninety undergraduate females (mean age=22.64) volunteered to participate in this study. In a single factor between subjects design, each subject received a questionnaire with a sketch and a description of the same garment. Each subject received one of three variations of information concerning sizing of the garment: that in order to achieve the correct fit in this garment they would need to buy (1) one size smaller (2) their usual size, or (3) one size larger than they usually wore. As a manipulation check, subjects were asked to record their usual size and what size they would need to purchase in this garment in order to achieve the correct fit. Then subjects were directed to give their perceptions of the quality of the garment by checking 7-point Likert type scales for 17 characteristics related to quality. Characteristics included expensive, fashionable, and high quality garment (reliability = .90). Subjects were then asked to indicate how likely it was that they would purchase the garment.

Results. Results of ANOVA indicated that the size information had no effect on consumers' perceptions of garment quality or on likelihood of purchase.

Discussion. It appears that young consumers are not responding to the industry's use of vanity sizing. These subjects appeared to disregard the sizing information completely when forming impressions of the quality of the garment and the likelihood that they would purchase it. It would appear that industry efforts to use vanity sizing as a promotional device are ineffective for this age group. Perhaps consumers have reached the conclusion that size labels are meaningless because there is no consistency in sizing between manufacturers. Thus size labels are discounted as a source of information about quality.

Labels are a manufacturer to consumer communication system (MCCS). When statements on these labels convey explicit statements they influence consumer expectation of product performance attributes. While the effect of shrinkage on garment fit and consumer satisfaction have been studied, consumer preference for different statements on MCCS and the allocative error occurring when consumers make inefficient choices has not been addressed. The purpose of this study was to determine if label statements led to the efficient choice of garments resulting in satisfaction and optimal allocation of economic resources.

Five label statements which provide either data or information, and which were intended to assist consumers in purchasing jeans for long-term fit were identified: 1) percentage shrinkage; 2) try on before purchasing to assure a proper fit; 3) jeans are preshrunk; try on before purchasing to assure a proper fit; 4) a size selection guide using body measurements for determining the size to purchase when shrinkage was 12% or greater; and, 5) a size selection guide using a normal sizing system as a basis for determining the size to purchase when shrinkage was 12% or greater.

Sixty-five college students were recruited to participate in the study. Participants were asked to read all original labels on a specified style jeans and select jeans in a size which they perceived as providing a satisfactory fit when purchased. After the selection of jeans, participants completed questionnaires. Their expectations of long term fit, as influenced by the specific MCCS, and satisfaction with the fit of the selected jeans were determined.

After a three week wear period, participants responded to the same set of questions. In addition, the original label statements were rewritten to either process data to information or to clarify instructions. Participants indicated a preference for the original or redesigned labels based on their perceived need for information to make efficient choices. To measure allocative error participants were asked if, given the wear experience, they would be willing to purchase the same garment at the original price. If not, they were asked to indicate the price they would be willing to pay.

Redesigned labels were determined to be more helpful than the original label in selecting the garments for long term fit. Thirty-two percent of the participants declared an allocative error attributing fit of the jeans after the three week wear period as the primary factor (81%).

These results imply that consumers prefer informative labels. Informative labels enable consumers to make efficient choices which will result in satisfaction and optimal allocation of economic resources. This research makes explicit that allocative errors occur when consumers realize their expectations of utility are not met during garment consumption.
PURCHASERS OF PRIVATE LABEL APPAREL: A CONSUMER PROFILE

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With today's competitive retail environment and the lack of differentiation of apparel goods among department, specialty, and off-price stores, retailers have been capitalizing on private labeling as a means of product differentiation and profitability. Private label apparel is merchandise that bears a retailer's name brand rather than that of a manufacturer. The percentage of private labels available in stores is increasing and diversification of products into other categories, such as fashion goods, has been occurring. Despite the growth and interest in private labeling, there has been limited empirical research examining purchasers of private label apparel. The purpose of this study was to develop a consumer profile of purchasers of private label apparel.

A consumer behavior model, (Engel, Blackwell, & Miniard, 1990), was used as the conceptual framework for this study. The research instrument was developed and administered in conjunction with a major department store chain. The eight-page self-administered questionnaire contained sections about specific private apparel labels purchased, viewpoints about apparel shopping, and demographic information. Questionnaires were mailed to 13,134 female consumers between the ages of 18-65 years old in five different southeastern cities where the retailer had stores. Data from 2748 respondents (20.9% return rate) was used in the analysis of this study.

To establish a profile of female shoppers, factor analysis was performed on 41 of the apparel shopper viewpoint statements resulting in five factors. Use of the General Linear Model (GLM) with Analysis of Variance (ANOVA) resulted in significant relationships between three of the five factors and purchasers of private label. Type III Sum of Squares were employed to determine significance. Least Square Means were used to plot significant relationships between the three factors and purchasers of private label apparel. Significant relationships between demographics and purchasers of private label apparel were identified with Chi-Square analysis.

Purchasers of private label apparel were more likely to be practical, shopping for durability and need rather than fashion or desire. Second, the purchasers selected apparel at the mass acceptance stage of the product life cycle, rather than the innovative or decline stages. Third, purchasers of private label apparel tended to purchase apparel that was traditional and tailored. In addition, purchasers were more likely to be 35-44 years old, married, employed in middle management positions with annual salaries between $15,000 to $25,000, and spending $300-$500 annually on apparel for themselves.

This profile of female consumers who purchase private label apparel has addressed a void in existing empirical research. These results have implications for retailers and manufacturers. Retailers and manufacturers can use this information to refine existing and develop new private label apparel targeted to purchasers and potential purchasers. As retailers continue to analyze the product differentiation and the profitability of private label assortments, this profile will assist in developing strategies to increase growth in these areas.

THE EFFECT OF SIZE LABELS ON PERCEPTIONS OF GARMENT QUALITY, LIKELIHOOD OF PURCHASE, AND RETAIL PRICE

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The function of a sizing system is to provide size selectivity for the consumer and thereby increase sales potential (Kunick, 1984). According to Kunick (1984) a sizing system must take into consideration three factors: the number of sizes it should contain, the intervals between sizes, and cover the maximum number of women with the minimum number of sizes. Because more time, care and expertise is required to produce a garment which conforms to specific sizes than to liberal size categories, a size label might be one cue that could be used in evaluating apparel quality. Thus, it might be expected that garments sized by numbers such as 4, 6, 8, 10, 12 would be more expensive and would represent better quality than garments sized by letters such as S(mall), M(edium), L(arge), or a single category such as One Size Fits All. The purpose of this study was to determine if size labels affected perceptions of garment quality, likelihood of purchase, and estimated retail price.

Method. Seventy-five undergraduate females (mean age = 19.63) volunteered to participate in this study. In a single factor between subjects design, each subject received a questionnaire with a sketch and description of the same garment. Each subject received one of three variations of information concerning sizing of the garment: that it was available in sizes (a) S, M, L; (b) 4, 6, 8, 10, 12; or (c) One size fits all. Subjects were directed to give their perceptions of the quality of the garment by checking 7-point Likert type scales for 17 characteristics related to quality. Characteristics included expensive, fashionable, and high quality garment (reliability α = .90). Subjects were then asked to indicate how likely it was that they would purchase the garment and to indicate the retail price at which they thought the garment would sell.

Results. Results of ANOVA indicated that the size information had no effect on consumers' perceptions of garment quality, on likelihood of purchase or on anticipated retail price.

Discussion. It appears that consumers are using cues other than size labels when making judgements of garment quality, purchase decisions or price estimates. Since there is no consistency in sizing within the apparel industry, consumers may have a range of five or more sizes and/or size categories in their personal wardrobes that represent a range of prices, acceptable quality, and good fit (Hudson, 1980). Thus, previous purchase decisions may have led consumers to discount size labels as a reliable cue.


Women are starting businesses in record numbers. Nelton (1989) reports that today 1/3 of the small businesses in the U.S. belong to women, including 4.1 million sole proprietorships. Some believe that, by the year 2000, 50 percent of small businesses in America will be owned by women. This study looked at the traits and characteristics of female entrepreneurs in apparel manufacturing. In addition, the influence of selected demographics on the traits and differences between traits and decision to become an entrepreneur were measured. The sample included 495 women sole proprietors or partners of a business having a Texas tax number. The survey instrument consisted of a demographics section and a traits and characteristics seven-point Likert scale (MacDonald, 1985), and was pretested by 10 members of the target population. The questionnaire was sent to the remaining 485 female entrepreneurs with a 15 percent (73) return. There were 54 usable surveys analyzed.

Scale data were submitted to factor analysis with three trait factors being identified: business (22 items, alpha = .9171), self-actualization (13 items, alpha = .9062), human relations (12 items, alpha = .8074). (Six items did not factor and seven items loaded onto two factors resulting in the elimination of 13 items.) Reliabilities obtained were sufficient, thus making the instrument usable for the purposes of the study. Factor loadings indicated items that best defined business traits, decision maker (.676), problem solver (.652), persuasive (.626); self-actualization traits, persistent (.744), flexible (.734), task oriented (.733); human relations traits, honest (.776), high standards for self/others (.726), sincere (.664). A comparison with MacDonald (1985) showed similarity in human relations traits but differences in business and self-actualization traits. Creative traits, factored for female entrepreneurs in general (MacDonald, 1985), were not apparent in apparel manufacturer entrepreneurs. Female manufacturers rated self-reliant (5.7) and enthusiastic (5.6) as most important business traits and good supervisor (4.5) and high tenacity (4.2) as least important. Creative (6.1) and innovative (5.9) were the most important self-actualization traits indicated by the women, while business background (4.1) and curious (4.1) were the least important. Human relations traits rated as most important were honest (6.3) and high integrity (5.9). Compassionate (4.2) and sensitive (4.2) were considered least important. In regard to the personality traits scale, ANOVA analysis showed female manufacturers employed in a second job were different from females with no employment (F(1,50) = 5.10, p = .028), while women who stated personal fulfillment (F(1,52) = 4.24, p = .045) and planning a family (F(1,52) = 4.92, p = .031) as reasons for becoming an entrepreneur were different from women who expressed other reasons. Differences were indicated in women due to employment in a second job (F(1,49) = 5.33, p = .025), having an entrepreneur family member (F(1,50) = 4.87, p = .032) and the self-actualization traits, while marital status (F(1,48) = 5.98, p = .018) influenced business traits. Female manufacturers differed as to reasons for becoming an entrepreneur; professional achievement (F(1,52) = 4.31, p = .041) and planning a family (F(1,52) = 4.92, p = .031) affected business traits, and personal fulfillment (F(1,52) = 5.65, p = .021) was a determinant in self-actualization traits.

Research in entrepreneurship is a relatively new field. This research will add to the few studies which have examined entrepreneurial women.


Benefits of home-based work include recognition of cost savings, ability to meet certain family needs, and the built-in benefits of increased flexibility and freedom. Although they may be less apparent, there also are significant problems, disadvantages, and legal issues associated with this form of decentralized production. It is, for example, a sector that is largely invisible (unregistered and difficult to locate); it is typically identified with work performed by women; and legal regulations frequently are disregarded. Of additional interest is that homework in the women's apparel industry continues to be banned by the Department of Labor.

While a variety of literature exists on home-based work, the Department of Labor and the Small Business Administration agree that too little systematic research on home-based work exists. In order to provide information on the subject, this project investigates attitudes of persons who earn money in their homes by means of work that involves textiles and/or apparel. The specific question asked is the extent to which homeworkers' attitudes are related to their children and families.

Hamilton's (1987) metatheory for clothing and textiles forms a framework for the study. Family organization is investigated as a mechanism that interacts with home-based work, an existing cultural subsystem. Because there are no appropriate lists of homeworkers, a snowball sample was used to identify potential respondents. Specialized extension clothing advisers and county extension advisers assisted in providing names for a statewide sample of homeworkers. A pre-tested mail questionnaire was used to gather data on home-based work, related attitudes, and demographics. Two hundred and two usable questionnaires were returned. T-tests and analysis of variance with appropriate post-hoc tests were used for analysis.

Analysis focused on differences between respondent groups based on division by marital status and children's ages. In general, these homeworkers agreed that they preferred to work at home, though there were differences in the strength of their agreement. For example, in comparison to married respondents, those who were separated, divorced, or widowed were significantly more likely to indicate that working outside the home would be preferred for certain reasons—such as increased work regularity and better job benefits such as insurance and a good retirement plan. The ages of children in the family seemed to have relatively little effect on attitudes toward work location, though this variable did influence reasons respondents first decided to work at home.

Analysis of these variables yields increased understanding of the functional or dysfunctional interactions between family organization and its contributions to the social structure of homework. Understanding the complexities of homework will affect judgments of its future and help researchers assess the extent to which it provides a positive alternative to factory or office work. This cultural subsystem cannot be judged as positive if it continues to be invisible, if women's work choices and control are limited, and if women's labor in the home is undervalued socially, economically and culturally.

In an industry previously marked as labor intensive, apparel manufacturers have discovered computers. In an attempt to recapture market share, to reduce inventories, and to increase responsiveness to consumers, apparel manufacturers are using computers in their production facilities. The apparel manufacturer is but one participant in a total channel for market delivery, and changes in suppliers or customers can affect this supply chain.

The purpose of this research was to identify the computer usage of apparel manufacturers and to determine the impact of this computerization on apparel products. The conceptual model used was adapted from product line development theories (Kotler, 1984). The inference drawn from the model is that changes in operations (e.g. computerization) impact the product.

A questionnaire was developed from interviews with textile and apparel personnel and review of trade literature. Three sections included in the questionnaire were a list of computer activities, itemized production changes, and demographic features. For this ex post facto survey, the questionnaire was pretested prior to mailing to North Carolina apparel manufacturers. The return rate was satisfactory 48% (n=67) for studying this industry.

The three computer activities most often used were: integrated production (e.g. automatic transportation), shade sorting, and electronic communication with customers (e.g. bar coding and point-of-sale). The three change factors, developed by Factor Analysis with Varimax Rotation, were: customer contacts, product definition, and wholesale price. The use of General Linear Model with Analysis of Variance (ANOVA) showed two of the three change factors significantly varied with increases in computer activities. Follow-up analyses using Least Square Means (LSM) were performed when significant variance was found.

Computerized apparel production methods were related with increases in types of customer contacts. Production methods with computers showed mixed relationships with wholesale prices. Computerized movement of materials were related to a rise in price until 100% computerization was achieved. Increases in wholesale price was also associated with computerized shade sorting. Electronic communication with customers showed relationships with rises in customer variability and with price changes. Product variability was unaffected by computerization.

This study found significant relationships between computerization of apparel manufacturing and the apparel product. A higher initial cost for production may result in higher wholesale costs to the retailer. With continued use, economies of scale and reductions in price can occur. Use of computers can increase responsiveness to consumers but may require more contact time with customers and suppliers. As manufacturers choose strategic plans using computer technology, all segments of the industry including consumers should be aware of the potential for change in product and operational procedures for U.S. apparel.

TEXTILE/APPEAREL HOMEWORKERS: RELATIONSHIPS BETWEEN THE SYSTEM AND ITS PERCEIVED ECONOMIC BENEFITS

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Homework refers to the production of goods and services from the home; those employed in home-based production may be self-employed or work for an employer. The latter, known as industrial homework, currently is a controversial issue at both state and federal levels. Unions, manufacturers, and the government are debating a Department of Labor proposal to lift the ban on industrial homework in the women's apparel industry. Two broad points of view generally are reported regarding the issue: (1) opportunities for exploitation of workers, and (2) the rights of those who wish to work at home.

Hamilton's (1987) cultural meta-theory for clothing and textiles helps define the relationship between the social structure of textile and apparel homeworkers and a variety of economic organization mechanisms that apparently facilitate the existence of the system; it thus provides a useful framework for analysis. This project investigated preferences and satisfaction of textile and apparel homeworkers in relation to selected economic variables that may or may not facilitate the homework system. Economic variables included were productivity, earnings, child care expenses, transportation, job benefits, work regularity, and the costs of commuting, clothing, and overhead.

Extension advisers assisted in obtaining the initial snowball sample of respondents. A mail questionnaire was sent to 415 Illinois textile/apparel homeworkers; 262 surveys were returned. Of those, 202 were usable. Data were analyzed using correlations, one-way analysis of variance (ANOVA), and Scheffé post-hoc comparisons.

Eighty-eight percent of the respondents currently were employed in their homes. Ninety percent described themselves as self-employed. Respondents were overwhelmingly married, white females with a median age of 46. Thirty-seven percent described their home occupation as custom sewing. When asked reasons for working at home, the following responses were most popular: to earn extra money, 61%; because of low overhead costs, 48%; to cut commuting and clothing costs, 33%; and to increase productivity, 25%.

Data were divided by respondents' indicated preferences for working at home as opposed to an office or factory; a similar procedure was followed based on respondents' indicated satisfaction with working at home. Demographic differences also were examined. Data indicated that attitudes of homeworkers on certain economic variables differed significantly by respondents' preference of work location and overall satisfaction with homework, as well as with total household income, percentage of family income provided by homework, worker relation to head of household, and geographic location. No significant differences were found based on education.

Findings were analyzed in terms of Hamilton's framework. For example, those homeworkers who prefer home-based work indicated they are more productive working at home than elsewhere; those in urban areas were more likely than those in rural areas to agree that they worked at home to cut commuting and clothing costs associated with conventional work. It is these positive relationships between the social structure of homework and attitudes regarding the economic benefits of homework that contribute to the maintenance of the system. On the other hand, those respondents who were neutral about workplace preferences indicated they believed they could earn more money working outside. These attitudes indicate hindrances to the homework system. The fact that the facilitating economic mechanisms outnumbered the nonfacilitating ones provides some indication of reasons this social structure exists and persists.

Lubove (1987) suggested that how a patternmaker's job is performed can readily affect the firm's financial status. Because there is a limited amount of research available in the literature about patternmakers, a job structure analysis was designed. Apparel patternmakers employed by North Carolina women's and children's wear manufacturing units served as the research sample.

It was hypothesized that job structure variables would vary by Fashion Change Frequency and Organizational Strategy. Organization theory provided the model for change in the manufacturer's external environment. Organizational strategy (adaptation to change) linked the patternmaker to the environment. Job design theory indicated that the job structures could be determined by the Job Diagnostic Survey (JDS) (Hackman and Oldham, 1974) and by task inventories.

The independent variables were: Fashion Change Frequency and Organizational Strategy (Defender, Analyzer, Prospector, or Reactor) (Miles and Snow, 1978). The dependent variables were: Task Identity, Task Significance, Autonomy, and Feedback. Two potentially moderating variables, Computer Use and Organization Size, were also examined. Self-administered questionnaires were completed by one manager and all patternmakers at each of 50 companies, an 83% response. There were 119 patternmakers (79 female and 40 male) whose ages ranged from 22 to 71, M=38.8 (females), 46.5 (males), salaries $10,400 to $95,000, M=$25,008, and $40,323, and years as patternmaker one to 40, M=8.82 and 19.68. Education ranged from some high school to graduate school.

Statistical procedures included frequency, Pearson correlation, and multiple regression. Due to multicollinearity, the contributions of the independent variables were not assessed jointly. A detailed analysis of means, standard deviations, and Pearson correlations revealed the following significant correlations: Fashion Change Frequency and Task Differentiation p=.000, Strategy and Task Differentiation (Defender) p=.054, Strategy and Job Feedback (Reactor) p=.030, Strategy and Agent Feedback (Defender) p=.020, Strategy and Agent (Analyzer) p=.037, Organization Size and Fashion Change Frequency p=.003, Organization Size and Computer Use p=.000, Computer Use and Agent Feedback p=.042.

The results of this study imply that companies need to consider their organizational strategy when designing jobs. Companies whose product undergoes frequent fashion changes, and whose strategy is to maintain a stable product type while constantly identifying and exploiting new product and market opportunities (Analyzer), need patternmakers with strong patternmaking skills (these companies can be expected to be relatively small in size). Companies with less frequent product line changes, whose strategy is to defend a stable niche (Defender), need patternmakers with diverse pre-production manufacturing skills and minimal patternmaking (these companies can be expected to be relatively large in size). Educators should prepare students for this variety of expectations placed on patternmakers. Although companies of all sizes and fashion change frequencies use computers for patternmaking, a greater trend in computer use exists for larger companies with less fashion change frequency.

Further research should be pursued to profile the patternmaker's job among manufacturers of other apparel product types. A more sensitive instrument than the JDS should be identified or developed to determine strategy-based differences in a single job across many companies in one industry.

REFERENCES:


Clothing: The Daily Grind

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Clothing is a part of daily life yet for that reason is taken for granted. Women employed outside the home face demands on their time which add stress in their daily lives. Clothing maintenance is one responsibility. Having clothing easily accessible and in wearable condition can improve daily management and reduce stress.

Studies show that women assume responsibility for clothing management activities in the home. Although males are beginning to take some responsibility for household tasks, from 1965 to 1985, the percentage of laundry tasks performed by women decreased from 98% to 88%. Lawrence, Tasker and Babcock (1983) determined that the average time spent on clothing care by teens was two minutes per day and varied little whether or not the mother was employed outside the home. The teaching unit, Clothing: The Daily Grind, was designed to help employed women examine and manage clothing tasks to help control daily activities and reduce possible stress that can occur from performing clothing management tasks.

Clothing: The Daily Grind was developed as part of the Balancing Work and Family initiative for the Ohio Cooperative Extension Service. It addresses clothing management from three perspectives: analysis and delegation of clothing management tasks, selection factors in effective clothing management and storage solutions to effective clothing management including storage principles and wardrobe evaluation, storage aids and closet systems.

The teaching unit includes a teaching outline, slides, transparencies, videotape, participant evaluation and kit of portable storage aids. The lesson has been piloted with Extension support staff and Extension homemaker groups. It is designed for use with employed individuals, specifically those participating in Lunch 'n' Learn programs as well as special interest sessions offered by the Ohio Cooperative Extension Service. The lesson can be segmented in mini lessons to meet a range of time frames from 15 minutes to 2 hours. Mini topics include Clothing Practices for Toddlers: Developing Independence, and Clothing Management: Do you have to do it all?

Evaluations indicate that program participants find the suggestions practical and useful and provide new insights into clothing management tasks.

Fashion Update '90

Innovative Teaching: Workshops for non-traditional audiences

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Nationwide, seamstresses and entrepreneurial designers are interested in networking and finding reliable sources of information for advancing their skills and their understanding of the inter-relationships of fabric, design, construction and anatomy. Fashion Update '90 is the third annual series of national workshops designed to address this concern.

Designers, a Fashion Illustrator from Women's Wear Daily, an editor of Threads Magazine, a nationally recognized author and sewing authority ..., all have joined forces with university professors to teach one week concentrated workshops in techniques of haute couture, apparel manufacturing, fashion illustration and other fashion/apparel related topics. Each class day begins and ends with a one hour networking session conducted by participants. Mornings are devoted to the instructor sharing background knowledge via lecture/slide/demonstrations. This knowledge sets the stage for understanding not only "what" but also "why." Afternoons are laboratory technique exploration sessions. Evenings are used for extra-curricular enrichment sessions on the general topic (i.e. videos, field trips, guest speakers, etc.).

The university setting is "ideal" for these workshops. Practitioners can "trust" the university to offer them unbiased, current and correct information. Classrooms and dorm space are at low ebb in summer and thus well-equipped, cost effective facilities are available. The teaming of a university faculty member with a recognized practitioner "authority" allows excellent development opportunities for both. Geographic and skills diversity of the practitioner audience further enhances networking.

Five workshops and two related international study tours are offered for Summer, 1990. Attendees represent 23 different states and four international locations; over 60% come from out of state. The primary practitioner audience has expanded for Summer 1990 to include university professors from ten different states. This creates avenues of exploration for further exchange of ideas. Some of the guest faculty are asked to present work from their home campuses during the participant networking sessions. Selected practitioners also will present information on their work at these sessions.

The workshops benefit the host university faculty by offering the opportunity to network with nationally recognized experts in the field as well as with attendees from diverse practitioner backgrounds. Through this networking faculty from the program have been asked to be keynote speakers for symposia in other states. National publicity given to the program in Sew News and Threads Magazine has helped to develop a highly specialized mailing list of over 1,000 people. Furthermore, the workshops have provided development funds for the faculty and the academic program. Classes for Summer '90 are at capacity. Feedback from faculty, workshop participants, and featured lecturers has been extremely positive; so, with update and refinement the program will continue. The ACPTC presentation addresses what the workshops are, how they are organized and presents quotes from participants on the benefits to them.
EXPAND YOUR ACADEMIC OFFERINGS USING OUTSIDE EDUCATIONAL RESOURCES

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This submission is intended to be an example of using an outside educational resource to enhance the academic offerings of a textiles and clothing program in a university setting. At the same time, this educational opportunity can be made available to nontraditional students and those specific audiences interested in the workshop content. Thus, it also becomes an outreach activity and could be made available to Extension groups.

The specific outside educational resource used was a group of four professional women, successful as fiber artists and marketing consultants, who have collaborated to present seminars and workshops in marketing for apparel and fiber designers and other artisans. A faculty member from the department coordinated the academic offering.

For the past two years this "Marketing Makes Money" workshop has been offered to undergraduate and graduate students during spring semester. It has also been available to nonstudents who have interest in marketing a product, idea, or service. Therefore, the composition of the workshop has been a combination of students and nonstudents, some of whom are attempting to start small businesses.

The objectives of the workshop have been for the participants to learn: 1) how to find their niche in the marketplace, 2) how to create and/or update their image, 3) what type of promotional materials are needed, and 4) how to focus on what they are really selling. For the traditional student, the product being promoted may have been the result of a class assignment done in a traditional course which led to the development of a marketable idea or to make use of skills they have refined.

The workshop has been conducted on two successive Saturdays, eight hours each day and has been offered for one semester credit. Students have paid tuition plus a nominal fee, while nonstudents have paid a larger fee. The format of the first day has been focused on the four professionals presenting their subject matter with student interaction. The second Saturday has been for the students to give formal presentations promoting their products or ideas, accompanied by promotional materials they have developed. The workshop experts and fellow students critique their product and materials. Students from the first workshop were asked to return one year later for the second day of the second workshop to share with the group what had happened to them professionally.

It has been an intensive, stimulating two-day experience. Students enjoyed the fast pace and rigor because the focus was entirely on a "real live" object or idea that was of vital interest to them. At the end of each day students were asked to complete an evaluation form. Feedback was extremely positive. The returning participants from the year before, enjoyed sharing with the new group, the successes and failures they had experienced. The entire activity seemed to be a win-win situation.

This workshop, in a condensed form, was one of the two workshops accepted for presentation following the national meeting.
Breast cancer creates considerable stress for the patient and her family which may last for several years and vary in intensity at particular points during her recovery. Lack of information about immediate and future implications of cancer can inhibit effective adjustment to cancer related stressors. Thus, meeting the educational needs of the postmastectomy patient is an important component in helping her cope with the cancer experience.

Results from a research study involving 979 Missouri women who had received treatment for breast cancer within a 24 month period revealed that these women were concerned most about issues related to their health, followed by concerns about appearance, and last about interpersonal relationships. Although 70% of the women in this sample received a Reach to Recovery visit, only 11% indicated that they participated in a social support group. A major reason that women did not attend a social support group related to the stigma associated with cancer. Eighty-eight percent of the women indicated they would watch television programs related to breast cancer; 33% indicated they owned a video-tape recorder. Neither the National Cancer Institute nor the American Cancer Society had videotaped information that women could use in the privacy of their own homes.

The principal investigator with the assistance of medical and extension personnel proposed to the Missouri Division of the American Cancer Society that a videotape and bulletin be produced related to Personal Appearance Following Mastectomy. A two-step funding phase followed, the first phase ($3500) was for the production of a bulletin and videotape script. Scripts for the bulletin and the videotape were reviewed and suggested changes were proposed by the Education and Rehabilitation Committee of the Missouri Division of the American Cancer Society. When the printed bulletin was received, the committee agreed to fund ($10,000) the production of the videotape.

The major message of the 22 minute videotape was that with a properly fitted prosthesis, a woman who has had a mastectomy can feel comfortable and self-confident. Based on data from the original study, women were less knowledgeable about prosthesis fit than garment details in camouflaging body irregularities. Approximately 15 minutes of the tape was focused on information about selection and fit of an appropriate prosthesis; the remaining time was devoted to information about garment use and selection. In the opening scene, a physician reassures the patient that she will feel more confident and physically balanced with a weighted prosthesis. Other scenes are shown in the store situation with a professional fitter who assists three different women who have had breast surgery, some very recent to one who underwent surgery twelve years earlier. A feeling of warmth and understanding is depicted throughout the program. The bulletin contains similar information that reinforces the information in the videotape.

The completed videotape was presented to the funding agency in December 1989, since then it has been marketed both by the American Cancer Society and Extension Service. The Missouri Division of ACS proposed that all women who receive a Reach to Recovery visit be given a bulletin and informed of the availability of the videotape through local county ACS chapters. Other sources include major prosthesis manufacturers and retailers, Schools of Nursing throughout the state, Extension Service nationally, and professional organizations whose membership is mainly female. An unsolicited letter perhaps indicated how the ultimate user evaluated the tape: "I found it informative, but most of all, that it made me feel more "normal" in my situation."
One option research class that clothing and textiles students take in their program at San Francisco State is entitled Fashion, Clothing and Society Research. It has two prerequisites: a course in social psychology of dress, and computer applications in research. General objectives of the class are to identify clothing problems of various social groups and market populations and to develop a research project to investigate them.

The class text is a book of readings which contains selected articles from the literature that introduce concepts and theories related to: self-concept, role theory, perception, personality, values, attitudes, lifestyle, conformity and social class/status. After carefully reviewing these articles students begin their first project, a literature review of one concept/theory related to clothing. Students utilize approximately 10 sources to compose a paper which ultimately becomes the Review of Literature for their final research report. Groups of four or five students divide library indexes and abstracts to search for appropriate articles. Group members share copies of articles and a group presentation is organized where each member reports to the class a different aspect of the literature review. Each class member prepares his/her own written report and uses a visual aid in the group presentation. Some students elect to outline their presentation on overhead transparencies, some prepare handouts illustrating methodologies used in the literature or which they expect to use in their research projects later in the class, others use clothing items to illustrate a theory/concept (one group dressed in uniforms and "special effects" to illustrate role theory and social expectations.)

The second part of the class concentrates on defining problem statements, hypotheses, questionnaire development and critiques, data gathering, data entry into the computer, statistical analysis, and summary of the data. Students often work in pairs to develop a questionnaire using the same sample but analyze the data differently so that each student works with his/her own hypotheses and columns of data. Students define their samples utilizing consumers in retail stores, career people in downtown areas, children or adolescents in public and private schools, and other community settings. Some utilize a sample of approximately 150 students from an organized research session which takes place each semester during a two day period and entails completing questionnaires or other research activities that students or faculty are conducting at the time. Students realize the limitations of this convenience sample. A formal research report with Introduction, Review of Literature, Method, Results, and Summary/Conclusions/Implications is prepared.

Results from the research projects are often submitted to the retail stores, schools or appropriate interested parties. Undergraduate students gain an appreciation for research procedures and developing and completing a major project. Graduate students often pre-test thesis instruments and gain insight into their future research procedures. Class evaluations are conducted near the end of the semester. Changes based on these are incorporated into the next year's class. For most students this is their first experience in developing a full scale research report. They feel challenged and rewarded.
Posters depicting research-based projects which illustrate the complex relationship between textile serviceability and textile components (fiber content, yarn structure, fabrication, finish, and dye) are utilized in an introductory textiles class. Each student learns and applies the research process by exploring one narrow aspect of serviceability.

From a list provided by the instructor, each student selects a course-related topic ranging from fibers to dyes. The student then reviews textile publications and develops a research proposal to investigate an aspect of textile durability, comfort, care, or aesthetics. The student's proposal includes the project's purpose, hypothesis, data method, and required references. Proposals are evaluated by the instructor for feasibility; constructive feedback follows. The student then executes the proposal and tests fabrics in a non-laboratory setting. The end-product is a poster displaying the topic, hypothesis, fabrics used in data collection and findings.

Topics are grouped throughout the semester and posters are presented during the appropriate course unit. During the poster sessions, all class members view the posters and complete analysis forms to identify the hypothesis of each poster, summarize the data collected and create a pertinent multiple choice question. The questions are then compiled as a review guide. Instructor evaluation is centered on the poster as an accurate depiction of the hypothesis, demonstration of data collected and summarization of the findings.

Since the research display technique has been incorporated into class, 150 students in a two year period have benefited. By applying a research approach to a single textile concept, students are better prepared for inquiry-oriented laboratory experiences in advanced courses. Peer review of the poster sessions has enlivened the lecture sections by providing a more student-oriented format. The project has boosted course evaluations, enhanced student-teacher contact, and familiarized students with textile literature. The success of the project has resulted in using variations of the technique in other courses such as historic costume and clothing construction.
If students employ critical thinking while reading they will more likely understand and retain material. Analyzing the reference list of a chapter while consciously searching for justification of statements in a text can answer questions for students and lead to the development of a critical eye when reading technical material. They can also learn of the "process" nature of building a knowledge base in an area of study.

An assignment was developed for a senior level "Clothing and Human Behavior" class with the purpose of helping students see how one idea is built upon another. Each student gave a report in class from the following assignment:

Read an article which is included in the reference list of the chapter assigned for your report day. Describe what the reading is about and how it supports the chapter.

This perspective encouraged students to understand the progress of thought by which the study of social aspects of dress have been brought into focus over time.

Student reports pointed out the wide range of background material reviewed by researchers prior to conducting a study. For instance, one chapter cited references in the root disciplines of psychology, physics, sociology, and physiology, while other chapters included references involving textile science, marketing, and historic dress.

The assignment also acquainted students with a variety of research methods and procedures for solving specific research problems in the social sciences. The reports were used to generate ideas for informal group research projects also assigned in the course. Exposure to a greater number of published research articles allowed students to see a greater variety of options open to them. Student research projects were indeed more sophisticated in this class than in previous sections of the course. Use of terms such as "operational definition" and "hypothesis" came easily to students, and projects showed an attention to detail not previously observed in undergraduate research. The students seemed challenged rather than intimidated by the complexity of blocking out extraneous variables.

In an evaluation of the assignment 39 of the 40 students responding rated the reports given by others as "very informative." It seems the assignment did in fact bring something new to the minds of class members. The evaluation also asked students to rank seven phrases specifically describing what they had learned. Clearly supporting the objective of the assignment, the three phrases ranked highest were (in descending order):

- How ideas are brought together to build a case for research.
- How to pull bits of information out of many research projects.
- Methodology for research projects.

Responding to an open ended question, several students reported that they also learned "more about the chapters themselves." Hearing about the background of a topic reinforced and clarified the topic itself.

This assignment will continue to be used in this course since success of this teaching method was reflected in the positive responses of students. When they read with an eye toward verification they were able to learn in a new way. Students became "seekers" of knowledge as opposed to "assimilators." Students also left the course with a greater understanding of and a more global perspective on tools necessary for the study of clothing and human behavior.

Even though this course involved the social aspects of dress, the assignment would function in the same way when applied to any course or subject area. The process could be used to understand how the dynamics of any subject have been developed and refined over time.
THE USE OF FOCUS GROUP SESSIONS FOR KNOWLEDGE GENERATION AND RESEARCH TECHNIQUE

ORIENTATION

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Objectives: Academicians bear a heavy responsibility for defining and shaping what is known about a discipline, for pushing forward the "frontiers" of knowledge, and for communicating what is known to other constituencies. As concern has escalated about the role of textiles and clothing units, so has concern about the research orientation of textiles and clothing faculty. Hence, research orientation in graduate programs is central to the generation, dissemination, and contribution of knowledge in textiles and clothing.

Documentation of Need: Competition for positions at research-oriented institutions is intense. Graduate programs in textiles and clothing must produce candidates, available to fill teaching and research positions, who have adequate conceptual, methodological, application, and verbal and written communication skills. Given the heighten focus on research orientation, the researcher-teacher must find ways to support knowledge-generating research in subject matter curriculum in terms of limited financial and time resources. One way of reducing the time and expense involved in preparing research-oriented graduates is to integrate applied research into subject matter course work.

Project/Material Design: During the last 10 years, focus groups have become a widely employed qualitative research technique to gain participant insight into human activity related to designated topics. Focus groups can be used in place of, as a precursor to, or as a supplement to quantitative research. The technique suggested here uses focus-group interviews as a basis for collecting qualitative, primary data, and the companion tool of content analysis for categorizing participant responses. A structured focus group project was designed to engage students in a qualitative research technique and to gain insight into the dynamic relationships of attitudes, opinions, motivations, concerns, and problems related to current and projected human activity targeted toward a particular subject matter topic. The project consists of three primary phases: the planning phase, the conducting phase, and the analyzing and reporting phase. Planning assignments include in-depth study of the focus group technique, acquiring private industry support, defining the problem, developing research objectives, researching relevant literature on the supporting industry and problem identified, preparing the discussion guide, identifying and recruiting participants, selecting a moderator, and securing the interview facility. Conducting assignments consist of scheduling, conducting, and recording the group sessions. Analyzing and reporting assignments yield evaluation, analysis and interpretation of results, preparation of a final written report and recommendations, and a formal oral presentation to executive personnel representing the organization funding the project. Depending upon the degree of risk involved in following up on the analysis, the client has three alternatives: (a) take no action, (b) plan for immediate action, or (c) choose to undertake further quantitative research.

Effectiveness of Activity: This experience has shown students how a project functions and given them practical experience in research procedures. Successful results of the project have been evidenced in oral and written evaluations of the focus group assignment. Student evaluations have been overwhelmingly positive. Supporting organizations have reported utilizing the data in strategic planning and employing recommendations. In addition, a number of local firms have indicated an interest in funding future projects.
Rationale: Computers are a critical tool for fashion retailers. From quick response to customer services, the computer efficiently manipulates data for the retailer to stay competitive. The postsecondary student entering fashion retailing needs computer experience to stay competitive in the work force. By the year 2000 the labor force will be cut in half and every job in the country will require some skill in information processing technology. The more current, informed, and expert the student is in fashion retailing computer technology, the greater the employability.

Objective: The objectives were:
- to identify fashion related software/hardware usefulness;
- to develop and promote computer technical expertise; and
- to compare and analyze fashion retailing computer data reports as a future buyer.

Method: The computer program developed by Fashion Business Systems of Livingston, New Jersey, was installed on one faculty IBM computer. "The Retail Inventory Manager (TRIM)" software package assembles, organizes, performs mathematical and logical processes, stores, and prints fashion retail data. TRIM allows the retailer to stay current with inventory (soft goods on order, in stock, and sold) and vendors. The impact of a single item or all items inventoried in a fashion business may be tracked on a daily, weekly, monthly, or yearly basis.

A simulated set of data was used to provide inventory by store, vendor, style, size, season, color, price and classification in formulating hard copy. The system gathered, sorted, and reported all inventory information necessary for ordering, receiving, selling, customer returns, returns to vendors, transfers, personalized ticketing and labeling, physical inventory scanning, and dollar planning.

Fashion retailing majors received the hard copy information after an intense study of mathematics for the retail buyer. Prior knowledge of fashion retail mathematical terminology and figures facilitated the computer reports analysis. Fashion buying students were then able to identify what had been ordered and received into departments, classes, sizes, and colors; additional orders, reorders, customer returns, and returns to vendors; daily sales and inventory position; best performers by vendor, line class, price point, and seasons; items past due for delivery; markups and gross profits.

Evaluation: After thorough class discussions, students were evaluated by their analysis of a computer generated report and their recommendations concerning the merchandise. The system was also utilized in a one day workshop to area secondary home economics teachers. Future plans are: (a) to expand the evaluations by having each student define, organize, input, and analyze department data in a hands-on laboratory, and (b) to provide teachers with computer or video generated program review.
New advances in CAD technology are changing the way textiles and garments are designed and manufactured all over the world, and to stay abreast of these changes a growing number of college apparel design programs include CAD instruction. The computer was found to be a valuable instructional tool in teaching the abstract and relative design concepts of scale and proportion.

The main objective of the course was to learn CAD drawing and editing commands. The first assignment required the students to create four fabric designs. In addition to learning about software commands, universal design concerns emerged such as: the optimum configuration of a repeat shape for the sake of versatility in design repetition; the amount of difference in size necessary between figure and ground shapes in order to see clearly which was which. Reference materials in the form of art books and fabrics were brought to the computer lab to use as sources of inspiration for student designs.

In the second assignment students designed a logo which required conceptualizing an idea in graphic terms. To do this they researched a target market, price point, and activity in which the apparel would be worn. To design a computer generated logo, business card, and hangtag required that the student learn the drawing, edit, and text commands of the CAD system.

In the third project, croquis instruction combined the methodology used by Sharon Tate in her text Fashion Illustration with tutorials developed by the instructor. Tate uses a lined grid system to provide a framework for locating the various parts of a fashion figure. Using the layer capacity of AutoCad, it was possible to have this framework present while drawing the figure. The students would draw and redrew, comparing what was on their computer screen to what they saw in the text, until they were satisfied with the appearance of the fashion figure.

All apparel parts which the students designed in the fourth project were "draped" over the ideally proportioned croquis using the layer capacity of AutoCad. In this way their garments automatically reflected appropriate proportion. In the fifth project the students used skills developed in all of the previous assignments to create the logo for a company, design a line of garments based on the company's concept, and create the fabrics for the garments.

This course has been taught twice to approximately 14 students, and will be continued as a CAD course that focuses on pre-production design. The function this course serves in the curriculum is two-fold; literal pre-production design skills are developed, and transferable skills in computer technology are simultaneously learned. Evaluation of AutoCad by students who are working in industry using Microdynamics systems is that the classroom experience was very useful in establishing an understanding of how to design apparel using a CAD system.

REFERENCE
Literacy in computer-aided design (CAD) is becoming a necessity for students graduating in apparel design programs. However, many educational institutions are unable to purchase expensive industry-standard CAD systems (e.g., Microdynamics, Gerber, Lectra). As an alternative, many schools have turned to AutoCAD® software (used with microcomputer hardware) as an affordable means to introduce apparel design students to computer-aided design.

Although AutoCAD® is less expensive than software used in industry-standard systems, it is a powerful and complex computing tool. Users must become proficient at using a myriad of commands and techniques. Additionally, most documentation for AutoCAD® is not geared toward apparel design applications.

It is a challenge to instructors to introduce computer-aided design via AutoCAD® in a manner that is understandable, enjoyable, and relatively simple for students to master. To meet this challenge, a lab manual entitled AutoCAD® for Apparel Design has been developed. This manual (and its accompanying floppy disk) is designed for students who have a minimal computer background and provides a simple effective format for instructors to develop lesson plans for use in the classroom.

The manual is divided into eleven chapters:

Chapter 1: Hardware, Software, and Logging On to the Computer
Chapter 2: Beginning a New Drawing
Chapter 3: Other Drawing Entities and Aids
Chapter 4: More on Drawing Aids
Chapter 5: Advanced Drawing and Editing
Chapter 6: Using Layers
Chapter 7: Blocking
Chapter 8: Digitizing in a Pattern
Chapter 9: Marker Making
Chapter 10: Grading a Pattern
Chapter 11: Flat Pattern Manipulation

Each chapter is concise and is geared specifically to teach the fundamentals of AutoCAD®, including specific applications to apparel design. Each chapter includes an assignment to give students the opportunity to practice their AutoCAD® skills. Using the lab manual as a basis for planning lessons, instructors can easily expect students to complete the assignment for each chapter in a three-hour lab period. Drawings, which accompany the lab manual and are on floppy disks, facilitate student learning.

AutoCAD® for Apparel Design was recently used in a short introductory CAD course. Students learned AutoCAD® quickly and were able to explore its numerous applications to computer-aided design.
As we enter the 90s, clothing plays a major role in the employment, business impression and advancement of women pursuing a career. This teaching innovation focuses on the use of wardrobe planning for business and professional women in relation to types of employment. High technology is present and available in all levels of society. Using a computer program for business and professional wardrobe planning can be an advantage to educators, students, job placement services and women beginning a professional career.

The purpose of the computer-assisted design software program, Wardrobe System 1-2-3 and closet inventory, is to enable women to compare their current wardrobe with the wardrobe needs for a specific career. The components of the computer software program include:

A) Introduction and explanation of software program
B) Personal closet inventory
C) Career choice selection
D) Comparison and analysis of wardrobes

The Wardrobe System 1-2-3 program was tested and evaluated with junior college students, university students, and members of two business and professional women organizations. The questionnaire used to evaluate the program provided input on ability to follow closet inventory instructions, ease of computer software use, educational information provided on wardrobe planning in relation to career areas and effectiveness of program in classifying careers and appropriate wardrobe needs.

In the field of home economics there is a need for more computer software, especially in the clothing and textiles area. Considering today's number of women entering the professional world, very little wardrobe planning computer software can be found that deals with a professional woman's wardrobe in relation to specific types of employment. Some of the advantages of using a computer program include the following:

1. Basic exposure to the computer and its many uses.
2. A quick display and printout of the many wardrobe options according to job choice.
3. A way of personalizing each individual's career choice and wardrobe needs.
4. A way to service a woman's need for professional wardrobe without demanding the intensive time of a teacher or job placement agent.

Recommendations for using teaching materials include describing the concept and the three wardrobes by the instructor; supplying sample garments; and allowing the computer software to be done on an individual basis. These teaching materials will be designed for university placement and job placement agencies to aid in preparing interviewees; for high school and college teachers to enhance a curriculum dealing with job search, placement and resumes; for use in the Cooperative Extension Service with 4-H projects and Homemaker leader lessons; and even for large corporations whose personnel department wants to enhance its program.
CONCEPTUALIZATION OF CLOTHING DEPRIVATION: FURTHER EVIDENCE

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The purpose of this study was to extend the conceptualization of perceived clothing deprivation (CD) by examining the temporal nature of clothing deprivation among three groups of adolescents. The three groups were: (a) 336 9-12th grade predominantly female home economics students at 6 high schools; (b) 161 12-19 year old predominantly male skateboarders; and (c) 61 14-18 year old male baseball players. Perceived CD was measured by two 5-item scales that were developed previously (Francis, 1990): (1) Inability to buy; and (2) Clothing deprivation relative to peers. Factor scores for the two scales were calculated and used as the dependent variables. An intertemporal variable, economic stress, was measured by the sum of reported decrease in family income (4-point scale) and reported increase in financial demands (4-point scale). The three groups of subjects were used to operationalize an intratemporal variable, sport activity. Economic stress, sport activity, and economic stress X sport activity were found to be related to Inability to Buy ($R^2 = .11$). Generally, the greater the level of economic stress, the higher the Inability to Buy. However, this effect was more pronounced for the general high school group than for the other two groups. For Clothing Deprivation Relative to Peers, main effects for economic stress and sport activity were found ($R^2 = .15$). Specifically, the higher the level of economic stress, the higher the Clothing Deprivation Relative to Peers. However, the general high school reported the least CD and the baseball group reported the most Clothing Deprivation Relative to Peers. These findings are consistent with the previously reported effect of economic stress on clothing deprivation (Francis, 1990).

Although skateboarder attire is readily recognizable and typically consists of mismatched, unique garments, hats, shoes and other accessories that are subjected to harsh wearing conditions, an ANCOVA calculated to test the effect of an intratemporal variable, sport activity, on the two CD measures revealed no significant effects for Inability to Buy.

For Clothing Deprivation Relative to Peers, a main effect for sport activity was found ($F=9.18, df=1,537, p=.01$). Follow-up tests indicated no differences between the skateboard and baseball groups, but both of these groups reported higher Clothing Deprivation Relative to Peers than did the general high school group. Also, the covariate, age, was positively related to Clothing Deprivation Relative to Peers. These findings suggest that perceived CD is self-defined and peer dependent among adolescents and confirm that CD is affected primarily by intertemporal rather than intratemporal variables.

Home Sewers' and Fabric Store Managers' Expectations of Fabric Store Sales Personnel's Product Knowledge, Education, and Experience

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Previous research suggests that fabric store customers are not satisfied with the service they receive from fabric store sales personnel. According to satisfaction theory, this dissatisfaction may be a result of their expectations of sales personnel's traits not being met. Therefore, the purpose of this study was to compare the expectations held by home sewers with those held by fabric store managers regarding sales personnel's product knowledge, education related to sewing and textiles, and sewing and sales experience. Two facets of the term "expectation" were investigated: 1) what was considered probable, and 2) what was desired.

A self-administered questionnaire was mailed to home sewers and fabric store managers. A systematic random sample of home sewers (N=502) was drawn from a list of Oregon recipients of Oregon Home Economics Extension Newsletters. The fabric store managers sample consisted of managers of all fabric stores listed under the heading "fabric shops" in the yellow pages of telephone directories in Oregon (N=195). Questionnaires were developed, pretested, and implemented following a modification of the Total Design Method (Dillman, 1978). Home sewers' questionnaires included questions concerning the product knowledge, sewing and textile related education, and sewing and sales experience considered probable and desired of the average fabric store sales personnel. 379 questionnaires were returned from home sewers for a response rate of 79%. Store managers' questionnaires included questions concerning number of current sales personnel in various levels and categories of product knowledge, sewing and textiles related education, and sewing and sales experience; and the desired levels and categories of these characteristics of sales personnel. 97 questionnaires were returned from managers for a response rate of 66%.

The data gathered using these questionnaires were analyzed using descriptive statistics. A consumer expectation matrix was developed and used to estimate percentages of home sewers who had desires greater than, less than, or equal to the characteristics home sewers considered probable for fabric store sales personnel. It was found that home sewers in the present sample believed that fabric store sales personnel did not have the characteristics they desired. When comparing the characteristics home sewers considered probable and desirable of fabric store sales personnel to managers' estimations of fabric stores sales personnel's characteristics, it was shown that sales personnel, according to their managers, have higher levels of sewing and sales experience and product knowledge than home sewers expect. Fabric sales personnel's sewing and sales experience and product knowledge also fulfilled management expectations. The desires of consumers and management that sales personnel could not meet were sources of education related to sewing and textiles utilized.

The results suggest that, in general, the characteristics of fabric store sales personnel desired by home sewers are currently being met. The home sewers' dissatisfaction may be a result of sales personnel's lack of time to spend with customers or poor communication with customers.

References:

During the early twentieth century, more and more women entered the workforce, especially as office workers. What types of advice on dress and grooming were directed to these business women? Did that advice change during the years from 1920 to 1940? These were two questions that guided this research.


In 1920 only 20 percent of women in the population worked outside of their homes; by 1940 that figure had risen to almost 25 percent (Hooks, 1947, p. 3). Women employed in offices increased from about 1.25 million in 1920 to more than 2 million in 1930, then dropped to slightly fewer than 1.5 million by 1940. Married women working in offices increased throughout the period; unmarried women workers increased between 1920 and 1930, then fell between 1930 and 1940. In 1920 single, widowed, and divorced women were grouped in one category; by 1930 the census bureau had created a separate category for widowed and divorced business women.

Advisors seemed to be writing for two groups of women: those who were working until they married and those who were working indefinitely, for personal and economic independence. Yet there were no striking differences in the advice about appearance given to the two groups. Consistent directives across periodicals and decades included the following: Buy a few quality pieces that will stand continuous wearing. Work from a plan, with a defined color scheme. Keep the colors of major pieces subdued, but provide color accents with accessories (which will also serve to take a dress from day to evening. Be dignified and unobtrusive in your dress, but not necessarily unattractive. Let your grooming and personal cleanliness be flawless; your makeup, subtle.

Office behavior was to be as decorous as office attire. However, reserved business manners should not be taken into the social sphere, said the advisors.

Little change in advice occurred between the 1920s and the 1930s, despite drastic differences in economic and business conditions. The principal shift was in favor of wearing suits in the office by the 1930s. They had been deemed too tweedy and countrified for business wear during the 1920s. What did shift was the source of advice columns. High fashion magazines such as Vogue had many articles for business women during the 1920s. Women's and general-interest magazines offered the most advice to female office workers in the 1930s.

Authors differed by gender in their viewpoint on women in business. Most women writers endorsed careers; most men authors underscored the problems and pitfalls of business for women. The prevalence of the label "girls" for all working women intimates that women neither had nor were expected to have prestige in the corporate world.

Distinctive clothing styles favored by adolescents but deplored by their parents are a familiar feature on the modern landscape. A century ago, teenagers dressed essentially like adults, and the word "adolescence" had barely been invented. When did adolescent clothing first evolve its rebellious nature? How did parents and other adults respond to outrageous teenage dress, when they had not worn comparable styles in their own youth?

Since hardly any research has been done on the subject of teenage clothing, this project drew almost exclusively on primary sources. These fell into three categories: articles describing teenage clothing which was perceived as deviant, books and articles written by psychologists trying to explain adolescent behavior, and articles directed at teenagers, offering advice about dress.

The hobble skirt (1908) was the earliest clothing style which was primarily identified with teenagers (in this case, women in their late teens). The "flapper" style of the post-World War I era was the next major teenage clothing fashion. In both cases, adult critics perceived deviant styles as evidence of general moral decline, and attempted to control teen behavior through dress codes and legislation at the local and state levels. In contrast, experts on adolescence viewed rebellious behavior as a reaction to the pressures of impending adulthood, aggravated by the complexity of modern life. They urged parents and teachers to take steps to relieve that pressure, and to tolerate behavior that was annoying but not dangerous.

Not until the end of the 1920's did parents begin to adopt the stance advocated by psychologists. Reactions to teenage clothing fads were softened; though dress codes still existed in public schools, local ordinances and state laws were less often used as a means of control. Magazines for teenagers began to appear, often including columns on dress that offered guidance and advice in the guise of being written by a peer: a teenager or a college-age young adult.

While these changes might be explained simply as delayed acceptance of the teachings of adolescent psychologists, there is another reason for the growing toleration of adolescent clothing fads. The parents of the 1930's had their own memories of having enjoyed— and survived— earlier teenage fashions. This may explain the 20-year time span between the hobble skirt and the eventual acceptance of confrontational fashion as a normal part of adolescence; that was the time it took for the teenagers of 1908 to grow up, marry and become parents of their own teenagers.

This study suggests that some consideration for fashion behavior should be given to the earlier experiences of consumers, in this case, the dynamic tensions that exist between parents and children. It also opens the door to further research into the history of adolescent dress.
A STUDY OF FASHION CHANGES RELATED TO MEN'S BOXER UNDERSHORTS

AS DEPICTED IN SEARS ANNUAL MERCHANDISE CATALOGS 1946-1988

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The purpose of this study was to research the availability of men's boxer undershorts post World War II (1946-1988). Specifically, based on pictorial underwear fashions illustrated in the Sears Annual Merchandise catalog, this study documented and analyzed the availability of boxer undershorts as to fiber content, fabric structure, color, style features, and special design motifs during the time period studied. The objective of the study was to increase the knowledge of men's historical costume through an investigation into the styles of men's boxer undershorts.

The historical continuity process of fashion, as well as other conceptions concerning fashion change served as the theoretical framework for this study. The historical continuity process of fashion proposes that each new fashion is an evolutionary outgrowth and elaboration of the previous fashion (Blumer, 1969). Examples include past research by Young (1937) and Kroeber (1919), which indicated that changes in fashion took place in well-defined cycles.

It is believed by some researchers that broad fashion trends follow an evolutionary process. However, specific fashion details and styles may be a result of social events, technological advances, and other cultural activities. Studies by researchers such as Nugent (1962) and Behling (1986), found relationships between women's clothing and changes in society.

To document and analyze men's boxer undershorts, Sears Annual Merchandise Catalog was selected. Spring/Summer issues in two-year issues were chosen between the years of 1946 and 1988, which yielded a sample of 237 boxer undershorts. A frequency distribution was completed. Five research hypotheses were tested to accomplish the objective of the study. Results indicated that there were differences between the frequency of occurrence among a) fiber content, b) color, and c) style features. However, there was not a significant difference of occurrence among fabric structure of men's boxer undershorts. In addition, due to lack of information concerning fabric design motifs, an analysis was not able to be performed concerning this hypothesis.

These findings support the belief that there are broad changes in boxer undershorts which follow an evolutionary process, however, specific changes in details are a result of society's influence. This is evident in the changes concerning fiber content, color, and style features which were influenced by technological advance. The fact that fabric structure of boxer undershorts was not influenced by society suggests that this is a broad trend which follows an evolutionary process.

Comparing these results with data collected from a fashion magazine such as Esquire is suggested for further study. The data also suggests that further study comparing the trends in style features of boxer undershorts documented in this study with those of men's trousers of the same time period would provide another topic for research.


ADULT'S PERCEPTION OF MALE GARMENT STYLES

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The purpose of this research was to investigate the effect of male apparel styles (daring, conservative, formal, and casual) on the perceptions of personal traits of men by American adults. The relationship between the clothing interest rating of viewers and personal traits ratings on each garment style was determined.

Hypotheses are:
1. First impressions conveyed by different male clothing styles will be influenced by the clothing interest of perceivers.
2. A male stranger dressed in a particular style will be perceived differently than one dressed in another clothing style.
3. Perception of personal traits conveyed by the various clothing apparel styles will be influenced by the viewer's occupation, education, age, and choice of shopping site.

Questionnaires were sent to a random sample of six hundred adults, male and female, in the Midwest. An analysis of variance and ANOVA techniques were used to analyze the data.

Results indicated that a male stranger dressed in the daring style was considered unattractive, not intelligent, but very popular; a male stranger formally dressed was considered attractive, intelligent, and popular; a male stranger casually dressed was viewed as unattractive, and not intelligent; and a male stranger conservatively dressed was seen as intelligent, but not popular. Respondents with high clothing interest rated the conservatively dressed male stranger more sociable and favored the formally dressed stranger.

The results provide a basis for better understanding of the impact of clothing on social interaction and impression management. The study reinforces the notion that apparel styles are evaluated according to style characteristics and that style has an effect on the impression formation of the viewer.
Throughout the past decade, concerns have been expressed about declining enrollment trends in colleges and universities. Colleges and universities across the nation are engaged in competitive recruiting from among a limited number of potential students. Departments and programs in higher education, now more than ever before, must maintain enrollments, space, equipment, faculty positions, prestige, operating dollars, and most importantly, high quality graduates to guarantee adequate budgets to continue their existence.

For the purpose of retaining enrollment of undergraduate students in higher education, educational institutions must employ marketing procedures to assist in decision-making and problem-solving and require that specific issues be assessed to accomplish this objective. The purpose of this research was to examine what marketing procedures influenced or directed an individual's choice to major in Textiles/clothing and Fashion. This research was designed to understand the thinking of students as to which techniques accommodated and informed them of a good image of the Textiles/clothing and Fashion profession and any comparative edge that ultimately influenced their decision to select a particular program.

The objective of this study was to identify the influences which persuaded students to select Textiles/clothing and Fashion or some other major as their main course of study in higher education. The influences investigated were grouped into four categories. These categories were: (a) college major selection information, (b) media marketing strategies, (c) marketing strategies, and (d) personal demographics.

Data were collected during Fall Semester, 1988 from college students enrolled in the five regional state universities in Missouri. The population was limited to students enrolled in introductory home economics courses and classified by selection of major. Five hundred seventy-four usable questionnaires provided a response rate of 69.4 percent.

A plausible model to describe the probabilities of a student's choice to major in Textiles/clothing and Fashion or some other major was developed using multiple logistic regression. Research questions were answered by utilizing an independent logistic regression model (logit) from SUGI Supplemental Library User's Guide. This model was applied to the analysis of cross-classifications to provide insight into the collected data. The model was well suited for the analysis of survey data when analyzing behavior with categorical, dependent variables, such as major/nonmajor. Understanding the determinants of an individual's choice to major in home economics was the focus of the analysis. The data obtained were designed to answer the question, of what underlying parameters would "most likely" have produced the observed data? The analysis revealed a distribution of expected choices, i.e., probabilities and how these probabilities change with different exogenous factors.

The analysis of the multiple logistic regression equations described the probabilities of a student's choice to major in Textiles/clothing and Fashion or some other major. The basic model considered in this research regressed the independent variables identified on the questionnaire. The results concerning college major selection information established a statistically significant relationship between high school home economics teachers when predicting Textiles/clothing and Fashion majors. The results related to media marketing strategies found posters were statistically significant when predicting majors, whereas news stories were statistically significant when predicting other majors. The third category concerning marketing strategies found college/university recruitment days or nights were statistically significant when predicting majors. The estimates from the logistic model found overall marketing strategy model to be statistically significant when combining the linear combination of independent variables to predict Textiles/clothing and Fashion major or other major.
According to the cognitive consistency theory of the self-concept and clothing, people tend to wear types of clothing they perceive as being consistent with the way they would like others to perceive them and the way they would like to perceive themselves. When there is an inconsistency between the actual self-impression and the desired self-impression, cognitive dissonance may occur. This dissonance may be reduced through behavior modification. The goal of this study was to determine whether a positive or negative evaluation of one's clothing (independent variable) would affect one's behavior in terms of sociability, emotional stability, and dominance (dependent variables). Clothing interest was also measured to examine whether it was related to the effect of one's evaluation of one's clothing on her level of these traits.

Subjects for the study consisted of 124 female undergraduates enrolled in courses from a textiles, apparel, and merchandising curriculum. A research instrument was developed that measured sociability, emotional stability, and dominance with and without a positive or negative "feeling toward clothing" variable. The California Psychological Inventory (1956), the Gordon Personal Profile (1901), and The Adjustment Inventory (1934) were sources from which test items were adopted. Gurel and Gurel's (1979) factor analysis of Creekmore's "Importance of Clothing" questionnaire was used as a source for items measuring general clothing interest and five separate dimensions of clothing interest.

Repeated measures t-tests revealed significant differences between sociability, emotional stability, and dominance measures with and without the feeling toward clothing variable. The analyses showed a significant increase in measures for each of the three traits when a positive feeling toward one's clothing existed (p < .05), and a significant decrease in measures for each of the three traits when a negative feeling toward one's clothing existed (p < .001). The results of the MANOVA (Hotellings T² test) to evaluate the high and low clothing interest groups (independent/predictor variables) on multiple dependent variables of sociability, emotional stability, and dominance with the addition of the feeling toward clothing variable indicated that there were overall significant two group differences on all three dependent variables (p < .01). Clothing interest as a heightened awareness of clothes (p < .05), and clothing interest as an enhancement of security (p < .001) were specific dimensions of interest in clothing found to be significantly related to the influence of a positive or negative feeling toward one's clothing on each of the three traits.

This study further illustrated the relationship between the self and clothing by examining one's behavioral reactions to one's own clothing cues. It also demonstrated the multi-dimensional nature of the concept of clothing interest.


Appearance management involves conscious decisions and acts related to presenting the self to others and engaging in social interaction. Personality attributes play a part in the presentation of self to others in that they are seen as typical and consistent behaviors which are reflected in clothing choice. Clothing choice then becomes the symbol used by perceivers to interpret information about the individual; the personality can be represented by the dress and the dress can also give clues about personality independent of the wearer.

There is evidence that differences in structural features of an individual's personality are associated with identity formation, the process of solidifying the self through resolving crises and mastering developmental tasks in various life stages (Berzonsky and Neimeyer, 1988). Read, Adams, and Dobson (1984) report that few published studies have investigated the relationship between identity formation and personality correlates with interpersonal social actions of women, including dress. However, popular literature is rich with directives on projecting certain personalities in the workplace and styles of dress that symbolize these personality types. The purpose of this preliminary investigation was to examine identity status as a determinant of personality attributes and to assess the relationship between personality attributes and clothing choice.

The instrument, developed by the investigators, consisted of an identity status questionnaire (interview), a 48 item personality attribute checklist, a 30 item appearance measure, and a demographic profile. Subjects rated the applicability of each personality attribute, and also designated the personality category that was overall most descriptive of themselves. The 30 item appearance measure consisted of 5 photographs to represent each of the six personality categories, and was derived by Q-sort from a total of 72 photographs analyzed by image consultants. Data was analyzed using descriptive statistics and measures of correlation.

Respondents were 25 women, ages 18 to 34, representing various socio-demographics, levels of education, and careers or career preparation areas. Subjects represented identity status categories of achieved, diffusion, moratorium, and foreclosure. Personality attributes were spread over six personality categories. Subjects with achieved identities tended to have more distinct attributes and tended to select clothing choices that were more closely related to their personalities than did subjects who had other identity statuses. There is some cursory evidence to suggest consistency between categories of personality attributes and clothing choices that symbolize the personality.


Clothing studies clearly indicate that professional attire is an indicator of professional status but casual attire does not denote status. Little empirical research, however, has been conducted on the effect of a combination of clothing style and verbal discourse variables on the effect of perception of character traits. The purpose of this research was to investigate the effects of appearance (professional/casual attire) and verbal discourse (humor/no-humor) on the perception of character traits in the professional female as assessed by male and female observers. The theoretical frameworks for this study are the effect of clothing on the judgment of character traits and the dramaturgical perspective of impression management applied to a professional female. Previous research has reported conflicting findings of the effect of verbal discourse combined with various modes of dress on the perceiver, when the sex of the stimulus person was considered.

Character traits were measured by eight dependent subscales: competence, social attractiveness, emotional traits, personality, adaptability, sex-role traits, credibility, and humor traits. Sex-role attitude was measured by the Attitude Toward Women Scale (Spence, Helmreich, and Stapp, 1973) as a covariate. Four conditions manipulating professional and casual attire and humor and no-humor were presented by videotape to four randomly assigned sample groups (40-50 subjects each) of a college student population drawn from Introductory Sociology classes. The videotapes were pilot tested and results indicated subjects had little difficulty identifying experimental variables. Data were analyzed using three-way analysis of variance on attire, humor, and sex of perceiver. The finding revealed that casual attire was rated higher in four of the eight subscales, namely, social attractiveness, personality, adaptability, and credibility. Humor was rated significantly higher in the humor subscale. Males rated casual attire significantly higher in competence, sex-role, and credibility subscales. Females rated professional attire higher in the personality subscale. There was an interaction effect between presence of humor and attire on the social attractiveness subscale. Prior attitude toward traditional female roles did not significantly affect the character trait ratings. Overall, males preferred the casual attire to the professional attire, which could indicate males were less intimidated by a casually-attired professional female. Future research should replicate this study involving subjects from a professional arena.

COLOR OF CLOTHING USED WHEN ILL OR DEPRESSED

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In a study of depression and clothing and appearance self-concept Dubler and Gurel (1984) found a positive correlation between level of depression and interest in clothing which was contrary to most previous research that had shown depressed persons to be less interested in their appearance. A possible interpretation for this finding was that "a depressed person may deliberately select clothing in an attempt to alleviate the depression." This research report sought to look at one aspect of clothing that may be used to alleviate depression, that of color. The research was exploratory, using an available sample of adults, average age 38 years.

As part of a study of color preferences, subjects contacted at a shopping mall were asked whether they had any particular clothing they wore when feeling ill or depressed. Of the 121 respondents, 34 or 29% answered affirmatively and then identified the color of that particular clothing. With the exception of yellow-green, each of the 10 Munsell hues plus black, white and grey was named at least once. The majority (53%) of the colors chosen, however, were warm hues (red, yellow, and yellow-red) with red the most frequently identified (mode = 8). Similar to the Dubler and Gurel findings this suggests that bright, active clothing colors might have been used to alleviate negative feelings.

The Chi Square statistic showed significant differences for only one demographic characteristic, that of sex (.02) with women more likely than men to identify specific clothing worn when ill or depressed. Women accounted for 65% of the total sample and 82% of those who used particular clothing when ill or depressed. The amount of training the subject had in color theory and use was also significantly (.02) related to the use of clothing when ill or depressed, with those who had moderate training more likely to use clothing in this way than either those with no training or those with extensive color training. For 29% of subjects the color identified for use when ill or depressed was the same as the dominant hue in the wardrobe. For 24% of the subjects the color was the same as that identified as a favorite hue, and for 20% it was the same as the color of a favorite item of clothing. None of these relationships was statistically significant, however. The specific colors of clothing selected were not significantly related to any demographic characteristics.

Further research in the area of color use for the ill or depressed would be needed to identify the reasons subjects selected particular colors and whether color was more important than style or texture of clothing selected.

Reference:
TOURISTS' PERCEPTIONS OF AUTHENTICITY IN TEXTILE CRAFTS

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It is generally believed that tourists seek authenticity in their travels. One source of authenticity for tourists is the local crafts available for purchase. Crafts vary in their level of authenticity and tourists may differ in their preferences for authentic crafts (Cohen, 1988). Research is needed to identify the characteristics that tourists attribute to crafts defined as authentic. Research methods that call for observation of tourists during travel have been suggested for enhancing tourism research (Dann, Nash, & Pearce, 1989).

The purpose of the present exploratory study was to identify parameters of authenticity as related to textile crafts among young adults. The three objectives were: 1) to identify how definitions of authenticity in textile crafts changed during a period of travel, 2) to examine the effect that past travel experience had on perceptions of authenticity, and 3) to explore the relationship between tourists' perceptions of authenticity and preferences for textile crafts.

Procedure. Subjects were nine students who participated in an international study course that included a 13-day study tour to Mexico. Access to the course allowed the researchers to follow a tourist group intensely over a period of study and travel. Multiple methods of data collection were utilized in order to ensure the validity of the study. Questionnaires were administered on the first day of class, upon leaving each of two major destinations, and at the end of the period abroad. The questionnaires consisted of textile characteristics scored on a 7-point Likert type scale and open-ended questions. In addition, open-ended interviews were conducted with each tourist two times in Chiapas and two times in Oaxaca.

Open-ended interview questions and questionnaire items were coded for content and analyzed based on frequency of response. Because of the small sample, statistics were not used for inferential purposes, but were intended to enhance interpretation of the data and provide direction for further research. Means of questionnaire items scored on the Likert type scale were analyzed using analysis of variance and repeated measure analysis of variance.

Results. All participants, regardless of past travels to Mexico, defined authenticity in a similar manner. Both prior to and throughout the study tour, participants described traditional motifs, colors, styles, and method of production as important characteristics of authentic textile crafts. Handwoven belts and rugs were often identified as authentic as were the blouses (huipiles) of the Mayan Indians which incorporated natural dyes, symbolic motifs, and handwoven brocade. Participants became more aware of whether a craft was produced and consumed locally after briefly traveling in Mexico and utilized these characteristics to define authenticity. As participants saw textiles worn by Indians, they incorporated their observations in definitions of authentic. Examples included huarache sandals and embroidered gingham aprons. Modifications to traditional style, such as using acrylic yarns in handwoven belts, were considered to decrease authenticity. Characteristics of authenticity were not described as very important in purchasing Mexican textile crafts. These young tourists were more concerned with purchasing crafts that had motifs, designs, or colors that appealed to them, or with buying a craft that could not be purchased elsewhere.

Implications. While characteristics of authenticity in textile crafts are important to tourists in their purchase decisions, for some tourists more importance may be placed on aesthetic criteria. Further research should expand and refine characteristics of textile authenticity and explore the importance of authenticity among different age groups.

A current merchandising trend warranting exploration and understanding is the emergence of product development specialists and divisions at the retail level. Product development personnel, individuals responsible for actually conceptualizing, planning, and developing their product lines for their specific targeted market are increasingly replacing traditional buying personnel, or product selectors. The product development functions which were previously the responsibility of apparel manufacturers are being performed at the retail level.

Research was undertaken to examine and profile the functional activities taking place in the product development division of an international apparel retailer. Case study analysis (embedded, single case format) was the research design used to collect the data (Yin, 1984). A multimillion dollar, international apparel retailer was selected as the case site. A pilot study was undertaken in the product development area of a national apparel retailer prior to the actual case study to refine the data collection plans regarding content and procedures. Data collection employed multiple sources of evidence included interviews, direct observation, and physical evidence; validity was addressed through the use of multiple sources of evidence and by key informants at the case site reviewing and corroborating the reported results. Reliability of the evidence collected was increased through the establishment of a data base of evidence collected. The development of a descriptive framework was the analytical strategy used for the organization of the case study data. The use of a chronological structure sequencing the events over time was used in composing the results of the study.

The study has resulted in descriptive and explanatory knowledge of product development activities pertaining to trend analysis, concept evolution, palette decisions, fabrication, prints and plaids selection, silhouette directions, prototype construction, line presentation, and subsequent activities. Distinctions between traditional retail merchandising practices were also profiled in comparison to product development activities and benefits. An outcome of the study is the generation of a Model of Retail Product Development including the identification of intervening factors impacting upon the development process.

The Product Development Model provides a chronological sequence of the product development process and intervening factors impacting upon the development process. In summary, product development is initiated by a comprehensive trend analysis which is instrumental in generating the concept of collection theme. Once the concept is established, materials development takes place; the color palette, fabrication, and fabric design decisions are made. Based on trends, concepts, and materials, silhouettes are generated. Prototypes are constructed and analyzed, and the line is then ready for presentation to the merchandising division for final line selection.

Throughout the evolution of product, a number of external and internal intervening forces impact upon the development process. Of primary importance is an understanding of the defined target market since knowledge of the core customer is the underlying force behind all product development decisions. The exploration and knowledge of the external markets (European and domestic) are also vital in the development of product. In order to ensure agreement on development directions from trends to final line decisions, continuous two-way communication takes place between the merchandising division and the product development division.

Benefits of the study include an increased understanding of product development with implications for curriculum directions, increased knowledge of career opportunities for graduates in Textiles and Clothing programs, and a better awareness of the types of skills and abilities needed by graduates pursuing these competitive retail positions.

Planning Practices of Small Rural Apparel Retailers

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Small businesses account for 97 percent of all United States businesses and employ over 60 percent of the private United States workforce. It is evident, therefore, that the success of small businesses is crucial to the economy. Many new businesses are started each year; unfortunately, many of these businesses will fail within eighteen months. Retailers in rural settings also face unique economic and situational factors that influence their overall effectiveness. Effective planning practices may contribute greater potential for success of small rural retailers.

The purpose of the study was to determine the extent to which small rural apparel retailers engage in planning and the relationship between planning and success. The researchers also examined the activities and outside information sources utilized by small rural apparel retailers in planning.

A questionnaire was developed by the researchers to determine the extent to which independently owned and operated small apparel stores plan, their specific planning activities, outside information sources utilized and the perceived success of their firms. One thousand eleven questionnaires were sent to all men's and women's clothing retail firms listed in the 1988 editions of the Kansas Business Directory and the Oklahoma Business Directory in towns of 25,000 or less. Two hundred ten small rural apparel retailers responded to the questionnaire. Items from the questionnaire were factor analyzed and 11 variables resulted. These 11 variables were then used to compare practices of highly successful small rural apparel retailers with those who were less successful in terms of strategic planning procedures, specific planning activities, and use of outside information sources. In addition, the researcher compared the level of success of those retailers who had written plans with those who planned intuitively.

Results of the study suggested that some aspects of planning were related to success. Retailers with written plans had a significantly higher level of success than those who planned intuitively. In terms of specific planning activities, significant differences ($p < .05$) were found between means of highly successful and less successful retailers on promotion planning and using sales per square foot as a measure of productivity. Use of outside information sources by small rural apparel retailers did not result in a significant difference in terms of success.

Planning in itself is no guarantee of success in small business, but the process of planning provides a systematic thinking ahead that could lead to a better coordination of company efforts and conceivably mold the destiny of the firm. A better understanding of the planning practices of small rural apparel retailers could aid bankers, consultants, and accountants whose business it is to assist small retailers. Ultimately, then, more small rural apparel business may succeed in today's competitive retailing environment.
DOMESTIC SELLER CONCENTRATION AND THE DEGREE OF IMPORT PENETRATION IN US APPAREL MARKETS

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If a firm, or group of firms, control a significant share of a market, they may possess enough market power to control quantity, and therefore, price. The degree of import penetration affects the level of seller concentration in the domestic market as imports increase the level of competition faced by domestic firms. Therefore, as imports increase domestic firms would have difficulty securing large market shares with the increased competition from imported goods. If the market is protected from imports, the ability to exercise market power will be enhanced.

Two measures were used for seller concentration. The four-firm concentration ratio was used to gauge the presence of dominant firms. The second measure, the Herfindahl-Hirschman Index, measured concentration levels for the whole market. Imports could be measured either by quantity (such as in square yard equivalents) or by dollar value. However, because imports tend to be of cheaper products, square-yard equivalents overstate the real economic value of imported goods relative to domestic output. Therefore, measurement of imports used dollar value.

It was possible to build two data sets from the 1982 Census of Manufacture and U.S. Imports for Consumption and General Imports, SIC-Based Product Code. The first data set was at the five-digit level of market definition which included 54 SIC product groups. The second set of data was at the four-digit level of market definition and focused on 25 SIC industries. The hypotheses were tested using simple regression analysis for each data set. Because directionality was important, the one-tailed test was used.

For both levels of data, the ability of a small number of firms to hold large market shares decreased as the amount of imported goods increased. At the five-digit level, the import coefficient was significant and explained approximately 8% of the variation in the dominance of a small number of firms. At the four-digit level, the import coefficient was significant and explained approximately 16% of the variation in the dominance of a small number of firms. No statistically significant relationship could be found at either the five- or the four-digit level of data between the Herfindahl Index and imports.

Markets in which a few firms control large market shares are the very markets in which competition needs to be improved either domestically or from foreign sources. Firms with high market shares face little, if any, significant competition from either domestic or international producers. Buyers of the products of these firms are at a severe disadvantage because these few firms are positioned to affect price through the manipulation of the quantity supplied to the marketplace. While it is not clear from this study what causes this situation, it is possible that few firms attained dominance because there was no import competition. Alternatively, there may be no import competition because these firms control the market. Whatever the cause, the problem still exists for buyers of these commodities.
A DISCRIMINANT ANALYSIS OF CROSS-NATIONAL FACTORS IN COMPLAINT BEHAVIOR AMONG APPAREL PURCHASING CONSUMERS

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In recent years, retailers have increasingly expanded to the international level. As a result, questions have arisen regarding the extent to which customer behavior is similar from one country to the next, and to which retailing strategies can be standardized across nations. This study focused on the extent to which customer complaint behavior regarding apparel products differs among nine European countries. Besides cross-national factors, discriminant analyses of household characteristics, consumerism variables, personal and lifestyle characteristics, religious factors and demographics were utilized to determine their possible relationship with consumer complaints regarding apparel products.

Data were taken from a study of consumer behavior in nine European nations, all member countries of the Commission of the European Communities: France (FRN), Belgium (BEL), The Netherlands (NL), Germany (GER), Italy (ITA), Luxembourg (LUX), Denmark (DEN), Ireland (IRE), Great Britain (GB), and Northern Ireland (NIR). A sample of 9153 representative respondents was used. Each national survey was conducted by a professional polling agency. Respondents were asked a number of questions about their lifestyles, addressing their views on consumerism, their educational level, age, sex, marital status, religion, income level, occupation and political preferences. These factors, along with nation of residence, were studied to determine if any of them influenced the type of action customers took, if any, when dissatisfied with apparel products.

Of the total sample, only 842 respondents expressed dissatisfaction with apparel purchases. However, of these 842 respondents, 656 took some type of complaint action. In the next phase of this analysis, subjects were asked which of six types of complaint actions they took when dissatisfied.

A discriminant analysis was utilized to distinguish statistically among the six groups of complaint behaviors. Seventeen variables significantly discriminated among the groups. The data suggested that the type of complaint behavior taken by a consumer does differ significantly across the nations included in the analysis. Thus, retailers with international operations will probably want to tailor their consumer services depending on the nations in which they are conducting their business. However, these data also suggest that basing decisions solely on the nation of residence may not be adequate, since some other variables may influence a consumer's propensity to complain.
Ordinarily marketing research first examines product usage and then examines the consumer profile of the users. However, in the case of apparel, whether an individual or family uses a product may not be the question since everyone wears or "uses" apparel. The question becomes one of market segmentation based on the rate of usage. One related example in the food area noted, that in purchase volume, one heavy household could equal nine households which were light users (Twedt, 1964).

Some research has been conducted profiling heavy purchasers based on demographics, psychographics and clothing attitudes (e.g., Summers, 1970; Tigert, Ring and King, 1976). While researchers have profiled fashion leaders as heavy purchasers of apparel, little research has been conducted focusing on segmenting and profiling the apparel market.

The purpose of the study was to develop a profile of heavy and light purchasers of apparel products in terms of shopping orientations, lifestyle activities, and demographics among female shoppers. Data were collected, in a nationwide survey sample, from 482 females. This group, when compared to the U.S. female population, appeared to be similar in terms of age, household income, education, marital status and census region.

Shopping orientations, store attributes importance and lifestyle activities were determined using Likert-type statements on a five-point scale. In each case principal components factor analysis with varimax rotation was performed to identify the factors. Eleven factors were developed for shopping orientations, seven for store attributes importance, and four for lifestyle activities.

Those who indicated spending $1,500 per year and above were classified into "heavy purchasers" (n=128, 26.6%), while those who indicated spending below $500 per year were classified as "light purchasers" (n=156, 32.2%). Those in the middle range were not used so the two groups could be clearly distinguished.

Stepwise multiple discriminant analysis was performed to compare heavy and light purchasers of apparel. Fourteen variables out of 22 appeared to have discriminating powers between the two groups. As a result of chi-square analyses on demographics, five variables were significant in differentiating the two groups.

Based on the results, heavy purchasers of apparel products were more likely: 1) to be heavy users of grooming products (e.g., cosmetics, hair, nails); 2) not to be concerned with price or frequency of sale prices; 3) to place importance on store brand names; 4) to engage in cultural or social activities (e.g., gallery, museum, concert); 5) to think that dressing well is an important part of their lives; 6) to use credit cards; 7) to have strong brand loyalty; 8) to place importance on store atmosphere including layout, display, and cleanliness; 9) not to get involved with community (e.g., community project, church); 10) not to purchase clothing by catalog or mail; 11) to be unconcerned with "made in USA" products; 12) to have hobbies or do work-outs; 13) not to be mall oriented; and finally, 13) to be concerned with several extra service features of the store such as availability of wardrobe consultant, alterations, informational mailers etc.

This research has significance for merchandisers and retailers in that it can be used to better meet the needs of female consumers who tend to be heavy purchasers of apparel.

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Concern for exposure to pesticides in agricultural situations has resulted in the development and promotion of disposable protective clothing from nonwoven fabrics as one means of providing a barrier between workers and the pesticide-contaminated work environment. To improve thermal comfort in these garments, efforts have been extended to optimize barrier properties of nonwoven fabrics without the use of non-breathable coatings. One idea is to treat fabrics with a water- and oil-repellent finish which would resist pesticide penetration but maintain some breathability. Non-woven fabrics with and without a commercially-applied fluorochemical (FC) finish were obtained for Regional Research Project S-208. Other studies within the project have investigated pesticide penetration of these fabrics, but have not addressed the durability of the finished or unfinished fabrics to plant abrasion encountered by agricultural workers. The purpose of this study was to determine the effects of abrasion incurred during field work on the barrier properties of the nonwoven fabrics. For the purposes of this study, barrier properties were defined to include water resistance (AATCC Test Method 42), oil repellency (AATCC Test Method 118), and air flow (ASTM D737).

Fabrics used were uncoated Tyvek, regular and corona treated: Sontara spunlaced fabric, FC finished and unfinished; and spunbonded/melt blown/spunbonded (SMS) fabrics of 61 and 78 g/m2, both FC finished and unfinished. Pants made from the fabrics were worn by subjects while walking 0.6 mile through rows of waist-high plants in two field conditions: a very moist cotton field or a very dry soybean field.

Laboratory analyses of unworn fabrics indicated excellent water resistance for all but the unfinished Sontara fabric. High oil repellency ratings were also obtained for the three FC-finished nonwovens. Air flow measurements were low for all of the fabrics with the two Sontara fabrics having the highest air flow readings.

Specimens of the worn fabrics were evaluated for abrasion by visual analysis (appearance of holes or tears or other disruption of fibers), by strength loss (difference in grab breaking strength between worn and non-worn), and by effects on barrier properties. Abrasion of the pants differed by field condition and fabric type. Visual analysis indicated excellent resistance of the Tyvek fabric (regular and corona treated) to plant abrasion in both field conditions. The SMS fabric exhibited much disruption of surface fibers for both field conditions but had few or no tears or holes. The Sontara fabric exhibited excellent abrasion resistance in the dry soybean field but very poor resistance in the wet cotton field with some areas of the pant leg being completely shredded. Laboratory test results were analyzed by fabric type and field condition using analysis of variance and Duncan's multiple range test. While differences in breaking load and air flow were observed for worn versus nonworn specimens, the more critical effects of plant abrasion were on oil repellency and water resistance. FC finished specimens had high oil repellency ratings (7-8) before abrasion. The ratings were somewhat lower (5-6) after wear in the soybean field and much lower (1-2) after wear in the cotton field. All specimens exhibited very low water resistance after being worn in the wet cotton field. The results of this study have implications for the development of fabrics for protective clothing as they indicate that field-wear abrasion may alter the barrier properties of fabrics.
EVALUATION OF ALTERNATIVE SLEEVE DESIGNS AND LINER CONFIGURATIONS IN FIRE FIGHTER PROTECTIVE CLOTHING

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Typically, fire fighter protective clothing (or "turnout gear") incorporates multiple fabric layers, resulting in an ensemble that is heavy, bulky and inflexible. At the least, the clothing a fire fighter is required to wear is very uncomfortable. More importantly, however, a fire fighter's turnout clothing and gear may restrict his mobility on the fire ground to the extent that his potential for certain types of injuries is increased.

The purpose of this study was to evaluate alternative designs and liner configurations in fire fighter turnout gear to determine the restriction to wearer movement imposed by each. A 3 x 3 x 2 randomized block design with repeated measures was used. The independent variables were: (1) two design variations of structural fire fighting coats (plus a station uniform worn without any protective clothing and/or equipment) (2) three liner configuration variations and (3) wearing (or not wearing) a SCBA (self-contained breathing apparatus). The dependent variables for this study were: (1) range of movement in four upper body joints and (2) a semantic differential scale to evaluate wearers' subjective evaluation of each protective ensemble.

Two alternative sleeve designs were evaluated. One turnout coat had a 'traditional' sleeve design. The second coat had a prototype sleeve design featuring additional gusset width and altered armseye position. A smooth-surfaced fabric was used to construct additional liners for both coat designs. These "slick" liners were placed between the multiple fabric layers in the coats to determine if their incorporation would facilitate wearer movement by reducing the frictional forces between the garment layers. All ensembles were tested with the subject wearing and not wearing SCBA.

Nine male subjects were used for the study. Using a Leighton Flexometer, range of movement possible in four upper body joints was measured. At the end of each testing session, subjects filled out a semantic differential scale which described their subjective evaluations of the clothing/equipment configuration.

Statistical analyses were computed to determine differences between main effects, and Fisher LSD (Least Significant Differences) tests were used for mean separation. Additionally, the semantic differential scale was subjected to a factor analysis procedure to extract relevant factors from the original scale.

Results showed greater wearer range of movement for the prototype sleeve design over the more traditional sleeve design. Incorporation of additional liners resulted in higher wearer acceptability for the turnout coats than when these liners were not used. As expected, use of a SCBA (self-contained breathing apparatus) was extremely restrictive to mobility and made the protective ensemble less acceptable to wearers than when it was not worn.
Solutions to textile conservation problems are increasing in importance to textile museum professionals. Some research related to textile conservation has been published: either case studies of a specific object that may demonstrate problems so unique that they are of little use to the general conservator or laboratory studies that may be applicable to a variety of objects. The purpose of this study was to identify textile conservation research needs as perceived by curators, conservators, and others who work with textile collections on a regular basis. A questionnaire with SASE was mailed to participants asking them to indicate conservation problems seen in their collection, their perception of the five most pressing needs currently in conservation in general, a description of their collection and museum, and information related to their position and education. Participants included attendees at conservation and historic costume meetings and members of professional organizations specific to conservation, costume, and related areas. Participation was limited to people in North America including the U.S., Canada, and Mexico. Usable responses totalled 213 (35%).

Approximately 62% of the participants had some formal training in conservation, ranging from degrees in conservation to participation in workshops. Responses were received from participants in 42 states in the U.S. (including District of Columbia), 5 provinces in Canada, and 1 state in Mexico. Collection types ranged from all costume to all textiles. Types of museums included natural history and art museums, university collections, historical and interpretive sites, and private and special collections.

The responses for the most pressing needs were analyzed by listing the 693 responses and grouping them into 280 issues. Responses reflecting the same concern became one issue. Issues were condensed into 22 general topics by grouping issues of a similar nature together. Priorities were identified by totalling the number of times a general topic was listed as first priority, second priority, and so on through the fifth priority; assigning a weighting value for the level of priority; and calculating the total. Using this procedure, the priorities reflect both the number of times a general topic was listed as well as the degree of concern for that topic identified by each respondent. Not all respondents identified five areas of concern.

The five highest priority general topics, listed in order from number one priority to number five, are dyeing and finishing problems, storage, display and mounting, environmental control, and cleaning. The 7 issues related to dyeing and finishing problems included weighted silks (the single most important issue), iron mordants, and five other issues. The 15 issues related to storage included general storage problems (the second single most important issue) and 14 other issues. The 31 issues related to display and mounting included general display (the third single most important issue), use of mannequins, passive support, long range stability of support materials, and 26 other issues. The 22 issues related to environmental control included general environmental control, lighting, insect damage prevention, mildew and fungus, mold, and 17 other issues. The 14 issues related to cleaning included cleaning in general (the fourth single most important issue), wet cleaning, detergents, and 11 other issues. The fifth single most important issue was synthetic fibers.

Results of this research will be useful in developing long term research programs in conservation. The results will assist other researchers in identifying problems found in North American textile collections. Researchers will be able to use the information to document the need for their research programs.
DEFINING LEATHER GARMENT FAILURE IN CONSUMER-REJECTED GARMENTS AFTER DRYCLEANING

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United States industry shipments of leather clothing were estimated to exceed 141 million dollars in 1989 (Industrial Outlook, 1989). Cleaning and performance of leather garments present problems that have yet to be resolved. The purpose of this research was to develop an operational definition of leather garment failure.

This study used non-destructive analysis to systematically identify and categorize sources of failure in a sample of 32 leather garments rejected by consumers following professional leather drycleaning. Destructive standard laboratory tests were used to identify species of leather, other materials used in the garment, and relationship of materials to performance. The garment analysis guide, based on systems theory and published in Glock and Kunz (1990), was the framework for analysis. Statistical analysis of test results were used to compare performance among species. Objective ratings of identified failures by expert judges using a rating scale and data from the non-destructive analysis were used to define leather garment failure.

From the 32 garments, 78 sources of failures were identified. Most garments had more than one source of failure. These failures were classified into 11 categories: discoloration, abrasion, stains, tears/holes, shrinkage, flimsy leather used from bellies, veining, soil, stiffness, lining failure, and other elements, such as zipper or seam failure. The categories with the greatest number of failures were stains including glue bleed (15), discoloration (13), abrasion (11), and tears/holes (10).

A definition of failure was possible for three categories: discoloration, abrasion, and stains. The definition for each category included an average value of intensity or color change based on a five point rating scale and combinations in which failure occurred. An average of total failures within a single garment found 30 of the 32 garments to have failed at approximately the same value. Further analysis suggested that a combination of failures may signal rejection by the consumer.

Analysis of the results for tearing strength, abrasion resistance, water resistance, oil repellency, and drape suggested that much variation exists between performance of cow, pig and sheep leathers and the finish (suede or grain) of leather. Cowhide generally demonstrated the best performance.

The results of this research indicate that it is not possible to remove or rework some failures which has implications for consumers and drycleaners. Consumers need to know the effect of heavy soilings. Drycleaners need to be realistic in their predictions of the effectiveness of drycleaning. Manufacturers need to know the effect of certain materials used in producing leather garments. Additional research is needed to examine leather product performance relative to the garment analysis guide to identify failures that are incorporated in garments during production.

This study takes an initial step in comparing performance of different species of leather and identifying sources of product failure. Further research is needed to study leather concerning cleaning and performance to provide additional information for tanners/finishers, manufacturers, drycleaners, and consumers.


This study was a cooperative venture with a manufacturer of ladies sleepwear which investigated the development of a methodology for consumer style preference testing of apparel at the product development level. Calder and Tybout (1989) encouraged combining both quantitative and qualitative methodologies. For this study, a quantitative methodology suggested by Fratto (1987) was combined with a qualitative focus group follow-up to assess consumer preference for fourteen prototype styles of knee length gowns, thirteen styles of mini gowns and ten proposed colors.

A purposeful sample of 317 female consumers of a large discount retailer between the ages of eighteen and sixty-four were interviewed in two different store locations. Respondents were shown prototype garments and asked to respond to a questionnaire. Responses to a purchase intention scale formed the database in the quantitative phase. FASTCLUS, a clustering procedure, was used to classify consumers into purchase intention groupings. Discriminant analysis of the clustered groupings on ten independent variables, age, income, education, employment status, occupation, marital status, style preferred, fashion feelings, preference and size revealed significant differences between groups. Validity was established by development of the discriminant function on an analysis sample and application to a holdout sample. Classification matrices were developed to establish predictive accuracy of the clustering procedure. Analysis revealed relationships between clusters formed on knee length gowns and age, education, income and employment. For mini gowns, age, preference, education and style were significant. Only preference was significant for color. Predictive accuracy was acceptable for analysis of mini gowns, but failed to meet established criteria for the other categories analyzed.

The qualitative phase involved the use of two focus groups of consumers recruited from participants of the in-store survey. They responded in the focus groups to questions regarding clothing practices, criteria for purchase decisions, style preferences, opinions of store display, availability of desirable styles and price considerations. Qualitative data were analyzed with a content analysis. An interpretative report of both the quantitative and qualitative data was presented to the manufacturer.

The researcher concluded that this methodology provided a beginning framework, available in the public domain, to assess style preference testing of apparel with consumers prior to product development. Continued development of instruments that tap consumer preference, the exploration of statistical procedures and the addition of technologies that could reduce the time frame were recommended.

Apparel manufacturers face an extremely competitive environment. University researchers can play an important part in this transition period for industry by developing timely, theory-based methodologies.

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PERCEPTIONS OF BUSINESS ETHICS: STUDENT MACHIAVELLIAN AND ACHIEVEMENT ORIENTATIONS

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Academic response to recent public debate over declining morality and increasing allegations of corporate fraud, has been to add ethics courses to the professional curriculum. Despite this concern regarding ethics, few empirical investigations have been conducted. Examination of current ethical behavior, perceptions and attitudes of the general public, practicing professionals and college students, who are considered professionals of the future, appears particularly timely. Thus, the purpose of this study was to investigate college students' perceptions of business ethics.

The theoretical basis for the study was Trevino's (1986) interactionist model of ethical decision making, which posits ethical behavior as a function of individual characteristics and situational factors. The primary objective of this exploratory study was to examine the relationships among student Machiavellian and achievement orientations (individual characteristics), demographic variables (situational factors) and perceptions of the ethics of various business practices.

Data were collected from a non-probability sample of 101 undergraduate students. The self-administered questionnaire utilized three scales, previously developed and tested in a variety of organizational settings (Christie & Geis, 1970; Hackman & Oldham, 1980; Shuptrine, 1979) and questions concerning demographic characteristics of the respondent. Estimates of scale reliabilities ranged from .71 to .88.

Comparison of the sample mean for each scale to reported norms indicated that students' perceptions of business ethics were similar, however their scores on Machiavellianism exceeded established norms. Students in the present study tended to be more manipulative (Machiavellian) and less achievement oriented than the norm. Correlation analysis of perceptions of business ethics with Machiavellian and achievement ratings were not significant.

One-way ANOVA, used to test for differences in perceptions of business ethics among subgroups within each demographic variable, indicated significant differences by major (F(2,97) = 3.65, p = .0296). Apparel and merchandising majors and business majors perceived business practices as significantly more ethical than did those in other majors. No significant differences were found for other demographic characteristics.

The sample was subsequently divided into high Machs (those indicating strong Machiavellian tendencies) and low Machs. All scores one standard deviation above the mean were designated as high Machs (n=17); those one standard deviation below were denoted low Machs (n=18). Results indicated that high Machs perceived business practices as significantly more ethical than did the low Machs (F(1,33) = 7.14, p = .0116).

These findings support the postulates of the model, in that perceptions of business ethics were indeed related to individual characteristics (Machiavellian orientations) and situational factors (major). It appears that students in business-oriented majors may have a more tolerant frame of reference when evaluating ethics of business practices than those in non-business-oriented majors. Future research needs to identify antecedents of ethical decision-making.

References:
PROFILE OF APPAREL SHOPPING PATRONAGE BEHAVIOR

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Objectives. Despite the numerous studies on factors of patronage behavior, little empirical research exists concerning the patronage choice behavior of selecting a store for apparel shopping among female shoppers. Based on Darden's Patronage Model of Consumer Behavior (1980), this study investigated the relationships between patronage behavior and various factors such as shopping orientations, store attributes, information and personal characteristics.

Data Collection. The population for the study included females, ages 18 and up, representing 51 states and various occupations. Nationwide data were collected via a mail questionnaire sent to a random sample of 1,400. After a follow-up, 482 usable questionnaires were returned for a return rate of 36%.

Measurements. Patronage behavior was measured by asking the respondents to indicate where they purchase most of their work or social clothes among discount stores, specialty stores, department stores, and catalog. Based on a Principal Components Factor Analysis with Varimax Rotation, 11 factors of shopping orientations (e.g., brand conscious shopper), seven factors of store attributes (e.g., customer services), four factors of information sources (e.g., fashion publications) were developed. Personal characteristics included lifestyle activities, social class, family life cycle, and demographics.

Results. A series of Linear Multiple Regression Analyses were performed to investigate the predictability of each of the four different sets of variables (shopping orientations, store attributes, information sources, and personal characteristics) on four patronage behaviors. Of the four sets of variables, shopping orientations and store attributes seemed to be more important in explaining patronage behavior than did personal characteristics or information sources. Despite the relatively low R²s ranging from .05 to .16, all four sets of variables appeared to have predictability of choosing four different types of stores for apparel shopping. The fact that the R²s were low, however, implies that there may be several other variables not included in Darden's Model (1980) which may explain patronage behavior.

Development of A Profile. Based on the relationships among the variables identified, a patronage profile for each store was developed along with marketing implications. One such example for discount stores is discussed in the following:

Those who patronize discount stores were more likely: 1) to place importance on frequent special sale prices; 2) to be economic shoppers; 3) to use media information; 4) to be lower in social class; 5) not to be concerned with clothing quality or variety of style; 6) not to be concerned with appearance management; 7) not to read fashion publications; 8) not to be engaged in cultural activities; and 9) not to be in the first stage of family life cycle (single, under 35). As the large discounters, hypermarkets and warehouse marketers vie for their positions in the market place, there has been much discussion as to whether such businesses can attract apparel shoppers. While this research question addressed discount stores, there are some implications for hypermarkets, warehouse marketers and others in the distribution channel who operate in a comparable manner. The offering of "basics," fits into the hypermarket and warehouse market concept and yet it has been explored only on a limited scale. Market testing of specific product lines appears to be worth exploring for those in the discount business. Patronage profiles for other types of stores (e.g., specialty store, department store, and catalog shopping) were also provided along with marketing implications.

REFERENCE

A STUDY IN COLOR MARKETING

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Fashion Design and Merchandising students enrolled in Fashion Show Production are provided an opportunity to apply principles and techniques of creativity as practiced by professionals in the fashion industry. In 1987, a component in color marketing was introduced within the course to provide students with a realistic experience in market research for the forecasting of color trends. The study has evolved from a simple introductory exercise to a multi-phase project. Scheduled spring semester, the course enrolls 35 to 40 students.

Project specifications require students to: 1) Research and document influences that they think will affect future color directions. 2) Research and document color trends for a specific market segment, such as designer, missy, contemporary, or junior. 3) Determine color directions for the specific market selected for Spring 1991, and categorize as established, ascending, and forecast.

The composite project results in two typed papers, a 14" x 17" Color Board that depicts established, ascending, and forecast colors, and one or two 8 1/2" x 11" Color Card(s) that display actual color samples, sequenced in order of importance.

Upon completion of the project, students were presented with a report indicating first, second, and third place colors for each category within the markets, as determined by individuals in the class. Students analyzed the Color Boards representing each market. They further discussed the relationship of color trends and overall prevailing directions.

Two tools were used to evaluate the project. First, the students were provided with a report and actual color samples developed by the Fashion Group International for Spring 1991 and asked to compare the samples to those selected by the class. However, students acknowledged that at this stage, it was not possible to determine which color samples would prove to be the correct choices. Second, students anonymously evaluated the project as to its effectiveness as a learning experience and its applicability to future careers in the fashion industry. The overall consensus was highly favorable.

As a follow up, spring semester, 1991, students enrolled in Fashion Show Production will analyze the colors selected by this group of students as well as those selected by the Fashion Group International/CMG and compare them to those on the market.
Student Solutions to Retailer-Identified Problems

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As competition increases for small specialty store retailers, their need to compete becomes ever more important. However, being able to compete means taking the time and resources necessary to research a concept or product. Often the small specialty store retailer does not have the time nor the resources to do the necessary research.

Educators are looking for an innovative teaching tool which will provide students with a learning experience may be able to help these retailers. Students can apply much of what they have already learned as well as have an opportunity to learn new skills. This was the case with a senior retail seminar course. The students had completed most of their course work for a degree in merchandising and were ready to graduate at the end of the term. They were not interested in another "read and analyze the literature" course; they wanted to DO something with what they had already learned which would show that they were ready to go out into the "real world."

As an outgrowth of conversations between area small specialty store retailers, the senior retail seminar students and the course instructor, four projects were born which would help all parties with their individual problems.

Retailers interested in using senior students to aid them in working on their respective problems were asked to provide an outline of what they wished to accomplish as well as to agree to meet with the students throughout the quarter to insure students were keeping on task. The firms selected represented men's apparel, high end women's apparel, women's sportswear and kitchen accessories.

Students were assigned to projects based on interest and previous work and course experience.

Students written reports included an outline of the retailer specified project, an evaluation of the plan of action upon completion of the project and a discussion of the implications of the project results. An oral presentation for each retailer told how the objectives were accomplished, provided the findings and implications of the students' work and evaluated the overall project. A similar presentation was given to the class as a whole.

Students were asked to evaluate their project in terms of whether or not they were able to utilize previous knowledge learned and to document this with concrete examples, as well as to indicate new knowledge gleaned from the experience. They were also asked how the project could be improved for the next class. The participating retailers were asked to evaluate the project in terms of whether or not they obtained the information they sought and whether or not the students provided innovative solutions to the problem. The retailers also offered recommendations for improvement of the overall course concept.

This course was taught in this way once with eleven students. The response to this project has been very positive from both the students and the retailers. The students believed they truly had an opportunity to develop a project which was useful to retailers and, at the same time, allowed them to use their education in a "real life" situation. The students had a chance to interact with the retailer on a regular basis, which gave them the feeling of working for, and being responsible to, the retailer rather than working "only" for a grade. The retailers indicated the project provided them the opportunity to complete their respective projects as well as having interaction with students. This gave them a teaching experience and a change of pace.
Purpose/Objective The purpose of the project was to have students experience design restrictions and parameters placed on industry apparel designers. The students' objective was to design a project for a specific company's market—defining and analyzing the target market and working with specific resources of the firm. The project gave the students an experience different from typical design projects in that they were given an end product to redesign and make marketable. Instead of starting with an idea, paper, and fabric, they began with a completed (unused) garment and attempted to alter it into a marketable product, suitable for production.

Methods The project was a cooperative effort with a local wholesale company that redesigns surplus garments. The surplus garments, military issue from Europe and the USA, are utilitarian, made of high quality materials and construction. Many of the garments were produced in the 1940s or 1950s, so the styles are not saleable as purchased. The company redesigns these items into fashionable, marketable garments, suitable for production. The company provided students in an advanced apparel design course, two semesters, with surplus garments that were not saleable styles. Garments provided have included a nurse's uniform, a food-service worker's jacket, thermal pant liners, thermal shirt, and a toxicological agent protective cooling garment.

The students used a variety of methods for redesigning the garments including recutting, dyeing, changing fit, and decorating with trims. Restrictions and limitations for the designs included making garments marketable to the company target market, which the students had to analyze. Feasibility for production was based on the added cost for materials and labor as compared to added value of the modifications. Because the garments are often purchased in bulk in odd or limited sizes, the garments had to be somewhat flexible in fit. Upon completion of the garments, the company designer critiqued the garments giving feedback on design appeal, feasibility of production, and marketability.

Evidence of effectiveness The company designer and students evaluated the project upon completion. Students enjoyed the new type of design challenge and appreciated the opportunity for industry input on their projects. The company designer valued the fresh input of design directions taken by the students.
Deconstruction, an architectural style defining a building by the design elements from which it is constructed, is applied in the freshman level course "Comparative Apparel Structure" as an alternative to traditional methods of teaching clothing construction. Students disassemble ready-to-wear garments obtained from thrift stores or discarded by the owner. After an initial fit analysis, deconstruction is organized backwards through construction operations to each subassembly in the garment's manufacture.

Deconstruction enables merchandising majors to learn the construction concepts necessary to analyze ready-to-wear. This hands-on approach does not require mastery of actual construction skills, yet students learn to assess quality, costing, and production. Students interested in design benefit by gaining confidence and self-direction prior to learning the intricacies of construction and design techniques in subsequent courses.

With its inquiry-oriented approach, the course progresses through a series of projects to identify, rationalize, and evaluate methods of construction relative to fabric and intended end-use.

Teaching units are organized by elements of construction; for example, collars, sleeves, and waistlines. In the studio portion of the course, student pairs or cooperative small groups observe differences in manufacturing techniques and materials by deconstructing three garments per student: dress, men's pants, and jacket. It is expected that students be able to analyze costs and benefits of each manufacturing technique. Evaluation of students is based on informal classroom presentations, studio exercises, written examinations and a final oral presentation.

The concept of deconstruction as a teaching technique began as a class project in the Analysis of Ready-to-Wear class several semesters ago. Because of positive student feedback, the technique was applied as an alternative course to clothing construction was developed. The course was favorably received by university administration since reduced teaching supervision requirements enable maximum class size to double. The course is planned as a permanent addition to the department curriculum.
Students in Fashion Merchandising and in Fashion Design frequently need exposure to the concept of fashion illustration and the role it plays in the fashion production cycle. Steven Stipelman, Fashion Illustrator for Women's Wear Daily for the past quarter century, is in a unique position to provide both historic and current perspectives. Drawing upon Stipelman's expertise the authors have produced two broadcast quality educational videos on fashion techniques for illustration and an understanding of illustration's role in relation to other components of fashion and global environments.

The videos are innovative in that the final products are based upon extensive oral history video taped interviews with Stipelman which allowed lengthy discussions and demonstrations in Steven's own natural style as opposed to being scripted. Inter­views were conducted on June 16 and on November 4, 1989; transcriptions of the interviews totaled over 100 pages. Several educators reviewed the transcripts and video footage to help focus on essential components for an educational video. After editing, additional illustrative materials were shot to further support the Stipelman comments. Two 20 minute videos resulted from these efforts.

The content of the videos innovatively incorporates the "how-to" approach within the context of what was happening historically in fashion, and in fashion illustration. The videos provide a recognized illustrator's explanation of how he works and why he makes certain choices. For example, from the historic perspective of illustration, Stipelman recalls how he illustrated for press coverage from the 60s forward. He remembers the ultimate secrecy and the "tease" which used to accompany the collections as compared to today's more blatant approach. He also discusses why these changes have occurred.

The first video focuses on the actual sketching process. The innovation here is that Steven draws the same dress using three different approaches: editorial, high fashion retailing, and representational. He discusses how the sketching technique varies to serve the end use. Viewers can see the three illustrations of the same dress and hear him describe techniques suited to each and why.

Color illustration is the focus of the second video. The medium Stipelman uses for his color illustrations is that of acrylic paint. In the video he paints with acrylics and discusses his approach for building the color process and for working with acrylics in conjunction with prismacolor pencil. He demonstrates several innovative personal techniques for achieving a color presentation of fashion.

Throughout both videos Stipelman stresses the importance of understanding fabric, garment construction, design processes, and designers (current and historical) if one is to be an illustrator. Technical skills and knowledge of the anatomy are not sufficient. He compares this with typing saying he could be taught to type but that would not make him a great author.

These videos are now usable for educational settings; the transcriptions and the documentary also become significant for historical record. The authors will test these rough edit versions of the video for effectiveness in a Summer '90 class where both Stipelman and the video will be used for parts of the class. If responses are favorable the authors are planning to do a final edit.
Electronic Information Transfer to Improve Curriculum Productivity and Use

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One of the challenges of curriculum development is to design educational materials that teachers will use and that can be produced in a timely fashion. To do this adequately requires a great deal of input and involvement by potential users and speedy and clear communications, particularly if the format of the curriculum will be changing dramatically from the model currently in use.

Computer-based electronic mail and text file systems were used to speed communication of curriculum development and trends in clothing and textiles, and transfer ideas from Extension Service personnel and volunteers to curriculum developers. A similar system could be used by state supervisors, curriculum specialists, and teacher educators who develop curriculum for home economics teachers and their students.

A one-year study was made of the development of a goal-setting, skill-level clothing and textile curriculum using the electronic communications systems. The primary objectives of this study were to increase the:

(1) communication and adoption of the new curriculum;
(2) usability of the textiles and clothing information;
(3) trouble-shoot potential problems and suitability of the curriculum before it is printed; and to
(4) increase the productivity of the curriculum developer(s) before technical and fashion information changes or is outdated.

Compared with similar curriculum development efforts, the use of the electronic information transfer systems increased both the quantity of materials developed and the acceptability of the materials throughout the state.

Because of the speed of information transfer, concerns about teaching strategies could be shared more quickly, allowing for testing and the incorporation of research-based information. The electronic system method, in conjunction with a small curriculum committee, was evaluated as being far superior to the use of a curriculum committee alone.

Further study is necessary to expand the use of electronic information transfer into other curriculum applications.

The electronic systems used were PENpages (text file) and PENmail (electronic mail) systems developed and supported by Penn State College of Agriculture. Information was loaded from a Macintosh computer.
TEACHING AN INTERNATIONAL TEXTILE AND APPAREL COURSE WITH AN INTERDISCIPLINARY COOPERATION

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Teaching a course in textile and apparel production with an international focus involving two departments on campus has resulted in providing positive and valuable experiences for students. U.S. students who participated in this course reported that the course provided them with realistic and meaningful insights into the Japanese culture.

The apparel and textile marketing area and the Western Illinois University's English as a Second Language (WESL) Program on campus are involved. Students enrolled in the textile and apparel production course learn about apparel production systems, technology, research and development activities, with special emphasis on the complexities of conducting business in two entirely different cultures. Upon graduation these students will be dealing with various trans-national companies for sourcing soft goods and need to become aware of the complexities involved in conducting business in those countries.

The main objectives accomplished by cooperating with the WESL Program were:

a) to increase students' awareness as to the complexities in conducting business between two very different cultures,
b) to critically compare and analyze the various technological advancements in the area of apparel production between the United States and Japan, and
c) to provide first-hand experiences in meeting and talking to Japanese students enrolled in the WESL Program on campus about manufacturing facilities, labor productivity, technological advancements in Japan.

Four Japanese WESL students with better command of English were selected to participate in the class. A list of prepared questions was given to both the U.S. and Japanese students. Two class periods were set aside for informal dialog and discussion among both groups of students.

Although several textbooks and articles about conducting business in Japan were studied, the first-hand experiences that the students attained by having the Japanese students answer their questions were extremely valuable. The U.S. students related to the Japanese students with great enthusiasm, felt free to ask them questions on several aspects of existing business conditions, and most of all, developed a greater understanding between their two countries.

This interactive experience helped enhance the international apparel and textile marketing course, and proved mutually beneficial to both groups of students involved. Based on the success of this pilot venture of interdisciplinary cooperation, future strategies would involve the participation of the Chinese, Mexican, Korean, Taiwanese, and the Latin American students. Similar cooperative opportunities are being negotiated between the international marketing courses offered both in the Business and Economics Departments as well as the Home Economics Department.
Rationale. One of the most important tools that designers use in presenting themselves throughout their careers is a professional portfolio. Therefore, it is extremely important that an aspiring designer be proficient in planning, development and maintenance of an effective and aesthetically pleasing portfolio. This project was designed to provide practical experience for apparel design students in the development and maintenance of a portfolio.

Objectives. Objectives of this project were to provide students with practical experience in a) selecting and accessorizing items for inclusion in a portfolio and locating models to present each item, b) scheduling studio time, photographer and models for photography sessions, c) providing artistic direction for fashion photography, and working with models and photographers to achieve desired effects, and d) producing a professional portfolio which reflected each student's unique skills and individual style.

Method. During the semester preceding implementation of this project, the director of the campus photographic services department was contacted with a proposal for a joint project. As a result, senior apparel design students were assigned to develop, over the course of the semester, a professional portfolio. Upper level photography students took on a "client" (a fashion student), and, under the supervision of the director of photographic services, assisted that client in developing a professional portfolio. The assignment required photography students to record time and expenses, calculate fees, and price the project as though it were a billable service contract. Thus photography students gained experience in costing and producing a contracted service to a client's satisfaction.

Early in the semester, apparel design students visited the photographic services director in the studio, and received a lecture on the fundamentals of fashion photography, model selection, accessorizing for the camera, and principals of both studio and outdoor work. Students compiled a clip book of fashion photography examples reflecting their tastes and styles. These were used to communicate to the photography supervisor, through a series of individual consultations, their ideas for photographing their work. Following the meetings, students were assigned a photographer, and were scheduled for a studio appointment. Apparel design students provided garments, models, accessories, and artistic direction for photo sessions. Additional photography sessions were arranged as needed so that all apparel design students directed both studio and outdoor photography sessions, and had all desired garments photographed. Proofs from each session were presented to the class for group discussion and critique. Students assisted each other in selecting prints for inclusion in the portfolio, and shared ideas for designing and planning layout. Finally, the photographic services director and the class instructor assisted students in arranging the final portfolio.

Discussion. Students were evaluated on the quality of the final portfolio, including both individual items and overall presentation. The project proved a successful and effective means of teaching portfolio development. Students were given the opportunity to work with professionals at negligible expense, and were able to produce portfolios of exceptional quality. Although apparel design students only paid for final prints, the format of the assignment acquainted them with the way photographic services are contracted and billed. Photography students gained practical experience in costing and producing a large project for an individual client. As it proved a positive experience for everyone involved, plans are to continue the project on an annual basis.
Textile conservation classes deal with a variety of topics including collection management, museum operations, and aspects specific to textile objects such as aging, care, display, and storage. Students are introduced to the ethical considerations of working with historic objects. These ethical considerations are difficult concepts to discuss in isolation. This paper describes a slide set and script developed to help students understand the steps and decision-making process involved in preparing a specific object for display and the ethical aspects that influenced the process. Students also will be made aware of the compromises that must be made in working with objects in trying to achieve both what is best for the object and what is desirable for the museum while considering budget, space, and other restrictions.

The object that is the focus of the slide set is a seventeenth century Norwegian tapestry owned by a small ethnic museum. The tapestry has a discontinuous wool weft; the design requires that the tapestry be displayed with the weft in the vertical direction. Thus, almost all the linen warp yarns have broken under the strain. The edges of the piece were damaged from years of hanging and being abraded. Twill tape was stitched to the four edges to support them and was glued to the back in areas of excessive warp yarn damage. Pieces of another tapestry had been inserted where the original fabric was missing. Inexpert stitching had been done to hold parts of the object together.

Based on an analysis of the tapestry and consultation with the museum director and curator of textiles, the tapestry was prepared for display. The work was performed by the author, the curator of the museum's textile collection and a museum assistant. The stitched tape was removed from the edges by slitting the thread at each stitch and pulling it out. The glued tape was pulled loose carefully since little adhesion remained. Adhesive remaining on the tapestry was removed by pricking with a pin and vacuuming the dust. The stained areas were swabbed with a weak water and Orvus solution to remove water soluble components. The inexpert stitching was removed where the stitching detracted from the appearance of the object or where the stitching added stress.

Because of the size and condition of the tapestry and the budget of the museum, the ideas of vertical display, horizontal display, and stitched support were discarded. The method chosen for display of the tapestry was a pressure mount of plexiglass with an oak frame. The framed tapestry rests on an easel at an angle of approximately 20° in the textile exhibit area of the museum.

The script written to accompany the slides describes the process involved in conserving the tapestry and preparing it for display and discusses the ethical concerns that were raised during the process. For example, when the pieces of another tapestry were identified, the conservator and museum staff had to decide whether to remove those pieces or leave them as part of the object. The decision was to leave the pieces as part of the history of the piece.

Although the slide set has not yet been used in the graduate level conservation class (the class is taught once every two years), it fills an obvious gap. The slide set has been shown in a seminar in which students who have taken the conservation class were present. The comments of the 18 people who attended the seminar included: "good documentation of the process," "excellent opportunity to consider the ethical questions raised when dealing with museum objects," and "clear example of the nature of conservation work." Current plans are for the slide set and script to be used in the conservation class each semester it is taught with updates of the slides and script as mandated by changes in accepted practices related to conservation or in the code of ethics.
The social aspects of dress generally are taught from the perspective of Western traditions and cultural patterns and using Western examples. As global interdependence increases and greater numbers of diverse people interact in various international forums, it has become important, if not imperative, that students in Western societies understand how non-Western people express their roles, gender identities, self-concepts, attitudes, values, statuses, and symbolism through dress. The main purpose of this non-Western dress course is to provide students with greater understanding of diversity in human behaviors by examining the social aspects of non-Western people's clothing through both historical and contemporary examples.

The first course objective is to increase knowledge bases regarding traditional non-Western dress patterns. This is achieved through analyses of gender, roles, statuses (ascribed and achieved), symbolisms, attitudes, and values associated with clothing, and by identifying how self-concept is linked to dress.

A second objective is to analyze the retention of indigenous dress patterns. This includes identifying how internal and external forces contribute to the adaptation or demise of traditional dress patterns. Historic examples focusing on colonial and missionary movements and trade development provide frameworks from which contemporary parallels are drawn when studying change in contemporary dress patterns.

A third objective invokes the student's ability to creatively and critically integrate non-Western dress knowledge into observations of human behavior by identifying where social dress behavior is either unique or universal.

The class format combines lecture-discussions on general knowledge of specific cultures' dress patterns and focused topical lectures such as: 1) Technology, Trade and Protectionism; 16th Century India as an Example; 2) Colonial Power in Africa: Acculturation and Diffusion of Dress Patterns by Force and Example; and 3) Native Intelligence: Dress as a Means of Survival Among the Inuit. In each lecture, several aspects of social dress behavior are investigated.

Students present two class assignments. The first, a reaction paper requiring critical thinking, relates a global issue to dress patterns in a non-Western culture. The second invokes both critical and creative thinking. Students engage in a cross-cultural research project which investigates dress patterns of two cultural groups (one must be non-Western). The final paper compares these two groups to a specific internal or external influence such as: 1) affluence/wealth display; 2) physical environment/adaptive clothing; and 3) social norms/deviant dress. Also, students produce and share with class members a summary chart which compares similarities and variations in dress behaviors between the two cultural groups.

For eight semesters this course has enrolled 22+ students. Student course evaluations have been very positive (strongly agree/agree) for the following criteria: challenges me to think, objectives clear, enjoyable, builds concepts and principles, interprets theory and applies to practical problems, meaningful and significant material, motivated to learn more about subject, and assignments and papers relevant. Student evaluations indicate this course continues to make a valuable contribution to improving awareness of how diverse people manifest their social behaviors through dress.
Accessories represent a substantial share of the fashion market. Annual sales of jewelry, hats, handbags and scarves generate millions of dollars in revenues for manufacturers and retailers. The fashion-industry literature reports further expansion in all categories of accessories. Thus, a course in accessory design was developed to provide apparel design and merchandising students with an opportunity to design and produce fashion accessories. Experiences gained from this course will increase students' career alternatives and enhance their prospects for employment.

As planning for the project progressed, the instructor actively pursued a multi-cultural perspective. The resultant course, entitled Fashion Accessories: Multi-Cultural Aspects, had as its objectives: 1) promoting awareness of non-western cultures and peoples, 2) developing skills used to create accessories, 3) fostering an appreciation for quality in design and craftsmanship, 4) providing sources of inspiration through research and 5) increasing outlets for creativity and self-expression.

The course took place during January, 1990. Students examined the history, design and execution of accessories. Emphasis was placed on the cultural background of accessory items produced in Africa, India, Central America, and Southeast Asia. Experts provided lectures and demonstrations in each of these areas.

A field trip to New York City was incorporated for sourcing millinery, costume jewelry and trims. While in New York students visited the Museum of Natural History as a further means of increasing cross-cultural awareness. This specially-arranged tour, conducted by the museum's staff, included the Hall of African Peoples and Crossroads of Continents exhibits.

Students were required to design and produce three accessory pieces based on their research and final products. Evaluation of student work was based on the following criteria: 1) the quality of design and craftsmanship, 2) the incorporation of research into the piece, and 3) the quality of the final presentation. Course evaluations were excellent. Students expressed a great deal of satisfaction in completing projects that were so different from their previous experiences. In the fall of 1990, the course will be expanded by adding the construction of shoes and other small leather goods.
The development of the Personal Flotation Design (PFD) was pursued to provide a more functional lifevest for kayaking participants. The PFD evolved through a functional design process, and the version represented is the third in a series of prototypes.

The first PFD prototype was the traditional lifevest design, consisting of a collarless, padded vest which had a center front zipper closure. This PFD prototype attempted to meet the following needs: durability, comfort, flotation type and unique styling. The solution for durability was the use of 400 denier nylon pack cloth, as the outer fabric. The solution for comfort was a decrease in the torso length to accommodate the seated position of the kayaker. Both durability and comfort were addressed with the use of nylon ripstop taffeta for the lining. The flotation foam type selected was a minicell ethafoam. This foam was found to be more dimensionally stable than the foam used in commercial life vests.

Unique styling was achieved through multiple color combinations in the outer fabric and the placement of the flotation foam. The need for protection was met in the placement of foam over the shoulder area to protect the wearer from injury while paddling or carrying the boat.

The second prototype dealt with the need for unrestricted movement which necessitated a change in the method of closure. Wear testing indicated that the design in prototype one inhibited arm movement. Therefore the shape and the thickness of the foam were adjusted to facilitate movement. The zipper form of closure was moved to the right side front, due to the new shaping of the foam. Further wear testing indicated a need for greater ease in donning the PFD. The third and present prototype addressed this need as well as attempted to achieve more unique styling. The difficulty of donning the vest was overcome by the use of open sides with buckle closures.

Vertical and horizontal stitched tucks complemented the multiple use of colors to achieve unique styling.

In development of the PFD pattern a combination of draping and flat pattern techniques were used. The process started with the construction of a pattern and proof without foam. The thickness of the foam determined the additional width which had to be added to the pattern. Once the basic pattern was developed, variations in the styling were carried out. Different colors and structure techniques, such as the stitched tucks were used since the pack cloth does not lend itself to other surface design applications. The garment was constructed and the foam inserted.

This PFD was developed specifically for the sport of kayaking, but has also been used successfully for windsurfing and rehabilitative pool running. The design allows for freedom of movement, upright body flotation and comfort for the active wearer.
Participation in the sport of English riding has increased in popularity for teen girls. Participating in the sport means hours of lessons in a variety of conditions. Most equestrian schools hold schooling sessions in enclosed riding rings, but temperatures vary widely throughout the year. The problem was to design an equestrian suit for teens to be worn for practice and schooling sessions. The suit must meet requirements of the teen student rider and the instructor.

Research was conducted at a riding school. Students and instructors were interviewed, a questionnaire was given to students and schooling sessions were observed. Features desired by students were: soft and absorbent materials, pockets for carrying "stuff", and comfortable pant stirrups that don't dig into the instep. Most students wanted to keep the look of English riding gear. Instructors wanted garments that defined the body so they could observe and correct the posture of the student. A market study was conducted. No garment was found specifically designed for practice sessions.

Ideation sketches were used to explore visual and structural features. Materials were researched with the focus on tactile and thermal comfort. Double knits and sweatshirt knits were tested because students indicated a strong preference for wearing sweatshirts while riding. Several garment forms were selected for testing. Jacket designs that skim the body with a variety of sleeve and body combinations were tested.

The final design combines features of traditional riding garments and a comfortable sweatsuit. A cotton/polyester double knit in a herringbone pattern was selected for jacket and breeches. A body-skimming jacket was chosen to define posture. A kimono sleeve was selected to provide comfort, movement and range of fit. Princess seams provide fitting to body curves. A separating zipper provides easy closure for the jacket. Zippered pockets are positioned in the front panels of the jacket, a secure place for personal items. Knit cuffs provide a range of sleeve lengths. The jacket accommodates layering of garments. A belt at the back of the jacket allows some refinement in fit.

The riding breeches are slim fitting, but not as tight as traditional breeches. The inner leg panel is extended along the thigh and through the crotch. Several fabrics were tested for the panel before choosing a cotton chamois cloth for comfort and easy care. Most riding breeches on the market have pant leg stirrups that bind the in-step. This design features a stirrup design that is incorporated into the lower leg of the pant. The stirrup is made of 2-way stretch spandex and cotton knit and is sewn to the leg at a level where the seam does not hit ankle bone or thigh when in contact with the riding boot.

The practice suit has been wear-tested and found to meet many of the needs of the riders and their teachers. Further refinements and variations of the suit are being made.
IT'S IN THE BAG

Faculty Entry - Functional/target market

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PROBLEM STATEMENT: Increasingly, we are becoming a society of commuters, opting to live in the suburbs or country, but commuting daily to the city to earn our livelihoods. Working career women (my selected target market) often leave home early in the morning and don't return until late in the evening having fulfilled many social, community, and work commitments during that time. The problem occurs when an unexpected event arises - dinner with an important client, an unexpected reception to attend, a last minute opportunity to go "out on the town", etc. Since few of us can afford the 2 or more hours out of our day to journey home and pick up something to wear, options are limited in regard to dressing for the occasion.

SOLUTION: A low maintenance, easy to store, easy to wear, and versatile dress which can be kept at the office. The dress I've designed can be dropped into its' drawstring bag and easily stored in the back of a desk or file drawer yet is formal enough for any occasion and versatile enough to be worn several times without ever looking quite the same. The blend of colors looks good with many classic shoes (black, taupe, gray) so there is no need to keep special shoes on hand. Purchased rhinestone earrings and shoe clips stored with the dress are enough to finish the look with minimum expense and storage space. When it is to be worn, the dress is simply removed from the bag, shaken out, and hung on a hook or over the back of a chair for 20 or 30 minutes and it looks great! Best of all, it requires no special underthings to look nice.

INSPIRATION: This garment was inspired by my own lifestyle. I live in the country and commute to the university each day. Between keeping up with classes, advising a student group, maintaining a household, and staying fit, my days are non-stop. And long gone is the time I could dash home at lunch and take care of anything. Many times I've attended special functions dressed less than appropriately and have longed for the perfect garment.

DESCRIPTION: The dress features a long flounced fitted skirt with center back zipper, a halter style bodice, and detachable back panels which convert to a cumberbund. The uneven hemline and flounce lengthen the silhouette, and an elastic stay helps create a smooth line even without special under garments. The softly pleated front panels flatter any size bustline, and a pleated bow at the back neck covers the hook closure. Softly pleated back panels pull forward over the shoulders to secure at the base of the throat with any number of scarf tying techniques, or a special pin or scarf clip. Alternately, back panels hook in sideseam thread loops or together at center back to create a backless look with matching cumberbund. Again, (as in the supplemental slides) a pin adds extra sparkle. The accompanying black sash accents the waistline either alone or combined with the cumberbund.

TECHNIQUES AND MEDIA: A printed jacquard weave polyester was selected for its' wrinkle resistance. The jungle print serves to disguise any creases which are slow to fall out and to reflect the environmental concerns of the 1990's. Construction techniques were selected to reduce bulk as much as possible making it feasible to store the dress in the back of a drawer. Seams are serged and very narrow. Edges of the panels and flounce are finished with decorative rolled hems to reduce bulk and add body which will support a variety of tying techniques. Sidesam thread loops allow versatility in wearing the dress, but are virtually invisible when not in use. A black elastic stay at the waistline replaces lining or facing, and also keeps the dress secure and laying smoothly over waist and hips.

COMPLETION DATE: May 1990
The woman who travels during the winter often could use the same 3 styles of coats she uses at home: a full-length sophisticated coat for business, a hip-length jacket for sports and casual activities, and a dressy coat for evening events and parties. In addition, most women need a coat that is lightweight and large enough to wear over a business suit, another coat that provides extra warmth when worn over a cocktail dress, and yet another jacket that allows for body movement for casual activities.

The need for this variety of coats presents a problem to the traveler, especially when travelling by airplane or train on the typical business trip or weekend-get-away. On these occasions it is impractical to fill suitcases with bulky coats. What every travelling woman needs is one winter coat that easily converts to the many separate styles and functions needed for businesswear, sportswear, and eveningwear. My garment, "Winter Chameleon," is designed to meet this need.

"Winter Chameleon" is one coat, comprised of 3 distinct sections, that converts into several different styles of coats to suit a variety of occasions and functions. The 3 separate sections include: a hip-length jacket, a mid-calf length skirt that zippers onto the jacket, and a fur-trimmed cape variation that attaches to the jacket. The skirt and cape open up flat so they can be folded easily and packed neatly in a suitcase while the traveler wears the jacket.

The jacket can be worn alone as winter sportswear. It has deep armholes and loose sleeves to allow for body movement and to fit over sweaters and suit jackets. The stand-up collar, stylized cuffs, and stylized hip-band fit close to the body to keep out cold air and give a slenderizing silhouette. The six bound buttonholes and buttons securely close the center front opening.

When the skirt section is zipped onto the bottom edge of the jacket, they form a sophisticated full-length coat designed for the business woman. The skirt section forms a straight silhouette with eight released tucks at the hip level to allow room for sitting and walking.

The cape section is designed to be worn over the full-length coat to create a more elegant and feminine appearance for evening events. Since the cape provides additional warmth it is the perfect choice when wearing a party dress in the middle of winter. The upper area of the cape has four tucks which draw in the fullness of the shoulders onto the curved yoke line at the bust level. The V-shape of the neckline and outer edges of the lower cape area create a slenderizing line for these multiple layers. Three buttonholes and buttons close the cape at center front; a fourth set of buttonholes on the bottom of both the right and left sides of the cape are used with the button on the hip-band of the jacket to hold the cape to the jacket.

The curved seamlines and tucks at the cuffs, hip-band, and cape yokelines are the unifying design lines of the coat. Each section looks complete when worn on its own, yet when all the pieces are worn together, they flow into each other and create a unified whole.

All 3 sections of the coat are made from a purple and black 100% wool novelty twill weave. All sections are underlined with 100% cotton batiste, fully lined with a brushed-back satin, and interfaced with a fusible weft insertion interfacing. Flat-pattern and draping methods were used to create the design which was completed in June 1989.
Apparel industry trends show an ever-increasing number of women becoming involved in sports and fitness activities. But none of the athletic garments on the market today address a basic need of active women—access to the crotch to perform a natural body function. In order for women to do this, they must often completely undress.

Beyond Sportswear is a unique line of women's sportswear. The focus of the line is bottoms: briefs, athletic tights, unitards, and Long Janes long underwear. They all open in the crotch, becoming women's answer to men's fly-front trousers. This special feature offers the wearer access to the crotch for the purpose of relieving herself without the inconvenience of having to undress. This access is discreet, fashionable and has no fasteners—just overlapping layers.

The concept behind these "go anywear" garments was born out of necessity and personal experience. As an active woman, wilderness camper, canoe racer and recreational athlete, inconvenience became the mother of invention. For years, I swore I would design some clothing that would open in the crotch to make it simple to relieve oneself. Undressing often requires a woman to bushwhack further into the woods, drag one's clothes on a dubious lavatory floor, or put-up with potential onlookers.

One anecdote told to me is about a woman downhill skier high in the mountains with friends who was wearing a one-piece ski suit. As she undid her garments to relieve herself, she fell down in deep powder and started rolling down the slope with her clothing around her knees!

To achieve access in this design, I divided the garment into two halves and basically eliminated the crotch seam. Instead, each half overlaps the other at center crotch and continues over to the opposite hip. In the athletic tights, I have eliminated the curve altogether. (This creates a tricky grading situation!) But lycra is forgiving because it is so body-forming and the extra ease in the crotch is an advantage to keeping the overlapping layers in place until the wearer grasps each layer and spreads them apart manually. These garments are made of state-of-the-art fabrics such as antron/lycra (11 oz.), cotton/lycra and Thermax (for the Long Janes).

My design is a simple one, but long overdue. I am currently expanding the line to include some active wear, outerwear, maternity and adaptations for handicapped individuals.

With the studies being made in micro fabrics and stretch fabrics, the focus continues to be on legs. Just think, a jumpsuit you no longer have to jump out of!
As a year-round bicycle commuter I was faced with a big problem - finding cold weather cycling clothes. Research into the problem revealed only cycling rainwear, with no clothes available for the cold weather cyclist.

The cold weather bicycle coat is the solution to this problem. It serves several functions: It is warm, waterproof, and it is convertible.

The coat's outer shell is of royal blue waterproof Ulrex fabric. It was chosen for its excellent waterproof and abrasion resistance characteristics. It is insulated with Thinsulate 150 insulation. The insulation weight was chosen for the shorter-distance commuter, who will not work up enough body heat to keep him or herself warm. Thermax knit fabric was chosen for the lining, because of its ability to keep the wearer warm while wicking away moisture from his/her body.

The full length coat has extended leg panels in front and back to wrap around the legs and fasten with Velcro. Drawstrings in the hem pull the hem in to hold in the warmth, and to keep the hem from catching in the bicycle chain. A triangular flap above the center back legs covers the wearer's seat in order to keep him or her warm and dry.

The high collar wraps snugly against the wearer's neck. The front of the coat is secured with a long zipper that ends at the crotch. A storm flap, fastened with Velcro, covers the zipper. The sleeves feature a zipper on the underarm for ventilation, and elasticized cuffs. Two large cargo pockets ride on the outsides of the legs, handy for keys and locks, but the bulk is not on top of the leg.

The back of the coat features a Southwest-inspired design composed of stripes of pink, turquoise, and yellow cotton fabric, interspersed with strips of reflecting tape. The right sleeve sports two strips of reflective tape.

The collar, storm flap, and pockets are lined with the pink, turquoise, and yellow cotton fabric.
Recent headlines on the ecology encourage the hope that the 1990's will be the decade in which humankind learns how to live in accord with the earth, using its resources without misusing them. As we become more aware of our interconnectedness with the earth we will begin to understand the true cost of the day-to-day choices we make. With this new understanding, the cost of heating our homes is not only calculated in the size of utility bills, but also in terms of our personal contribution to air pollution and global warming. The field of apparel design is poised and ready to provide clothing that can ease the transition to a new ecological way of living. Research inspired by the 1970 fuel crisis provides us with knowledge about the interactions between our bodies, our clothing, the built environment, and the natural environment that can easily be incorporated into modern apparel designs.

This loungewear outfit was designed to provide comfort to the wearer; the comfort of an elegant ensemble that not only looks and feels good, but also allows the wearer to turn the thermostat down on a winter evening. The ensemble consists of three pieces, a lightweight cotton knit robe, a cotton flannel bedjacket with a quilted Thinsulate" lining, and cotton/acrylic knit sweatpants. The robe has an asymmetrical closure fastened with frogs from neck to waist. It is cut with a contrasting yoke and cuffs, and fits closely through the shoulders and bust, flaring to a wide ankle length hem. The neck facing edges, and the yoke and cuff seamlines are corded with plaid flannel to match the bedjacket. The long, set-in sleeves can be pushed up to a 3/4 length if desired. The clear red and strong black colors of the robe carry out the oriental motif also apparent in the asymmetrical closure. The red, green, and black plaid flannel bedjacket is finished at the cuffs, waist, and neck with wide knit bands. The asymmetrical closure consists of large frogs fashioned from rayon braid, and antique jet buttons.

The body of the jacket is cut on the straight grain, and lined with a red cotton knit quilted to a 1/8" layer of Thinsulate. The bias-cut kimono sleeves are set into a deep, square cut armcy, and are lined with Thinsulate from shoulder to elbow. The black knit pants are cut to fit the body closely through the hips and thighs, they then flare slightly and are gathered into wide knit cuffs at the ankle. The closure is in the front, and takes the form of a deep asymmetrical overlap with draped pleats from the right hip to the waist. The fastening is a strap that feeds through a D-ring and is closed with velcro.

The goal of this design was to create a fashionable outfit which is also comfortable, and easy to launder. The design choices provide comfort in the wide knit bands at waist, wrist, and ankle that conserve body heat but do not bind or pinch. The ensemble is easy to don and doff, and the waist fastening of the pants is infinitely variable. The Thinsulate warms the body core but does not add unnecessary bulk. The jacket is short enough to wear as a bedjacket - just right for curling up in bed with a good book on a cold winter evening! The fit of the ensemble is calculated to allow the addition of a layer of long underwear underneath. This ensemble is appropriate for the coldest midwinter night, and the robe by itself is suitable for spring and fall evenings.

This ensemble was designed in February of 1989. Fabrics for this project were donated by Malaca Mills in Malaca, Minnesota.

1 Trademark of 3M
This piece explores the merger of painting and garment construction. The coat incorporates inward corners at the armscyes and outward corners on the pockets and collar. The garment is pieced together with right-angled sections to enhance the "building-block" effect. The coat was painted with acrylics. Painting techniques included wash, palette knife, spraying, dripping and brush work.

Urban Camouflage is a full-length coat of canvas-weight twill muslin. It features multi-level pockets and collar. The side front closure is made from found objects; old chain, worn leather, a piece of rusted iron, an old nail and part of a glass bottle. The brick wall design and graffiti are hand-painted. The silk twill lining is dyed the color of bricks and quilted in a brick pattern.

Inspiration for this piece is drawn from the concepts and imagery found in the surrealist art movement of the 1930's and contemporary urban art forms. Several surrealist artists produced fantastically improbable objects made from materials that are completely inappropriate to their use. One notable example is the fur-lined tea-cup, saucer, and spoon entitled "Object," by Meret Oppenheim, 1936. Thus, the notion of producing a coat that has the illusion of being a brick wall parallels the surrealist art movement. The addition of graffiti to the "brick wall" created on the coat continues the debate on the merit and significance of wall writing in today's culture. Urban Camouflage asks the viewer to consider whether graffiti is a form of art or a form of destruction.

This piece was completed on May 21, 1990.

Mary Jane Matranga
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EMPRESS OF NEOPRENE

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1. TECHNIQUES: A hi-tech adaptation of traditional folk costume was executed without customary sewing techniques. Glueing, tying, carving, cutting, coiling, puncturing, caulking and jewelry making techniques were used. Materials in the costume include neoprene, polyisoprene, flexible polyurethane, balsa wood, cotton/polyester thread, resorcinol polyisoprene adhesive, pigmented polyvinyl chloride coated copper wire, polychlorinatedethylene, and brass.

An original robe pattern was drafted for the sheet neoprene pattern shapes. Shoulder and side seams were joined with the adhesive. Neoprene banding on the front, neck, armhole, and hem edges was glued. The weighted closure was wired to the left front robe edge. Robe decorations were glued and caulked into place.

The closure was made of coated wire inserted through punctures in a rubber disc creating a chrysanthemum-like burst. The disc was tied to twelve rubber coils which were wired to rubber rectangles at each end. A wire wrapped rubber disc adorns the bottom rectangle. Shoulder supports were carved from balsa wood and painted.

The headdress was made of rubber tubing which was coiled, tied and formed into a conical shape. The top of the headdress is open; headdress decorations were attached. The belt was constructed of rubber tubing. Colored wire-covered large O-rings were wired to each end. Neoprene tassels were tied to each large O-ring.

2. PURPOSE: The purpose of the project was to construct a garment which combined and interpreted components from Thai and Tibetan traditional women's folk costume. The challenge in this project was using materials which were non-textile and customarily not used in garment construction and combining them into an aesthetic costume. The additional challenge was that garment components could not be sewn because punctures produced splits in the neoprene. Therefore, other methods of seaming and decorative attachment needed to be utilized.

3. DESCRIPTION: A black, ankle length, neoprene wrapped robe has a wire medallion fastener superimposed on rubber tubing. Surface decoration includes irregularly shaped holes with caulked edges, conical dots of polyurethane, and Oriental decorations. Additional surface decoration includes applied rubber discs linked with O-rings and jump rings. The Oriental shoulder line is braced with carved balsa wood supports and foam rubber shoulder pads. The belt is made of rubber tubing with wire-covered O-rings and neoprene tassels. For presentation the garment is shown over a long red fabric slip having elements from Tibetan folk dress.

A conical shaped headdress of coiled rubber tubing has a partially upturned brim edged with colored wire. There is a 2 inch headband of rubber tubing wrapped with wire. A chrysanthemum-like burst of multicolored wire with O-rings adorns the front of the headdress. Neoprene tassels bank the sides of the flower-like burst. The top of the cone is wrapped with wire and adorned with punctured circles of red sponge rubber depicting the twelve seasons of the Asian calendar. Dangling side adornment includes neoprene strips, O-rings, jump rings and rubber discs.

4. & 5. SOLUTION AND COMPLETION: The challenge was successfully met. While the costume is constructed of non-conventional materials using nonconventional methods, it depicts the graceful curves and regal bearing of Asian cultures. The project was completed on May 20, 1990.
Problem Statement/Inspiration:
"Chogore" is third in a series of garment designs incorporating neckties. Five color-related silk neckties that belonged to my father provided an inspiration. The critical stimulus was the Pierre Cardin tie, printed with large round, "Oriental" motifs, each flanked by bands. An exhibition of traditional and contemporary Korean costumes, as well as the university's costume collection sparked an interest in Korean design.

Solution to the Problem:
Jacket: Shapes and details from the Korean female jacket, called the chogore, were incorporated in this contemporary Western interpretation. The chogore's gracefully curved underarm seams of the sleeves, decorative underarm gussets, wrist bands, collar and hem shape, and traditional center back piped seam were retained, as well as the traditional Korean left-over-right tie closure. Contemporary Western adaptations include shaping over the arm, front and back sleeves cut as separate pieces (rather than without an overarm seam), and extended length jacket. The round Oriental motifs were used for the wrist bands, alternating with pieces of a second tie. The band strips of the Cardin tie were pieced together to decorate the collar. Three of the ties were pieced to form the underarm gussets. Since these tie pieces are bias cut, their stretch and the narrow pieces of tie fabric available for use presented challenges.

Skirt: To provide grace and ease in sitting on the floor, the traditional Korean woman's skirt opens in the back. A left side front opening was used for this contemporary piece, traditional for Western women's apparel. This opening edge was curved to reflect the curved theme of the jacket. A pleat parallel to the opening edge was added. When pleated and faced in red, the curved hem provides a spot of color near the hem that opens to reveal more color when walking. The Western natural waistline was used for this skirt rather than that of the traditional Korean bust-level band.

Media:
A navy blue Swiss rayon shantung was chosen for the base fabric as a background for the bright silk ties in red, orange, brick, navy and cream. Red silk was used for the collar, for the jacket lining, and for the skirt front opening facing. Noting that sheer fabric was used as a support in traditional Korean costumes, silk organza was used as the jacket interfacing. Various metallic trims, fabric piping and Oriental coins decorate edges.

Technique:
Using a basic kimono sleeve block and basic skirt block, the jacket and skirt patterns were created by flat pattern design. The jacket and skirt were sewn by machine while the ties were pieced and applied by hand.
The mantle of a Kalmuck high priest from the Caspian Steppe region of Russia (Tilke, 72) served as the primary inspiration for "Caspian Gold." Specific features incorporated in the design included line contour and direction, collar type, and pleating. Secondary inspiration was derived from the liquid sheen of handwoven silk and gold metallic organza and a personal fascination with the natural silhouette of the early 1950's.

The general goal was to integrate these components into a contemporary evening wear design. The specific objectives of the project were to:

1. To explore the use of both straight and curving repetitive lines.
2. To explore color variation and repetition.
3. To exploit the crisp, light reflective characteristics of silk/metallic organza fabric.

The first goal was accomplished by transposing the style lines of the mantle to a fitted jacket and utilizing the pleats in a sunburst technique. The parallel vertical and horizontal style lines of the jacket front continue to the back forming the curves of the yoke and peplum. Lines are emphasized through quilting, color variation, and linear trimming.

Although the colors (red-orange, purple, blue-green) represent an analogous relationship, they are organized non-sequentially in continuous bands bordering the jacket. The final goal was achieved by manipulating the fabric so as to continue the contrast of the curved and straight lines. Quilting softened the crisp fabric hand; pleating created vertical lines. Both techniques exploited the sheen of the fabric.

The two-piece evening ensemble features a three color quilted jacket and full-circle sunburst pleated skirt. The style lines of the jacket are embellished with gold metallic cording; the perimeter is bordered with self-piping and gold metallic soutache. Knotted cording and tassels form the front waistline closure. Materials include silk and metallic organza, metallic cording and soutache, polyester batting, and polyester taffeta. The skirt and torso blocks were drafted. The torso block was then enlarged and style lines were then incorporated using flat pattern techniques. The design was completed May 1990.

References

Tilke, Max. COSTUME PATTERNS AND DESIGNS. New York: Frederick A. Praeger, 1957.
This suit is one in a series of garments that focused on experimentation in combining commercial textiles and hand-crafted textiles. The target market was women, ages 30 and up, upper income category. The garments would be marketed through specialty boutiques that offer garments with some hand-crafted elements, thus necessitating a higher than average retail price.

The process used in this experimentation was to select a commercial textile with some surface interest, experiment with a series of further surface embellishments, select commercially available yarns that accentuate colors and characteristics of the embellished commercial textile, and experiment with structuring the yarns into pattern shapes to add to the commercial textile. After selecting the embellished textile and the hand-crafted structure, ideation for garment structure was implemented using 2-dimensional sketching and 3-dimensional muslin garment shapes.

The commercial textile selected for this experimentation was a 100% silk, pink-and-black tweed. The horizontal and vertical lines of the black yarns in the commercial textile led to experimentation with repeated linear shapes printed on the textile. The printing medium selected was Deka permanent fabric paint. Paints were mixed to provide shades of blue, red, yellow and green.

A variety of commercial yarns were selected that incorporated the colors chosen for the embellished commercial textile. In the experimental process yarns were used singly or plied with other yarns to combine desired colors and textures. Yarns were hand knitted, machine knitted and hand-woven in a variety of textures.

With the commercial textile and the hand-crafted swatches as inspiration, sketching was used to explore possible garment shapes combining the 2 textiles. Simple shapes were chosen to show the textiles to best advantage. A loose-fitting jacket was chosen to make marketing to a specialty boutique more feasible. The unstructured jacket can be offered in small, medium and large sizes instead of more defined size ranges necessary for more fitted garments.

Pattern shapes were developed using the flat pattern method. Fit and structure were refined through a series of test garments. The commercial textile was selected for the body of the garment with the hand-crafted textile used as accent. A straight skirt with adjustable waistband was designed to accommodate a range of sizes corresponding to the jacket sizes.

Final implementation and testing of the garment in the embellished commercial textile and the hand-crafted textile indicated further refinements were needed to change the gauge of the knitted band to balance the structure of the commercial textile.
Sleek, yet billowy; crisp, yet flowing; sexy, yet sophisticated; Seabreeze sizzles while being ever so cool. 100% rayon understated in pure white simplicity. The garment consists of two pieces. The pants are harem type, extremely full and loose with a diaper center and long tapered legs. They have inside pockets and double elastic. The top, being long and sleek, is two asymmetrical halves combined to create a symmetrical whole. The back is completely bare while the front is conservative with a boat neckline and patch pockets. The short sleeves accommodate summer breezes and seawinds.

The garment was designed with the woman of the 90's in mind. She is professional and works very hard, she plays even harder and has a very active social life. She is between the age of 20 and 40 and has an upper level middle income. She travels alot to escape the urban area in which she resides. She is bound and gagged in a business suit during the weekdays and likes to be free during playtime in every sense of the word. To add ease to her weekend getaways, the garment is washable with little maintenance needed. Seabreeze is casual or formal, depending on the occasion. It would be appropriate in a cruise setting, at a dance, a backyard barbeque or on an island excursion. It's a go anywhere do anything garment.

Seabreeze was created in July of 1989 on a home sewing straight stitch and overlock machine. The top was draped on a human body while the pants were flat-patterned. The only difficulty encountered was in the attempt to allow the wearer to bend over without exposing the breasts. This was achieved by changing the angle of the lines in the back of the top. Now when the wearer bends over, the back drapes over the body in a manner which cups the breasts and endorses them.

This garment provides the aforementioned woman with choices, even after she has selected this garment for an evening, she is not limited. She may change plans completely and still be appropriately dressed. She is as free as a seabreeze.
The handwoven jacket of wool and acrylic/wool blend yarns was woven on a four-harness floor loom. Threaded with a tubular double weave warp of acrylic/wool blend yarns of approximately the same ply, but varying somewhat in hues of red and gray, the warp yarns do not follow any certain order. A plain weave is used on the jacket throughout but the design features the use of novelty yarns to add texture.

Even though the loom was threaded the same for the entire garment, two basic configurations were used in terms of the treadling order. The front and back of the jacket were woven simultaneously and therefore there are no side seams but only the opening down the front. The collar was also woven as part of the jacket and then turned down and hand sewn so that the jacket can either have a standing collar or the appearance of a lapel. Using a tubular weave for the sleeves before cutting them into two pieces and tapering somewhat before hand sewing them into the armhole required yet another treadling sequence.

This piece was woven in a one-week workshop which concerned using the tubular double weave for clothing. Therefore, the objective was to design a garment which used this method, as well as to be aesthetically pleasing and to be current in fashion. Since woolen yarns have so many positive characteristics for weaving, the designer selected those which she believed to be appropriate for the structural design, as well as for her personal coloring and taste.

Before designing this piece several current publications including Threads, WWD, and Handwoven were viewed for ideas while realizing that there would need to be some modification due to the tubular concept. A design which would be unique yet versatile and project a handwoven appearance was also important. Experimentation with the various yarns and a small sampler woven at the first of the warp also enabled the weaver to make decisions as to the design of the piece. All elements and principles of design were evaluated individually so that the piece would communicate individuality, as well as be a very wearable jacket for a variety of occasions.

Friends have made many positive comments on the piece, but the designer will have to admit that the youthful expression "totally tubular" does not accurately describe her work since this jacket as explained above is only "almost tubular".
The intent of this project was to create a design suitable for evening wear that captured the splendor of past oriental royalty, yet mirrored contemporary creative design. The result was a greatcoat made of fabric embracing a triad of kaleidoscopic iridescent colorations reminiscent of sunrises and sunset.

Flat pattern design and drafting techniques were employed in the development of the first pattern. The final pattern evolved through various muslin adjustments. Purity of line and design strength were elements the designer sought to capture in this project.

The dominant feature in the greatcoat is the umpire line which takes a downward spiral in the centerfront and back and is reemphasized by contrasting gold color, quilting stitches and cording at the lower edge of the plastron. Bell shaped raglan sleeves follow the same design line of the bodice. The bold collar, when closed, slopes from high neck to shoulder; when open, falls flat to reveal the total decorative design. From underneath the plastron flows a voluminous pleated skirt which accommodates bouffant or sheath dresses. The base fabric is a deep pink/gold iridescent tone. In structuring the design, design cutouts were made in the base fabric and the orange/gold fabric was positioned underneath and embroidered in place. The gold tone was applied to the surface of the fabrics, and given form through quilting, trupunto and cording techniques. Gold metallic tassels were applied to the front and back of the plastron at its taper points to further enhance the drama of the motif. The peacock feather was the inspiration for the decorative design in the upper portion of the greatcoat, and the combined techniques of trupunto, applique, quilting, machine embroidery, cording and cut-through applique formulated the necessary dimensions.

The splendor of the orient, reflected especially in the opulent apparel worn by emperors and the royal court, is captured both in color and design of this contemporary creation.
An acute social problem exists in the Upper Cumberland area of Tennessee. The pregnancy rate of teenage girls is one of the highest in the nation (approximately 19 per 100 teenage girls). Many girls opt to drop out of school cutting short their career opportunities and ultimately to break loose the cycle of poverty that grips them and their child. Presently, in the senior class of 48 students in a rural county three girls are pregnant. Knowing that numerous research studies have revealed the relationship between appropriate dress and attendance at special events by adolescent girls, I selected one of the pregnant girls who is size 18, 5' 8" tall as the subject of this design project. I approached the girl (6 months pregnant) with the idea of designing and constructing her a dress for graduation. She was receptive to the idea. She wanted a dress with a youthful appearance and that "looked like" what her classmates might be wearing. In addition to designing the dress for this special occasion, the continued use of the garment after the birth of the child was important because of financial reasons.

A nautical look was selected for the design which was executed via the flat pattern method. The opening for the sailor collar was cut low in front with a triangular inset that snaps in place. Short, puff sleeves with a wide band were chosen for the design. The muted blue dress features three box pleats in front, one at center front and the other two extend from the shoulders to 14" above the bust points. The pleats are lightly folded in place. After birth the pleats will be tacked at the waistline and an elastic encasing will be sewn around the waistline. A white rope belt will be used. The front hemline will be adjusted as well. Presently, the dress has a two inch hem. This width of fold allows for an insignia "You are special (name of girl), May 31, 1990" (note this is the date of her high school graduation). The white cuffs and collar are trimmed with a narrow bias band that was cut from the dress fabric, a blend of 60% polyester and 40% cotton with a permanent press finish. The dress is highlighted with a red bow placed at the end of the collar, center front of dress.

The primary problem of attendance at graduation has been solved. She has made the statement that her dress will be the only one with the "hem turned up most of the time". The nautical look was selected because it's highly popular among teenagers this season. The vertical lines (collar, band, and pleats) provide an illusion of being slimmer. Because of the low cut collar, the dress did not need a feature such as zipper for ease in dressing. The unlined and short sleeved dress is just right for a southern summer pregnancy. The nautical look will not be interrupted when an elastic waistline, rope tie belt and front hemline adjustments are made. The inset allows for ease in nursing!
Introduction and Problem Statement: A second wedding is an event in many peoples' lives that requires specialized clothing. The design concept required is to create clothing suitable to the function and that addresses the aesthetic demands of the female human form.

Techniques and Media: The techniques used in creating this piece consist of various joining and surface treatments. The body and sleeves of the jacket are machine quilted through silk fabric and cotton batten. In addition, unquilted padded banding was made. Other techniques used were regular machine stitched seams, hand-stitching, and serging. The design was created by using flat pattern making methods. The shape and size of the jacket were related to the scale and pattern design of the quilting motif. The media used to create this two-piece garment is 100% silk fabric, 100% cotton batten, 100% silk lining material, and 100% acetate satin lining fabric.

Description: The ensemble consists of a jacket and a skirt. The quilted, clean-lined jacket is fingertip length, overlaps at the front without fasteners, has wide just-above wrist-length sleeves, and has three inch banding attached to the front opening. The banding is a continuous piece which also acts as a stand-up collar. The jacket has no shoulder seams. The skirt is straight, has a three inch band at the hem, side seam pockets, and an elasticised waistband.

Inspiration: There are a number of inspirational sources for this design. The basic form of the jacket is related to the short coats worn by Japanese farmers in the field. These coats, made of cotton fabric in Japan, are cut with ample ease so that other pieces can be worn underneath. The proportions in my design were also inspired by the scale of the quilted diamond pattern. Although seamed in various places, the diamond pattern is organized in such a way that the quilting is continuous where the sleeves join the main part of the garment, in the shoulder areas, and at the side seams. The diamond pattern was chosen because the geometry of its form underscores the geometry of the garment's form.

Solution to the Problem: The solution to the problem of a second wedding was found in the color, form, and visual expression of the piece. In contrast to a garment for a first wedding, which in western tradition is white, a second wedding demands a color other than white. Ecru, the color chosen for this design, is a neutral color which suits a majority of people. The form of the piece is understated and makes it possible to give the wearer a choice of places where a second wedding might take place. The visual expression of the piece has a calming effect in its simple geometric shapes, both in the two-dimensional graphic design of the quilting and the three-dimensional forms of the jacket and skirt. The aesthetic demands of the female form are addressed in this piece in a number of ways. The shape of the jacket and skirt are not form-fitting which allows coverage of various figure problems. The elasticised waistline of the skirt provides breathing room and the length and width of the skirt allow for walking room. The emphasis on the vertical, achieved by the banding on the jacket, the orientation of the diamond design, and the length of the jacket, is an element which visually lengthens the human form. Aided by the vertical lines of the slightly gathered skirt, the piece also has an overall proportion of two to one. While the horizontal band at the hem of the skirt echoes the banding of the jacket, it lends weight and volume to the lower edge of the ensemble. The design elements have been manipulated to emphasize the vertical and answer the aesthetic demands of the female form which appears taller and slimmer.

Conclusion: This ensemble, called The Second Wedding, addresses the functional needs of a woman who is getting married for the second time and satisfies the aesthetic demands of the female human form. The ensemble was completed on April 22, 1990.
The purpose in designing this garment was to use fabric and design to create a visual impression of coolness and grace. The dress was designed as an expression of quiet, feminine sensuality communicated through gentle pleats in the bodice and a soft flowing skirt. The pattern was developed through draping techniques.

The sleeveless dress, in a delicate mint green, 100% cotton, is accented by a pink, blue, and green flower print at the waistline giving the impression of a summer flower garden. The front bodice is loose fitting and gently draped with a cowl neckline. A small waistline is emphasized through the 5-inch wide band gathered into a 2 1/2-inch waistband in the flower print.

The bodice back is the focal point of the dress suggesting cool sensuality. The eye is immediately drawn to the center back where a 1-inch band is wrapped around the top and bottom panels that create the bodice back. The top panel of the bodice is draped into a deep "V" at the center back band with five pleats radiating out toward the shoulders and sides of the bodice. The center back seam of the bottom back panel is open from the center back band down to the waistline. Three pleats originating at the center back fold softly into the side seams. The horizontal seams which would normally connect the top and bottom panels are left open, giving the impression that only the center back band holds the loosely fitting bodice back together. The dress skirt is draped in a full "A-line" folding softly around the legs.

The lined bodice front is cut on the fabric bias creating a softer fold in the cowl neckline. The top back panel of the bodice back is a large rectangle folded into pleats which meet at the band in the center of the back. The bottom panel is a large square. The bottom panel center back is cut two inches from the top of the panel to the bottom so that the center back of the panel will have an open seam. The top and bottom panel are connected with seams that extend 1 1/2-inch from the side seams and at the center back under the center back band. Both panels are lined in fashion fabric to aid in the construction of the bodice back and provide color depth consistency in both the front and back bodice.
The purpose in designing this garment was to design a distinctive, unique vest that can be worn without a shirt. The nautical look immediately comes to mind with this "V" neckline, double-breasted, and cherry-red vest. Both vitality and energy are communicated through the use of color and asymmetrical design.

The vest front features asymmetrical design that is achieved through the vest closure and collar. The vest closes with three buttons along the lower half of the left princess seam while three additional buttons continue up the top half of the princess seam into the armhole. The buttons are a sharp, clean white with a bold red line passing through the center of the button. At each end of the button, the red line arches diagonally, supplying the buttons with an exciting energy.

The top right front extension folds back into a large, daring triangular collar. The collar on the right side of the vest gives balance to the asymmetrical design achieved by the button placement on the left side of the vest. Further balance is added by placing a buttoned, mock pocket flap at the lower right front panel of the vest.

The symmetrical vest back features 3/4-inch pleats inserted on each side of the center back seam. However, the pleats are top-stitched closed three inches down from the neckline and three inches up from the waistline. The remaining inches are open pleats with an open center back seam, causing a person to do a double take to make sure they saw what they thought they saw (open seam revealing bare back).

Draping is the technique used in pattern construction. The fabric is a 52% ramie/48% cotton blend in a plain weave.

The vest is fully lined in fashion fabric and top-stitched to give a clean finish with sharp edges. The entire vest front is interfaced to help maintain the shape of the vest and provide support for the buttons and buttonholes.
The inspiration for Cameo Classic began with the researching of the past and the desire to capture the elegance therein. Further inspiration came with the challenge the Fashion Group of Dallas presented for the annual Career Day in April. The contest developed its theme around the decades of the 1930-1990s.

The 1800s were emphasized by all over femininity, with high necklines, small waist lines and a lot of lace, which were all characteristics of the time. Moving on to the 1940s, an elegant approach of the feminine class was emphasized by the many contoured shapes, pleats, two piece dressing and figure flattering design lines. As we approach the 1990s reflection on past designs can be an inspiration to a totally new look.

This cotton/linen blend two piece black ensemble is highlighted with ecru rayon scalloped lace, which outlines half inch pleats on the front and back necklines. The princess lines contour the body from armhole to waistline, along with the "V"-shape extension at hemline, create an illusion of a small waist and longer torso. Tailored sleeves, accented with the same ecru rayon lace and a side black faceted button closes the cuff. Thus, adding a feminine touch of class to the garment.

Half inch scallop ecru rayon embroidery thread used with the scallop machine stitch setting on the Bernina Sewing Machine outlines the two inch scallop along both bodice and skirt hemlines.

The straight skirt softly contours the body with a tailored kick pleat in the back which, is detailed with six bound button-holes held by black faceted buttons.

This garment was targeted toward a woman with the desire to look tailored and have a little feminine elegance. Its main appeal would be to women in their 20s-40s with a high income, especially since the garment would need to be a dry clean only garment.

Although the design was completed in March of 1990, it shows the inspiration of the feminine looks of the 1800s and the tailored elegance of the 1940s.
The elegance of the 1940s and the love of lace, combined with the challenge of a contest arranged by the Fashion Group of Dallas, inspired this unique 100% cotton wedding dress. The dress represents a look at fashion through the decades and a Texas produced fabric. 

The love for lace and elegant style helped provide new knowledge and ability to create this unique wedding dress with the handmade Battenburg lace. Although Battenburg lace is a rare handed down art form, it has been recreated by a combination of machine techniques and a lot of various hand work. Battenburg tape was first applied to a wash away plastic sheeting by pins. Once the tape was shaped in the desired motif, it was sewn together in order to stabilize it for the hand work. Crochet thread was used to create the lacing effect. This process was done completely by hand through various needle work stitching. Once the lace was completed, pearl beads were applied to add the final touch.

The princess lines, double peplums, and graduated pleats add to angular design lines which create an illusion of a slender hour-glass figure. The pleated standing collar fans around the neck to join the sweetheart neckline which is accented with beaded Battenburg lace. The sleeves fall gracefully from extended pleats to a pointed hem with a three button closure. Graduated pleats fall from under the pleated detachable train. The idea influencing this design feature is the ability to take the train off and still have the pleat effect, which provides more comfort for the bride after the actual ceremony. The elegant tea length hemline also provides a comfort for the bride and can be worn for a longer period of time. The zipper is hidden in the side seam in order to create the front and back emphasis.

The front of the hat has a scalloped edge netting accented with pearl beads on top of the satin pleated brim. In the back the beaded Battenburg lace veil falls gracefully down to an angle at the waistline. This unique veil creates an heirloom for generations to come.

LAQUINE'S LACE was designed for a lady with a style all her own, not just Vogue but feminine, tailored and elegant. LAQUINE'S LACE was designed for the lady who is willing to spend the extra in order to be different.

Completed in March of 1990, this wedding dress represents hours of research and hard work but reflects a feminine quiet class.
The problem for this project was presented in a level 2 clothing design course at the Minneapolis College of Art and Design. A U.S. manufacturer of denim provided 5 yards of an ice-blue 14-oz. denim textile for each student. Students were to design garments that used denim in unusual ways. Visual and physical characteristics of the denim were studied before experimenting with surface treatments such as bleaching, printing, dying, embroidery, applique, trapunto, stenciling, block printing, etc. Over-dying the denim provided interesting color effects. A reactive dye in scarlet was chosen for this 100% cotton textile. The addition of the scarlet dye over the ice blue gave a deep scarlet shade to the denim textile.

Construction techniques were explored before designing the final form of the garment. The denim is a mid-weight which provided direction for the structure of the garment. It was decided to design a coat or jacket to make best use of the weight of the textile. Because the design was to be non-traditional use for denim, a formal coat for an upscale market was selected. Ideation sketches were used to explore visual possibilities. The direction of designing a formal coat provided the inspiration to explore more elegant textiles that might be combined with the denim. After exploring a variety of textiles, a heavy tapestry was selected to combine with the dyed denim. The tapestry provides interesting visual contrast in color, a rich blend of greens and creams. It was decided to combine the denim and the tapestry in a reversible formal coat.

The pattern shapes of the coat were developed through the flat pattern method and the form was tested for structure and fit on dress form and live model. The coat is over-sized with full sleeves, the drop waist attaches to a full skirt. The weight and hand of the denim and the tapestry worked well in designing a wide, circular stand-up collar.

Appliques of the tapestry fabric and sequins were applied in a cascade over the right shoulder of the denim side of the coat. The applique and sequins of red, gold and green accentuate the colors of the reverse side of the coat and add to the formal visual appearance of the design. A belt at the hip is fastened with a bronze clasp that enhances colors in the tapestry. The tapestry side of the coat is accented with the denim belt and the turn-back cuffs that reveal the denim.
NAUTICAL ENSEMBLE

Rebecca Klein-McDermith, Design Student, California State University, Chico

Gwendolyn Sheldon, Faculty, California State University, Chico, CA 95929

My original design was created and executed using the flat pattern method of Apparel Design in response to a problem by California State University, Chico's (CSUC) Apparel and Retail Association (ARA).

The ARA organizes an annual contest to promote design by CSUC students. The evolution of this design began with the given theme of Spring 1990s competition. Entrants were instructed to design a garment to fit the mood of "Beachwear Overflows the Beach."

I interpreted this guideline to mean daywear/eveningwear with a beachwear tone and developed a garment group with a nautical motif to reflect my answer to the problem. I wanted to go beyond the obvious and avoid the bathing suit solution reached by most of the other contestants.

I have always been intrigued by 1940s and 1950s fashion, so I researched this era looking for inspiration from movie stars, fashion designers, and personalities popular in that period.

I designed the bustier top to resemble bathing suits of the day, the close-fitting jacket represents the torso-hugging designs worn by women, and the long skirt, which hugs the hips and flares at the hem, adds movement and grace to the ensemble. The straight skirt streamlines the outfit, giving it a clean line. I constructed the group in a navy blue poly/rayon gabardine for washability and simple elegance. The cap and genuine Armed Forces brass buttons give the crowning touches to this sophisticated, yet playful style.

Date completed: May 5, 1990.
The inspiration for County Fair came from a desire to create a garment that was flattering to the fuller figure, appealing, comfortable yet still unique. The colors (blue, pink, and ecru) and the heart motif were influenced by the French Country look so prevalent in current trends in interior design. The lace skirt was intended to add an airiness reminiscent of the out-of-doors.

County Fair was knit of 100% cotton yarns on a Brother 840 knitting machine. The blouse was made in a plain stockinette stitch of a soft blue cotton yarn. The ecru-trimmed sleeve flanges and neck trim of a double-picot hem stitch were knitted separately and sewn on by machine. The bodice and pockets of the pink jumper are also of a plain stockinette stitch. The pockets are trimmed with the ecru double picot trim. The skirt section of the jumper is a machine knit lace pattern featuring a hem border of a fair isle heart motif. A 6½" underpanel of blue stockinette is sewn beneath the heart motif border giving the impression that the garment is composed of two full-length dresses rather than just a blouse and jumper. A single crochet edging finishes off the jumper armhole and neckline areas.

County Fair was intended to have a more universal appeal than most art wearables. The target market is young women 17-24 years of age; the choice of colors and heart motif seem youthful. Although one purpose of County Fair was to create a garment that would be attractive on the fuller-figured woman (the garment is a Misses 14-16), the short-sleeved blouse and dropped-waist jumper are popular features in many contemporary garments and are appropriate for almost any figure type. County Fair has a mass appeal yet still qualifies as a one-of-a-kind design.
HERBAL POMPADOUR

JAMES MAH & BEATE ZIEGERT

EDMONTON, ALBERTA, CANADA

UNIVERSITY OF ALBERTA, T6G 2M7

PICTURE A

PICTURE B
This one piece dress is part of my evening wear collection called Self Portrait. It is made of white acrylic tubular knit fabric and a soft brown rayon. The bodice is lined with a cotton ribbed knit. Draping techniques were used to create this garment. On a dress form the center front and back, side seams and waistline were marked before the style lines of the neck and armholes were carefully placed. The skirt and collar were drafted through the flat pattern method.

This dress is designed for the fashion/target market of young women fifteen through twenty-five years of age. This target market is young and growing thus experiencing many different situations and events. This evening dress can be worn to many events a young woman would be attending: a friend's graduation or wedding, night clubs, dances and parties. This evening dress is suitable for this market because the garment contours the body at a time when body-fit consciousness is "high fashion."

This cocktail length evening gown is made of white 100% acrylic two by two knit, 100% rayon and is lined with a 100% cotton light weight ribbing. The lining acts as a facing for the neckline and armholes. The bodice is seamless because the acrylic rib knit is a tubular fabric. The V-neckline extends down to just above the waistline and armholes and are bound with the acrylic knit. The roll collar, made of brown rayon, is interfaced with suit-weight interfacing to add extra body and to retain its shape. To hold the collar, the neckline is understitched and topstitched. The full gathered and flared skirt is attached to the bodice at mid-thigh. To retain the shape of the acrylic rib knit and create the body contouring effect, a narrow elastic has been stitched into the mid-thigh seam. The skirt is cut in three panels and is open at centre front.

From my collection of five garments, the evening dress I have chosen to construct, best communicates the title Self Portrait. Its body contouring characteristics allow the garment to appear unique on every figure. My inspiration is from the great Impressionist sculptor, Auguste Rodin. This nineteenth century artist created several sculptures of nude figures. These figures appear so life-like it was once thought they were constructed from plaster molds. Rodin's The Age of Bronze and The Kiss exhibit this life-like quality. The soft contours of the figures in The Kiss are contrasted by the varying textures of their surroundings. My gown, like the sculptures, show the true contours of the body rather then restricting or distorting the body's natural shape.

This dress, like the other pieces in the collection, utilizes the tubular knit fabric for a body hugging fit. The tubular knit conforms as the contours of the body grow and change allowing for extended wear of the garment. The dress is easy to put on and is hand washable in warm water. The garment was completed May 25, 1990.
My summer evening dress is made of 100% silk chiffon and olive green 100% rayon. My dress is created using flat pattern and draping methods. Various machine stitches were used in constructing the dress and the chiffon. The armhole edges of the rayon bodice are bias bound and the narrow hem of the skirt is folded under and topstitched. The edges of the chiffon are machine rolled and topstitched, and french seams are used to join the chiffon. Serging was used to finish the side seams of the dress and the waist seam. A lapped zipper, hook and eye, and a button are used for closures.

My dress is designed for the fashion/target market of women aged 20 to 40. I believe that this type of woman attends many evening parties or functions. I believe my dress is appropriate for this type of function. The recent use of sheer fabrics by contemporary fashion designers has increased my interest in using chiffon. The dress encourages us to appreciate our natural environment through the leafy floral patterns on the rayon part of the dress. The use of natural fibers rather than synthetics helps contribute to the idea of a cleaner earth by not using petroleum by-products in the production of fabrics.

My one piece evening dress has a yellow, light weight pure silk chiffon skirt draped over a rayon skirt. The chiffon also covers the back bodice and has a blouson which wraps around to the front of the dress and is gathered at the centre front waist. There are various lengths on my garment. The inner rayon skirt is above the knees and the chiffon is longer and reaches to the ankles. In the 1990's skirts of all lengths are worn by women and this is depicted in my design. The draped chiffon skirt guides the eye up and down. The back bodice in addition gives the impression of added height. The shoulders and arms are bare.

I was inspired by the flowing lines of Art Nouveau at the turn of the century and to express this concept I used silk chiffon. I was also inspired by the tropical colors of Hawaii evident in the print of the rayon fabric. The colors I used were inspired by the concerns about environmental issues. The yellow chiffon resembles the rays of the sun which provide the energy much needed by the earth to survive and stay green. The leafy floral pattern on the rayon suggest earth tones which makes us feel closer to the environment.

My evening dress of pure silk and rayon is desired by women who seek attention and desire to look up-to-date with the times for those warm summer evenings.

My one piece evening dress was completed May 26, 1990.
The purpose of this design was to portray a concept of creativity in beachwear apparel. This ensemble was designed for the National Cotton Women's Committee project and we were required to use 100% cotton that was made and grown in the United States. I chose beachwear to show the versatility of cotton in a challenging design.

The draping method was used to create my design. I chose a gathered asymmetrical look for the top, so I pleated and folded fabric until the desired look was achieved. For the wrap shorts and skirt I molded fabric to my body form to achieve a close fitting, body conscious design. The top was hand beaded with black glass beads. Six strands were strung and wrapped around the center front along with dangling strands.

The outfit is a three-piece ensemble consisting of a pleated top, wrap shorts, and a wrap skirt. It is made of 100% cotton in a neon yellow and a neon splash print with multiple colors. The top is gathered and hand beaded at center front. One side folds down into five pleats while the other had five pleats coming up from the bottom.

The wrap shorts pull through the legs and overlap at the sides, while tying at center front and center back. One side of the shorts is neon yellow while the other is neon print.

The wrap skirt overlaps at center front and is secured at the side with Velcro. It is fitted with darts in the back. It can be worn over the shorts as a cover-up or worn alone as a skirt.

The inspiration for this ensemble came from my own personal desire to be creative and individualistic. I wanted to develop an ensemble that was original and eye catching, one that would be remembered. I used neon fabric to give the ensemble eye appeal as well as design appeal. Overall, this design was successful. The National Cotton Women's Committee will use it in the future to represent the United States of America's fabrics and designers.
The Expressions 1990 line is a seven-piece ensemble of mix and match separates that transform into 18 different outfits. The purpose of the line was to create an ensemble of separates that could be interchanged to create several styles for different occasions. The pieces can easily travel from the beach to a formal dinner party. The desire was to portray a concept of individuality through the expression of clothing. The challenge was to create an ensemble that could be taken to any occasion just by mixing and matching a few pieces.

Expressions consist of three wrap halter tops, one elastic band mini skirt, one pair of long scrunch pants, ruffle waist shorts, and an ankle length detachable peplum overskirt. The fabric is a black and white swirl knit print made from 50% polyester and 50% cotton. All the halter tops vary in style. One is a basic wrap around halter that has Velcro closures at the side seams. Another is gathered at the back of the neck and side seams with wrap around ties. The last one is a wrap halter with a draped and shirred back. Ties are cut into the bodice and wrap around to the back. An additional piece is added to the upper bodice side seams draping around the upper back connecting at the center back neck.

The peplum overskirt adds flare and excitement to this ensemble. It is about eight inches in length in the front and tapers down to the ankles in the back. The peplum falls into soft folds all around the body. The inside is contrasted with solid black fabric that folds over at the front waistband.

The draping method was used to create this line. Some pieces were draped in muslin and others in fashion fabric. This method allowed me more freedom of expression through the use of fabric manipulation.

My inspiration came from the unique blend of previous design experiences that combine individualistic design ideas with fashion and function with personal interest in the unique and creative. I like garments that "stand out" in a crowd making a statement of individuality and innovation. I portrayed these feelings and statements through my designs in this line.
The purpose of this project was to create children's clothing that is both functional and fashionable. There is a strong psychological need for children to feel they fit in with their peer group and, also, to imitate what's going on with popular culture. It is important for children to wear clothing that expresses this, but at the same time their clothing must be durable.

This project combined the durability of nylon fabric with bright, kid-pleasing colors. The color-blocked design and lots of roomy pockets and extras give children the psychological confidence that their clothing reflects current fashion trends while providing them with durable, long lasting play clothes.

In creating this outfit, three methods of pattern development were utilized. The objective was to gain a feel for what types of clothing should be draped vs. drafted. The pants were more easily drafted while the shirt lent itself more easily to draping. Once the basic patterns were perfected, flat pattern was used to create the specific designs.

Four bright colors were incorporated into the outfit: Fiesta Gold, Electric Blue, New Violet, and Emerald. This shirt and pants outfit uses shirring as the primary interest feature. The pants have a shirred strip down the front of each leg and three roomy pockets. The sleeveless shirt features shirred shoulders, a shirred chest pocket and a contrasting back pleat.

While creating durable play clothes remained the primary function, the design of the garments needed to attract children's interest. Colored building blocks of different sizes and shapes provided the spring board for this colorful design. In creating a product children would respond to, it was necessary to understand what children like... they like colors and lots of "stuff." Once this premise was established, the designs fell into place. This project was completed Fall 89.
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Four bright colors were incorporated into the outfit: Fiesta Gold, Electric Blue, New Violet, and Emerald. This jacket and pants outfit is color-blocked in multi-pieces. The pockets are pleated and the back of the jacket is pleated. The jacket zips in front and the pants have a pull-on elastic waist.

While creating durable play clothes remained the primary function, the design of the garments needed to attract children's interest. Colored building blocks of different sizes and shapes provided the spring board for this colorful design. In creating a product children would respond to, it was necessary to understand what children like... they like colors and lots of "stuff." Once this premise was established, the designs fell into place. This project was completed Fall 89.
The first step in the design process for this two piece sportswear outfit was to develop a size 24 basic sloper. A muslin bodice was made from the sloper and was tested on a size 24 body. From this basic pattern the styled patterns were developed and tested in muslin. A basic pants sloper was developed from measurements and tested for fit. The fabrics chosen for this ensemble are plain weave 100% cotton in earth tones of brown, light green, forest green and orange.

The problem I developed for this project was to design functional apparel for large sizes. I chose to create garments which would appeal to large women in their twenties. The garments are casual in style and afford ease of movement. The garments reflect a concern for the environment and were influenced by an art movement.

To solve the problem, I chose to design a jacket and pants ensemble. The jacket has a convertible collar with front opening and six wooden buttons. The body of the jacket is light green with an applique motif on the lower section of the back, and top left front. The applique on the back of the jacket shows two trees on a brown ground. The upper front left of the jacket sports a circular piece which symbolizes the harvest moon. The jacket has side pockets and contrasting brown cuffs. The sleeves are set into a low armhole which adds to the casualness of the shirtwaist styling of the jacket. The pants are made from the earth brown fabric and also have side pockets. The pants have four pleats in the front and the waist is elasticised.

The inspiration for the motif on the jacket and the colors were drawn from several sources including the Group of Seven. This group of Canadian artists who painted together from 1920 to 1933, were renowned for painting the untamed Canadian forests in Quebec and Northern Ontario. The colors I chose were also inspired by the Group of Seven as they painted in rich earth tones inspired by the wilderness around them. The forests which were painted by these artists over sixty years ago are now slowly being destroyed by acid rain. Thus, the motif on the jacket is also a statement about the environment.

The problems of creating garments for large size women were solved through various techniques. The jacket was made to come below the buttocks which is often a problem area for large sizes. Thus, the jacket disguises this aspect. The armholes were extended and enlarged to provide more ease of movement. In order for the garment to drape appropriately on a large size, the bust dart was moved to the armhole. The pants were made of the same fabric as the bottom of the jacket so as not to add visual weight at the waist. The pants have pleats added to the front to provide greater ease of movement. The pants are also tapered at the ankle which gives a slimming effect. I believe the solution to the problem of designing casual apparel for the large size target market was successful.

Date completed: May 24, 1990.
"Ombre' Ole'" is a three-piece ensemble made of fabric that was designed, woven, and sewn by the artist. The project was undertaken to study the phenomenon of color-and-weave effect. The matching skirt and blouse and the coordinating stole are composed of 5/2 mercerized combed cotton. A broken twill-weave structure set at 16 epi was used for the skirt and blouse fabric. The base color is "flaxon," a natural linen-like hue, with two sunny yellow yarns introduced every two inches. The surface is embellished with two forms of hand stitching, one an overcast and the other a raised loop style, placed over selected lines of the yellow warp. These accents, done in yellow, stand in relief in one row on the bodice and in several parallel rows at the lower area of the skirt.

Because of limited weaving width, the fabric was woven long and railroaded. The needed skirt length was produced by combining full and partial widths of fabrics. A "woven" faggoting stitch, composed of three yarns, was used to join the two pieces. Here a marled yarn of red, orange, and yellow was introduced to complement the coloration of the stole. A Hong Kong seam finish was used for all raw edges of the garment.

The 72-inch by 24-inch stole was finished with an additional 14 inches of Mexican braided fringe at each end. A fine hand stitch was used to stabilize the braid crossings, in order to preserve the grid-like lattice effect. Seven analogous colors (red, orange-red, red-orange, orange, yellow-orange, orange-yellow, and yellow) were placed in 13 two-inch lengthwise bands, beginning with red at the selvage and ending with yellow at the center. This color sequence was repeated in the weft. The tabby ground was bracketed by 12 crosswise bands of various hand stitches and finger-manipulated weaves. Among the stole's stitches and weaves are Brooks Bouquet on a closed shed, leno, Mexican leno, ladder hemstitching, trellis hemstitching, and Mexican leno combined with Danish Medallion.
The ensemble submitted for this competition is composed of two different handwoven fabrics and shibori-dyed commercial fabric (rayon challis). One of the woven fabrics is warp painted, and the solid color yarns are also hand dyed. The warp painted fabric is woven in an eight harness non-repeating undulating twill designed by the artist, and consists of a dye painted alpaca warp with a black alpaca and mohair weft. The solid black fabric is woven in an eight harness bedford cord weave with a mohair weft and a silk, wool, and mohair warp. The dyes used for the weaving are Kiton dyes. The shibori is first discharged, then dyed with fiber reactive dyes.

I have always been intrigued by the illusions of iridescence found in objects as diverse as a sea shell, a feather, a butterfly's wing, and even an oil slick. It is not only the elusive shifts of color and light, but also the range of textures that share this illusion that have fascinated me. Thus, this ensemble is a study in tactile contrasts unified by illusions of color and light.

In this ensemble I have tried to capture the illusion of iridescence through warp painting in the handwoven fabric. The amorphous color shifts achieved in the painting of the warp are juxtaposed with the more defined curvilinear patterns of the undulating twill. The color and pattern of the weaving are then reflected in the contrasting texture of the shibori fabric of lining and dress.

The two types of woven fabrics give substance to the more structured coat. The solid black body of the coat was chosen as a foil for the strongly patterned warp painting, which would be too overwhelming if used for the whole garment. Since, according to the rules of simultaneous contrast as stated by Chevreul, dark values tend to intensify hues, the effect should be to increase the apparent brilliance and luminosity of the warp painting. The softer warp painted twill is interlined to give it body equal to the black fabric. The shawl, which can be worn in various ways with or without the coat, celebrates the more fluid possibilities of the woven fabric, and is embellished with the side feathers from a peacock's tail.

The undulating twill is designed to create a series of smaller and larger curved lines, irregularly repeated, to give an organic quality to the pattern which would reinforce the organic effect of the painted colors. The relatively large scale of the weave makes the surface appear coarse, but this is belied by the softness of the alpaca and mohair fibers. The bedford cord weave was chosen to add an unobtrusive surface interest to the solid color fabric. The surface structure is essentially a plain weave, but with a subtle vertical fluted effect resulting from this rib weave.

The smoother finish of the dress contrasts with the lush, soft textures of alpaca, mohair, silk, and wool in the weaving, while at the same time echoing the visual color and pattern. The touches of iridescent beading, and abalone buttons and jewelry, add yet another level of texture, and underline the iridescence theme.

My pieces never have "do not touch" signs. If their tactile, sensual quality does not invite the viewer to touch, I have not succeeded. This ensemble was completed in December 1989.
This basket borrows materials used by the plains Indians for tribal dress and ceremony in the 19th century. Integral to the crown of the basket are multicolored knotted ribbons, porcupine quills, tin cones and grasses.

The body of the basket is a natural colored flax cord. The shape is constructed with a coiling process and takes the shape of an elongated cone.

The tufts of grass tied to the upper edge of the basket provide a high contrast to the sculptural quality of the body. Further, energy is established by the integration of diverse natural and man-made elements used for embellishment.

Bleached twigs are structured into a support system for the basket.

The qualities of distortion and integration served as the focus of this basket that was inspired by the plains Indians.
This work was the result of a study of form and embellishment. The cone and its potential for a design format using fiber was explored. Integral to the problem was devising a support or suspension device for the cone formation. Embellishment evolved as a treatment for the outer rim of the cone basket.

This series of work is also based on the utilization of materials that were used by the plains Indians in dress or for ceremony. Among the materials used were ribbons, tin cones, guinea feathers, and porcupine quills.

The structure of the basket is woven with a black waxed cotton card. The cone shape was then crowned with tufts of dyed grasses. Ribbons of blues and violets were knotted and interspersed among tin cones and dotted feathers to produce a nest like configuration. The ribbon structures work to add energy and contrast to the black form. A three legged structure was designed to support the cone.
Knotted Squares 125 is a 14" x 14" x 14" fabric sculpture of pieced linen fabric that was completed in March of 1990. The artist explores a concept of ownership of the land through creative surface design with knotting and sewing techniques. The most recent exhibited work is from a series of pieces titled "Knotted Squares." A surface enrichment technique of knotted squares is achieved by knotting small pieces of fabric, placing the knot on a square and then sewing the squares together. The artist has concern for the current financial trend of foreign investment in farmland and large corporate purchasing and combining of small family owned farms. This piece uses geometric fabric structures to symbolize patterns of fenced farmland owned and operated by various non-traditional groups, such as foreign investors, insurance companies and multi-national corporate conglomerates. This fiber design depicts an aerial view of midwestern parcels of agricultural land. The land, acre upon acre, farm after farm, has recently been claimed sometimes through bankruptcy and sold to the highest bidder with great personal and financial cost of the American citizen, the people who built their livelihood around the land. This sculpture indicates how some people perceive the land as a tangible purchase, with no emotional attachment involved. The potential earnings are the major consideration of these absentee owners. The land is just a "package" of investment potential.
"Celebration Coat XX," is a piece of recent work from a collection titled "The Rites of Spring in Fiber" which is currently being prepared as a solo exhibition. The apparel form of cotton and rayon was created through the traditional method of garment construction and embellished through the application of dyes and pigments as well as the removal of color through discharge. The collar was created through a shag knitting technique and enhanced through the application of dyes. Inspiration for the piece came from the paintings of Gustav Klimt, the color harmonies of Claude Monet, and the concept of spring as a basis for celebration.

For several years my work has been influenced by an interest in the use of fiber as a medium of celebration in various contemporary cultures as well as those of the past. The use of fiber in unconventional ways, like the use of other materials in a similar manner, lends itself to the creation of forms which are different from the type of artifact used in everyday life. Stimulation and excitement can be created in the near environment by differentiating between forms which are used for special occasions and those used on a daily basis; or by introducing new and unusual forms for special occasions and later incorporating them in day-to-day activities. By emphasizing the use of special forms on certain occasions, the participants of a culture can create dimensions of meaning which add rhythm and tempo to their lives.

The initial steps for the body of work to which "Celebration Coat XX" belongs were taken in 1985 when I commenced searching for inspiration which would give my work a new direction. While studying differences in the use of fiber among various cultures, I became interested in examining it's use as a medium for celebrating special events. The knowledge pertaining to concepts, materials, processes and techniques which I learned through my investigation not only gave my work a new direction but provided inspiration for a body of work to draw from in preparing for solo and two-person invitational shows as well as participation in juried exhibitions.
A Wall hanging, 21 1/2" X 24 3/4", this piece was knit on a Passap Duomatic 80 knitting machine with a patterning accessory called the DECO. The Fairisle pattern was designed as a visual structure which links organic forms across a continuous surface.

The same original Fairisle pattern is used throughout, providing visual continuity. However, this pattern is both revealed and obscured by the changing palette of the two pattern areas.

The knitting machine offers the unique opportunity to rapidly test the visual effect of combining yarns in a single eyelet. The resulting optical mix of color was utilized in a juxtaposition of two such combinations per row, but in a rhythmic succession of mixed pairs.

Color choices were intended to span the full spectrum of biological distance from the deep black of the earth below the organic activity of the soil, to the deep black of space, beyond the atmosphere. Mixed fibers were used including wool, cotton, flax, rayon, and acrylic.

The use of multiple yarns throughout create a randomly varying surface like the rich and unpredictable texture of natural forms.

It was not my intention to reproduce a natural scene in any literal or photographic way, but rather to use the sensuous medium of fibers to suggest the fragile power of the Biosphere.
"Sunshine and Rainbows" is a study of painting with fabric. I was inspired by the rainbows playing along the walls of my home that were made by the sunshine reflecting off of crystal prisms hanging in the windows. I envisioned a vest that begins just above the waist, in center front, and descends in steps to a point just above the waist at center back, in which bright fabric raindrops would fall into a rainbow spectrum. The pleated skirt would allow the vest to drip its bright colors onto it, puddling the colors until they rose back up to meet the vest.

The vest was draped in unbleached muslin, which was also used for the base fabric for the vest and vest lining. Finished size of the individual "drops" or rectangles was 1 1/2 inches in width by 2 1/2 inches in length. This rectangle size determined that nine lines of color were to be allowed in each half of the back of the vest. Red, yellow, blue, orange, green and purple made up the color spectrum. The rainbow begins at center back in red, and flows upward from both sides in red to orange, yellow, green, blue, purple, and then red, orange and yellow once more.

Each "line" of color began with an unbleached muslin strip of variable length, and proceeded from a pale tint to a deep hue at its end. Variously colored "drops" fall from the shoulders into the rainbow. The left shoulder is emblazoned with a multicolored sun, whose sixteen spines employ the six vivid colors reflected in the rainbow. The features of the sun's pale lemon face are embroidered in gold metallic thread.

After machine-piecing the rainbow back of the vest, the sun was hand appliqued in place. The vest back was then hand quilted in silver metallic thread to represent raindrops falling through the rainbow.

The vest front is of unbleached muslin, with hand appliqued "drops" falling in random patterns, and is also hand quilted in silver metallic thread. The vest front and armholes are machine quilted in silver metallic thread.

Twenty-six pleats encircle the skirt, which was designed by the flat pattern method. The pleats are stitched down to the hip. Lines of color "drops" were machine and hand appliqued into the underside of the skirt back pleats, beginning with one "drop" at each side seam and building to a pillar of six "drops" at center back.
"It was twenty years ago, today" is a visual trip back to a different era. The media attention given to the twentieth anniversary of Earth Day brought to mind the attitudes and enthusiasm that prevailed in 1970, when the first Earth Day was celebrated. A television program that aired during the same time period chronicled the making of the Beatles' "Sergeant Pepper" album. This inspiration resulted in a jacket with the overall look of a musician's coat, and a pictorial tribute to the environment.

The boxy-styled jacket was draped in white six ounce denim. The denim jacket parts were then hand dyed to achieve the desired effect. The left jacket front begins at the shoulder in purple, and travels to the waist into indigo blue. The right jacket front starts from the shoulder in hot pink, and sweeps into vivid red at the waist. The long sleeves originate at the cap in hot pink and flow down the sleeve to end at the cuff in saffron. The edges of the jacket back not covered in applique are a melange of hues. The left shoulder trickles from red to green and blue at the waist. The right shoulder rains blue to green to red at the waist. The 100 percent cotton lining is also hand dyed, with colors ranging the spectrum freely intermingling on each section of fabric.

A three-dimensional landscape was added to the back of the jacket using a renaissance slashing technique. Cotton sheeting was sandwiched in four to eight layers of shifting shapes and values and then stitched in a chevron pattern at 5/8 inch intervals throughout the panel. The panel was then slashed between the stitching lines through part or all of the fabric layers. The panel was then machine washed and dried to fray the fabric edges and expose the successive fabric layers. The sash crosses the jacket front from the right shoulder to the left waist. The sheeting was layered, stitched, and slashed crosswise on the sash, creating a traveling stripe effect that bounces through the spectrum at high speed.

The jacket front employs skirt hooks and eyes to close the coat so as not to detract from the visual effect.
The natural beauty of Northeast Tennessee is a source of great pride to those living there and is a force that draws many visitors who wish to view the vibrant colors of each season. By using as inspiration a scene of white dogwood and redbud trees set in a forest from Edward Schell's photojournal, Tennessee, film was converted into fabric.

The medium of patchwork was used to define the project, beginning with a grid drawing of 1" squares and 1" x 1/2" rectangles which were colored in to visualize a workable format. Fabrics of 100% cotton to represent the trees and background were then selected. The small scale prints used for the sky and forest floor were intended to recede from the focal point of the trees, but also added more interest than solid fabrics. The unusual swirls of the brown fabric used for the tree trunks and branches gave unlimited variety and visual texture especially suited for this purpose. The eleven different prints and solids of white, green, and pink used for the leaves and flowers of the trees were varied in pattern, scale, and value to give a further sense of texture and dimension.

The central design was machine-pieced with an added 2 1/4" mitered border. To contrast with the regular lines created by the over 2,000 squares and rectangles, a free-form tree branch was then hand quilted across the central design adding graceful curving lines. Actual leaves of the dogwood and redbud tree became the pattern for the border's quilted design. A narrow binding of fabric corresponding to the trees' bark was added to complete the wallhanging which measured approximately 36 1/2" x 47 1/2". Muslin was used for the backing, and extra thin, 100% polyester batting was used for the middle layer. The wallhanging was completed in May 1990.

Reference
Surface Embellishment

Sandy Emmons, University of Minnesota, St. Paul, MN 55108

The objective is to design a piece of fiber/textile art that places emphasis on the use of materials and/or surface design rather than on garment structure. In addition, the work should be well balanced and unified and the intent is to develop a garment design based on the textile itself.

This textile uses six different fabrics, grosgrain ribbon, transparent nylon thread and a sewing machine to create an aesthetically pleasing piece of fabric by literally weaving strips of fabric together. The first step is to cut strips of fabric for the warp and weft. Next, the strips are sewn into tubes, turned and pressed. Then two strips are woven in starting at the second row, twisting up to the top row, twisting back down to the second row and so on. Finally, the sequence is repeated to the length desired and the piece is secured by stitching from top to bottom down the length of each warp strip.

The placement of the strips is carefully planned to create a balanced and unified design. Similarity groups of light and dark values create visual pathways or continuations for the viewer's eye to follow, which it does through closure. However, the groupings are not totally obvious as they have been broken up with contrasts. The work also has a strong sense of three-dimensionality due to the raised surface.

The inspiration for this design was a collection of woven baskets displayed in the University of Minnesota's Goldstein Gallery in the fall of 1989. The work itself was completed on 5-20-90.

The textile does emphasize the use of materials and surface design and it clearly has possibilities for stimulating garment designs. A boxy jacket that uses squares (or rectangles) of fabric for the back, front and sleeves would allow the fabric to retain its aesthetic qualities since cuts would be limited to 45 degree angles.
The objective is to design a piece of fiber/textile art that places emphasis on the use of materials and/or surface design rather than on garment structure. In addition, the work should be well balanced and unified and the intent is to develop a garment design inspired by the textile itself.

This textile uses four different fabrics, polyester and metallic thread, a sewing machine and the satin or applique stitch to create an aesthetically pleasing piece of fabric. The design is developed by coming up with four separate drawings, inspired by a variety of elements, and combining those designs to create a final solution. The computer is used to generate ideas and to reduce and enlarge the pattern to see which is most successful. From there, the design is transferred, in its actual size, to a piece of paper which then becomes the pattern pieces for the individual fabrics. Next, a decision is made as to which elements will be cut from which fabrics; the pieces are cut, pinned to a black base fabric and satin stitched around the edges. Finally, some pieces are broken up with decorative applique stitching.

The size of each element, the type of fabric used and the amount of each fabric used have all been carefully planned to create a balanced and unified design. For example, the various shapes have been arranged in such a way that similarity groupings of the same fabrics in close proximity form visual pathways or continuations for the viewer's eye to follow through closure. In the same way, the size of the individual components is based on the intensity of the value of the fabric used. For instance, the higher intensity metallic fabrics are used less frequently and in smaller quantities or they are broken up with decorative stitching. The elements group by similarity of size, shape and intensity of the value.

The inspiration for this design was the wooden ceiling in the design studio of McNeal Hall at the University of Minnesota, circles and water or waves. The work was completed on 2-5-90. The work does emphasize the use of materials and surface design and it clearly has possibilities for stimulating garment designs. The cuts would have to be minimal so as not to disturb the aesthetic qualities of the design. A long sheath dress with chiffon in the front yoke area, back, and sleeves trimmed with black satin around the neck opening and at the bottom of the sleeves would allow for this limitation.
This garment was designed to be part of a series of wearable art reflecting three aspects of nature. This three-part series includes: 1) Nature: The Power, a voluminous cape emphasizing the full force of an exploding volcano; 2) Nature: The Mystery, a shimmering gown and shawl suggesting the intricate design of a spider in its web; and 3) Nature: The Beauty, a softly-colored gown expressing the delicate linear structure of a flower.

A $600 grant was awarded to these two student designers in the Fall of 1989 for this series of artwork. The grant was given in conjunction with FOCUS, an annual festival of the arts at Iowa State University, funded by the Government of the Student Body to encourage and reward student creativity in the arts.

Like its counterparts, this one-of-a-kind work of art was carefully designed with emphasis placed on the integration of garment silhouette and surface design to effectively express the essence of beauty in nature. "The Beauty" expresses the subtle delicacy of a blooming flower.

Inspiration came from large-scale closeup photographs of various wildflowers as well as the sight and smell of flowers blowing in the wind. The focus of this piece was to reflect the beauty of a flower's unique linear structure and subtle blend of colors.

Unique colors were created by mixing fiber reactive dyes before application. Warm and cool colors were carefully blended as the garment pieces were spray-dyed before construction. A combination of oranges, reds, greens, blues, and purples were mixed to give a vivid palette of natural, floral colors. The loose, frayed edges throughout the garment represent the rippled edge of a flower petal.

This gown of soft tones and delicate floating petals consists of a double layer of 100% silk organza in a form fitting bodice featuring a scoop front and back neckline. A combination of organza and charmeuse petals are hand-sewn onto the neckline as illustrated in the photographs. The two-part sleeve consists of a set-in upper sleeve and a wrist-length lower sleeve. The silk charmeuse underskirt which is 100% silk, is gathered onto the organza bodice at the waistline. Silk organza petals are gathered at the waist and layered over the charmeuse underskirt. This piece was completed April 20, 1990.
Weaving is a beautiful art. Many types of media can be used in a variety of ways, to create new and unusual effects. This Channel style suit has been completely hand woven, blending cotton/linen fabric strips with various ribbons and applying lace accents to the front and back.

Once the fabric had been cut in two inch strips, it was fed through a one inch bias maker tool, and pressed to create a clean finished edge. The strips of fabric were then woven in a basket weave design to form a 16"x20" block of fabric to which iron-on-interfacing was applied to stabilize the fabric for sewing. The pattern pieces were cut from each block of this woven fabric.

The process of sewing the garment pieces together was like any other type of sewing method. Once the garment was almost completed, various types of pink and white satin ribbons were woven into the front, back and sleeve sections of the jacket. Lace, buttons, and snaps were then applied to center front, neckline, and back sections to create the antique richness.

The simple box type jacket design is accented with triangular edged lace down the center front neckline edge and two button closures. The buttons are actual heirlooms which sparkle with rhinestones set in an elegant silver-tone setting. The back detail emphasizes the heirloom look with rectangle lace framing a crochet lace doily, topped with a pearl button.

This jacket can be worn open or closed. But if left open, a white lined lace camisole, with an optional pink satin bow, is visible. Thus creating another feminine touch to the more classic style.

The basic straight skirt with side pockets and a kick pleat, add to the more professional styling, but is unique in that the woven waistband completes the woven design feature.

Heirloom is targeted to the few professional women who want to look professional and yet have the touch of femininity. This idea has been the focus of inspiration. So many options are available to women today, but few blend the two distinctly different styles together.

Heirloom was started March of 1989, and completed March of 1990. After many hours of work, fabric, ribbon, lace and special buttons were combined to create this truly unique heirloom.
LACE BOLERO

Carol Gregg - Student Designer, Gwendolyn Sheldon - Instructor

California State University, Chico, Chico, CA 95929

Technique Handwoven--Theo Moorman

Purpose--Concept The fabric for the piece was designed with self-lining in mind. Since handwoven fabrics usually require a lining, I used a technique that would allow me to do a surface design on one side only.

Description The warp and weft (ground) are 100 percent cotton, and the surface weft is lace. The lace is recycled from old lingerie and linens, thus the variety in color and texture.

Inspiration-Solution I was inspired by the use of lace in a nontraditional way. I wanted to see lace used in an outerwear garment, so I explored until I found a technique to let me weave lace into a fabric that was suitable for a garment. One of the problems I had to solve when designing the fabric was how to eliminate the bulk of the lace in the seam allowances. I solved this on the loom by weaving the pattern pieces individually using cartoons as one would use when weaving a tapestry.

Date Piece Completed The piece was completed in December, 1988.
Technique Handwoven--Theo Moorman

Purpose--Concept When making art on the budget of a college student, one must learn to be very creative in terms of financing. This piece was designed to fit a tight budget by using recycled material and cotton carpet warp. A surface stripe running through it, woven of recycled Levi's and scraps of silk, floats on the outside. The pieces of the vest were woven separately according to the pattern pieces that I designed. This was done to eliminate bulk in the seam allowances.

Description The warp and ground weft are 100 percent cotton, and the surface weft is recycled Levi's stripped and frayed and scraps of silk.

Inspiration-Solution I was inspired by the ethnic look in fashion. My warp was designed to resemble a Guatemalen rug and the use of denim represents the old West. The fringe represents my fascination with the 60s. The problem I worked on in this piece was the placement of the denim strips to allow the color block pattern of the warp and ground weft to show evenly. The strips of silk were woven in to push the denim out even more on the surface, as well as setting a boundary for the denim.

Date Completed The piece was completed in December, 1989.
"Spinning Stars" Sweater

Patricia A. Kimle  Iowa State University, Ames, IA  50011

"Spinning Stars" is one solution I arrived at while exploring the application of basketry techniques to the creation of apparel forms. The particular basketry technique employed here is called hexagonal plaiting, hexagonal weaving or "mad weaving" in various references. Antique and modern baskets with a mad weave construction are found in China, Taiwan and the Phillipines (Harvey, 1974). Female prisoners in Singapore jails were forced to learn the mad weave and produce baskets around the turn of the century (Harvey, 1974) and the activity was supposed to be punishment. The mad weave is a technique that is quite elusive and indeed can be maddening to the beginner, but after I began to grasp the logic and structure of the weave, I found it quite satisfying. The mad weave produces a firm, stable, and very heavy fabric.

This mad weave technique produces an inherently hexagonal unit although other shapes can be developed. For the purposes of creating a fabric design rather than a basket, I only followed the technique to create two dimensions instead of three. The weave uses three sets of elements in a weaving or plaiting process. Experiments with different color arrangements of the fabric strips in each direction led me to discover some of the endless possibilities for pattern design allowed by this technique.

The "Spinning Stars" sweater is composed of one continuous piece of mad weaving and attached hand-knitted components. The patterned panel was woven in a solid piece and a hexagonal shape was cut and unwoven in the center of the panel to form the neck opening. The panel is made from poly-cotton bias tape and is backed with black broadcloth. The bias tapes were turned back and hand-tacked before the backing was hand stitched to the woven panel. The knitted body, sleeves and neck are of cotton and acrylic yarn. The knitting was shaped to follow the outline of the center panel and fill in the negative space to form the body and sleeves. The knit portion was also hand stitched to the center piece.

This sweater is very vibrant and active in expression. Movement of the panel causes the heavy, thick panel to ripple softly. This movement adds to the visual illusion that the six-pointed stars seem to be spinning, trailing rays which become the same rays spinning off of the neighboring stars.

Reference:
The inspiration for Tudor Coat evolved from a design challenge presented by the Fashion Group of Detroit and the Costume Society of America at a joint fashion symposium: Historical Dress -- Vision and Reality. In keeping with the historical theme of the symposium, Tudor Coat was designed to be a modern interpretation of a 16th century Italian Renaissance garment. The design features a combination of blue pigskin suede panels and machine knit patterned and solid segments to accomplish an updated version of Renaissance slashing and puffing. Each oval cut-out in the pigskin panels contains a brown chenille bobble stuffed with cotton batting to imitate the puffing that generally accompanied the slashing. Other updated inspirations from the Renaissance period include a hand-knit lace collar, ropilla at the shoulder edges, and sleeve fullness. The richness of color and velvety texture are additional characteristics of the 16th century.

Tudor Coat was machine and hand knit using a blue French wool yarn and a brown Italian cotton chenille/slub yarn. The suede and knit "slash and puff" panels alternate with machine knitted fabrics made from seven different fairisle patterns. Two different lace patterns are used for the collar and portions of the sleeve. Left and right sleeves are opposite in coloration and reflect the early Renaissance use of parti-color. The Renaissance ropilla consisting of brown tubes were sewn on by hand to the drop-shoulder edges. Tudor Coat ties in the front instead of buttoning or zipping. Six pairs of ties run down the coat front alternating blue and brown in color. The coat opening is trimmed with brown chenille plain knit which was allowed to roll under. The coat hem is a section of pigskin attached to the body of the coat by machine.

To stabilize the garment, each pigskin panel of the coat is backed by a machine-knit segment and the coat itself is partially lined (sleeves and front sections) with a blue polyester fabric.
Techniques/Media: The techniques used to create this garment consisted of paper and contact paper stencils applied on mesh screen printing frames along with some direct application of paint brush marks. I used Profab Textile Inks for my paint selection. The fabric selected was 100% cotton with a linen-like textural effect.

Description: This garment is a halter-top, bubble-like, fully lined spring or summer dress. It has elastic insets at bodice back, waist, lower thigh, and calf. It can be worn down, full-length, or up to form a bubble skirt by adjusting the first skirt section. There is a separate belt of solid brown to complete the ensemble.

Concept/Inspiration: My inspiration for this garment is an interior room setting chosen to meet a class requirement. It consisted of many plant forms, wicker furniture, stone and brick slabs, and some statue-like art pieces.

Expression: Upon completion, this piece had a jungle-like appeal to it. It is fun to wear long in a more formal look, or short with the bubble to give a festive flare. This dress could definitely be worn to a summer or late spring cocktail party or any other summer social event.

Completion Date: May 1989.
Techniques/Media: The techniques used in this garment consisted of direct application of Profab Textile Inks with sponge brushes, paint brushes, and tin cans along with a small screen print of a repeat pattern. The fabrics utilized were 100% cotton broadcloth in peach, teal, and mauve combined with silver, gold, and teal lame.

Description: This garment is a peach, kimono sleeved, full-length jumpsuit. It has machine appliqued enlarged design areas that repeat the smaller units. There is a separate wrap-around belt consisting of the same appliques as featured on the garment.

Concept/Inspiration: My inspiration for this piece came from a repeat pattern motif evident in the small units on the fabric. The inspiration for the repeat pattern came from Native Indian Tribes of South America. The colors selected were both appealing to me and blended well together.

Expression: This jumpsuit after completion definitely has a space-like or next century look to it. Add some futuristic accessories and it could double as a costume for a space (i.e. Star Trek) movie. This jumpsuit could be worn to a number of social events from art galas to hosting a party at one's home.

Completion Date: April 1989.
The initial sources of inspiration in my work are typographical characters which represent the names of familiar places and things that are significant in my life now. Through manipulation, the characters lose their legibility as type and are abstracted into being simple lines and geometric forms. I allow the work to develop under my hand. 

Recently, I have discovered certain qualities in my work that are similar to those found in Eastern cultures including; Tantra Art, Islamic patterns, and Buddhist Art. I feel my work is a product of the intellect. It is transpersonal art, and not an end in itself.

With this discovery I have become aware of certain images reoccurring in my work and of their significance; being; geometric forms, particularly the circle and the pentagon, the numbers two, three, and five and their interconnectedness to one another as well as to myself.

My creative process begins with the expression of the way in which I perceive the world. Working with pencil and ruler I begin with a grid which I attack like a painter may a canvas. I react spontaneously to the grids' surface by pushing and pulling geometric shapes from the surface plane; and by introducing lines that take off on many tangents. I work outward from the center.

As my design grows outward, pauses are made so that I may make intellectual decisions based upon what I see before me. I question the legibility of the forms used. Some stay, others recede back into the picture plane. I work in layers, incorporating simple forms with more complex ones.

Upon successful completion of the design, (first executed in black and white), color is then introduced. I work in the same manner as described above, using the center as a point of departure.

The woven wall-hanging submitted for this exhibit is a continuation of the above creative process. The piece consists of 5 primary panels incorporating linen in the painted warp (using fiber reactive dyes) and cotton in the fill. The weave is a birdseye pattern chosen for its semblance to the grid and for its center focal point, both very important aspects in my work. Inlay has been used to draw attention to particular areas in the painted warp. Narrow bands of black cloth, also done in the birdseye pattern, separate and border the 5 primary panels. Colored inlay yarns have been woven into the cloth to emphasize the grid structure in a melodic arrangement. The construction of the cloth is 48 epi. All the panels have been hand-pieced together to produce the greater whole. Lastly, gold embroidery has been used to redirect the viewer back to the center point of departure, a feature that is to recur in all my work.

The entire piece measures 44 x 54" and hangs suspended from the wall by a 3/4" strip of wood, secured with velcro.

The drawing below illustrates the initial stages of my creative processes as described above.
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