acptc Proceedings:
Combined Central, Eastern, and Western Regional Meetings
1987

Association of College Professors of Textiles and Clothing, Inc.
Published by:

The Association of College Professors of Textiles & Clothing, Inc.
PO Box 1360, Monument, CO 80132, (719) 488-3716

CONTENTS

CENTRAL REGION

Officers and Committees ........................................ 1

Presentations

The Soft-Goods Chain ........................................... 3
Jean A. Hamilton

Canadian Apparel Industry ....................................... 5
Phyllis Ashinger, Jane Hooper, and Linda McKay

Abstracts of Research Reports

Economic/Consumer/Marketing Research: Profile of Consumers

Media Usage by Elderly and Young Consumers ................. 6
Usha Chowdhary

Information Sources and Reference Group Use and Influence .... 7
by Young, Single Adults in Clothing Purchase Decisions
Sue G. Byrd and Imogene M. Ford

Nonusers and Users of Clothing Catalogs ....................... 8
Victoria Seitz

A Profile of the Midwestern Patron of Hmong Textiles ........ 9
Jeanette Slaybaugh, Mary Littrell, and Jane Farrell-Beck

Apparel Imports: Consumer Ethnocentrism Attitudes ............ 10
Caroline Part, Brenda Sternquist, and Marianne Y. Mahoney

Economic/Consumer/Marketing Research: Consumer Decision Making

Segmenting the Home Sewing Market ............................ 11
Catherine Ogden Levin and Rita C. Kean

Daily Clothing Practice and Consumer Decision Process ........ 12
Yoon-Hee Kwon

Purchase Evaluation of Women's Apparel: In Store Study .......... 13
Molly Eckman, Mary Lynn Damhorst, and Sara Kadolph

Consumer Perception of Apparel Quality: Store and Brand ....... 14
Type Influences
Michelle A. Morganosky

Fabric Hand Descriptors Elicited by Touch Versus Touch ........ 15
and Sight
Geitel Winakor, Lei Chang, and Charles J. Kim
Physical Chemical Research

Rayon/Nylon Composite Fibers ........................................ 16
Billie J. Collier, John R. Collier, and Richard L. Rabe

Fitting Woven Fabric ...................................................... 17
Francesann Heisey and Kirk Haller

The Effect of Microclimate Cooling on Sweat Rate and ............ 18
Perceived Comfort While Wearing Protective Clothing
Donna H. Branson and Maureen Sweeney

Detergents, Water Level, Mechanical Action and Soil ............ 19
Repellent Finishes as Factors in Lowering Methyl
Parathion in Selected Fabrics
Debra N. Hild, Joan Laughlin, and Roger E. Gold

Effect of Synthetic Perspiration and Synthetic Sebum on .......... 20
the Adsorption of Granular Pesticide to Fabric
Ann W. Braaten, Cherilyn N. Nelson, James R. Fleeker,
and Leonard W. Cook

Moisture Absorbency and Foliar Pesticide Residue Transfer ........ 21
to Finished and Unfinished Fabrics
Rinn M. Cloud, Lucy Champagne, and Steven M. Buco

Historic/Cultural Research

Characterization and Comparison of Archaeological Textile .......... 22
Remains from Two British and American Frontier Forts
Jenna Tedrick Kuttruff

Forms and Communicative Functions of Ojibwa Indian Dress ........ 23
Cynthia R. Jasper

‘Chitchat on Fashion’, 1859-1869 Advice From Godey’s ............... 24
and Petersen’s Magazines on the Construction of Day
Dresses
Patricia K. Hunt and Lucy R. Sibley

Attitudes About Agrarian Women’s Dress in the Nineteenth .......... 25
Century
Sally Helvenston

Women’s Riding Clothing in the Central United States, .......... 26
1880-1930
Jane Farrell-Beck, Juliana K. Albrecht, and Geitel
Winakor

Design Characteristics and Influences of 1930’s Missouri ........ 27
Quilts
Rebecca Blanchard and Betty L. Feather
Economic/Consumer/Marketing Research: Managing Apparel
Marketing Resources

Managing Turnover of Entry Level Retail Managers ........... 28
Linda K. Good and Grovalynn F. Sisler

Retail Apparel Buyer’s Purchase Decision: Influencing .......... 29
Factors
Judy Miler and Mary Frances Drake

Apparel Sales Representatives: Perceptions of the Selling .......... 30
Role
Teresa A. Summers and Renee P. Howerton

Computer Technology Use by Apparel Manufacturers in .......... 31
Louisiana
Bonnie D. Belleau and Jaqueline T. Didier

Care Labeling as a Public Policy Issue for Home Economists .......... 32
Wanda A. Sieben and Cherilyn N. Nelson

Social Psychological Research

Etiquette Rules as an Approach to Understanding Social .......... 33
Behavior
Katherine Winslow and Gloria Williams

Descamps’ Structural Analysis of Fashion: An Introduction .......... 34
and Critique
Rachel K. Pannabecker

Clothing Acquisition Practices Among the Elderly .......... 35
Hazel O. Jackson

Psychological Aspects of Mastectomy: Appearance and Self- .......... 36
Esteem
Betty L. Feather

Effects of Being Labeled Unfashionable on Task Performance .......... 37
Jane E. Workman

Perceptual Differences of Personal Characteristics on .......... 38
the Basis of Dress Cues: College Students versus Non-
Students as Subjects
Hilda Mayer Buckley

Abstracts of Research Posters

Predictors of Fashion Opinion Leadership among University .......... 39
Students
Usha Chowdhary
The Influence of "Crafted With Pride in U.S.A." Campaign and Consumers' Demographics on Purchasing Imported Apparel
Nancy L. Cassill and Patricia Huddleston

Textile Handcrafts: Meanings for Tourist Consumers
Mary Littrell and Marlena Beavers

U.S. and Korean Textile and Apparel Industries: A Comparative Analysis
Michelle A. Morganosky and Hae-Ran Jin

Consumer's Multiple Talent Application to Retail Advertising
Barbara L. Stewart

Retail Buyer Perception of Personal Leadership Style and Intent to Leave a Retail Organization
Jane Swinney and Grovalynn Sisler

An Analysis of Laboratory Abrasion on Limited Use Garment Fabrics
Sherri Martin-Scott, Nancy Kerr, and Helene Perkins

Patty Brown, Mary Anne Gorman, and Margaret McWhorter

Learner Characteristics of Students in a Self-Instructional Course of Basic Clothing Construction
Marian Lichtenwalner and Francesann Heisey

Effect of Clothing on Impression Formation: More is Less
Sandra M. Forsythe and Pamela Pratt

Clothing Judgements as Inferred from a Person’s Physical Attributes
Sharron Lennon, Jane Larkin, and Ruth Clayton

Impressions of Personality Based on Body Forms: A Test of Hillestad's Model
Kim K. P. Johnson and Jane E. Workman

Proximity of Clothing to Self: Implications for the Elderly Consumer
Mary-Lloyd Lynn and Hilda Mayer Buckley

Bra Selection and Fit for Post-Mastectomy Women
Nancy A. Rudd
Abstracts of Teaching Resource Posters

Shadowing: An Exchange with Retailers ........................................ 53
Holly E. Bastow-Shoop and Shirley E. Friend

Apparel Costing: Computer Application of Lotus 1-2-3 ................. 54
Sandy Ford, Grace I. Kunz, and Ruth E. Glock

Nostalgic Design: Current Fashion Reflects Historic ................. 55
Diane Frey

Apparel Production Videos: Bringing the Apparel Industry into the Classroom ........................................ 56
Ruth E. Glock, Grace I. Kunz, and Elsie K. Williams

Sportswear in Action Part 1: Mobility; Part 2: Maintenance ............ 57
Lois M. Gotwals and Mary Ann Eastlick

Visual Merchandising Floor Presentation Guide .......................... 58
Shelley S. Harp

An Interdisciplinary Approach to Fashion Analysis ....................... 59
Jan Hathcote, Linda McGoldrick, and Judy Miler

Designing a Database Management System .................................. 60
Patricia T. Huddleston

Wearable Art Designs Inspired by West Asian and Far Eastern Costumes ........................................ 61
Soae L. Paek

Art Connections: Sharing Historic Collections with the Public ........ 62
Rae Reilly and JaneAnn Stout

Preservation of Heirloom Textiles: An Integrated Approach .......... 63
to Teaching
W. Jeanette Roberts

Ready to Wear Analysis Evaluating Apparel Quality through a "No Construction" Approach ........................................ 64
Teresa Braswell Robinson

Small Business Administration Case Studies Integrated with College Courses ........................................ 65
Tana W. Stufflebean and Linda K. Good

Retailing, Final Project Assignment ........................................ 66
Harriet P. Swedlund
Teaching Material Culture: The Case Study .......................... 67
Laurel Wilson

Abstracts of Fiber Arts

Surface Design Techniques Applied to Satin Weave Warp .............. 68
Yarns
Wendy Weiss
Melted Fiber Structures ..................................................... 69
Ardis M. Rewerts
Celebration Adornment: Recent Work in Wearable Art .............. 70
Robert Hillestad
All Natural ................................................................. 71
Harriet M. Estes
Wool Strips and Stripes ..................................................... 72
Harriet M. Estes
Knotted Pines ............................................................... 73
Catherine M. Daters

Abstracts of Workshops

Apparel Manufacturing: Its Role in Merchandising and .................. 74
Design Programs
Grace I. Kunz and Ruth E. Glock
Contemporary Issues in Retailing Research ............................. 75
Brenda Sternquist

Abstracts of Dissertation Fellowship Presentations

Ribbonwork of the Great Lakes Indians: The Material of .......... 76
Acculturation
Rachel K. Pannabecker
Consumer Satisfaction/Dissatisfaction with the Fit of ............ 77
Ready to Wear Clothing
Karen Lilevjen LaBat
Presentations

Mergers and Acquisitions in Manufacturing and Retailing . . . . . . . . . . . 79
Panel
  Marjorie J. T. Norton and Susan B. Hester

The Bridge between the Apparel Industry and Consumer . . . . . . . . . . . 81
  Ann Pullium and Victor Hershaft

The State of the U.S. Textile Industry: "Miles To Go . . . . . . . . . . . 82
  Before I Sleep"
  John M. Rampey

Abstracts of Research Papers

Textiles

Smolder Resistance and Soiling Characteristics . . . . . . . . . . . . . . . . . 83
  of Upholstery
  Carol Warfield and Aziah Hashim

Formaldehyde Emission of Rates of DP Sheeting Fabrics . . . . . . . . . . . 84
  Marie N. Carver

A Survey of Agricultural Workers and Protective . . . . . . . . . . . . . . . . 85
  Clothing Usage for the Application of Pesticides
  in the Carolinas
  Carol Cahagan, Corinth Milikin, and Youn Kim

The Relationship Between Air Permeability and Thermal . . . . . . . . . . . 86
  Insulation of Multilayer Fabric Assemblies
  Helen H. Epps

History and Behavior

A Study of Women’s Traditional Dress Using the . . . . . . . . . . . . . . . . . 87
  Ethnohistorical Method
  Linda Welters

Ethnic Traditions in “Figured and Fancy” Coverlet . . . . . . . . . . . . . . . 88
  Advertising
  Clarita Anderson

Clothing Behavior and Self Concept of Korean Adolescents . . . . . . . . . . 89
  in a Tradition Period
  Aehwa K. Cho and Marjorie J. T. Norton

Marketing Natural and Synthetic Fibers to Women Apparel . . . . . . . . . . 90
  Consumers
  Shelly Jane Boyd-Thomas and Sandra M. Forsythe
Retail Marketing

Ramie: Patterns of World Trade and Production
Susan Hester and Mary Yuen

Competition in the OECD Apparel Import Market
Rachel Dardis and Qinliang Gu

The Effect of Education on Retail Buying Decisions
Janet Wagner, Richard Ettenson, and Nancy Best

Computer Skills in Retail Education
Margaret E. L. Huber and Susan L. Davis

Applied Textiles and Design

Effects of Fabric Skewness on the Drape of Skirts
Lois M. Gurel and Carolyn Moore

Fabric Defects in First Quality Piece Goods
Carolyn L. Moore and Lois M. Gurel

Ski Instructors' Uniform: Questionnaire Analysis and Design
Dalyce Laine and Susan Hester

Fabric Coverings for Ultralight Aircraft: Historical Developments, Test Methods and Problems
Ashraf K. Moghaddam and Mary Alice Matthews

Abstracts of Innovative Teaching Reports

Understanding Textile Trade Negotiations: The View from Washington
Susan Hester

Apparel Sourcing Fair
Frances J. Duffield, Carol L. Warfield, Mary E. Barry, and Lenda Jo Anderson

Merchandising Students as Consultants to Retailers
Karen E. Schaefer

Increasing Students' Awareness of Job Performance Ratings in Retailing
Rosetta LaFleur

Fashion and Finance: An Innovative Extension Program Targeted to Business/Professional Women
Lenda Jo Anderson and Josephine Turner

Case Studies in Fashion: Course Development
Judy Zaccagnini Flynn
The Development of Videotex Programs for an Apparel Quality Course
Anita Racine

More than Academic: Authentic Apparel Production in the Classroom
Beate Ziegert

Abstracts of Fiber Arts and Apparel Design Exhibition

Fiber Arts and Apparel Design Exhibition
Judith S. Kline

Abstract of Graduate Student Research Report

Computerized Databases in Historic Textiles: Constructing a Model for Coverlet Research
Anne Branningan-Kelly
WESTERN REGION

Officers and Committees .............................................................. 111

Presentations

Crafted With Pride ................................................................. 112
W. O. Leonard

A Survey and Critique of Mexico’s Maquila ................................. 114
Industry
Dr. Jeff Brannon

Abstracts of Research Reports

Attire as a Reflection of Mennonite Identity .............................. 119
Linda Boynton

Toward an Understanding of Gender through ............................. 120
Self-Expression: Recasting Social-Psychological
Concepts in Clothing
Susan Kaiser, Carla Freeman, and Mary Thomas

Clothing and Equipment Worn by Virginia and Utah .................. 121
Fruit Growers While Using Pesticides
Vera B. Keeble

Factors Influencing the Daily Selection of .............................. 122
Clothing by Office Workers: Implications
for Energy Conservation
Nancy L. Markee

Body Cathexis and Self Image Courses ................................. 123
LaJean R. Lawson, Elaine L. Pedersen, and Nancy L. Markee

Abstracts of Innovative Teaching Ideas

Analysis of High School Textiles and Clothing ...................... 124
Curriculum Content
Annette A. Ward and Lavonne Matern

International Fashion Marketing/Apparel Design Self ............... 125
Supporting Programs: Patterns for the 1990’s
Rosalie R. King and Jacqueline Sund

Made in the USA -- by CSU Students ............................... 126
Janet J. Else

Developing Clothing Construction Curricula to .................... 127
Meet Community, Institution, and Individual Needs
Beverly E. Ledwith
Abstracts of Poster Session

Fashion Innovativeness, Fashion Opinion
Leadership, and Purchasing Involvement
Leslie L. Davis

Missionaries and Colonialism: How Ideologies
Change Native Dress
Judith Cardona Forney

Impulse Buying Behavior of Apparel Purchasers
Yu K. Han, George A. Morgan, and Antigone
Kotsiopulos

Color Preferences for Value and Intensity
Variations
Charlene Lind

Situational Variations in Clothing Color
Preferences: Ritual and Nonritual Choices
Margaret Rucker, Alice Peters, Yong-Ju Kim
and Katara Sims

Influence of Lifestyle and Evaluative Criteria
of Apparel on Information Search: Employed and
Nonemployed Women
Soyeon Shim and Mary F. Drake

Children's Appearance as a Facilitator in Person
Perception Typology
M. Sue Stanley and Donna H. Branson

Retail Quality Control: An Analysis of One
Company's Apparel Quality Problems
Nancy J. Rabolt and Donna Williams

Thermal Comfort, Thermal Sensation and Skin
Wetness of Protective Clothing During Pesticide
Application
Vera B. Keeble

Effect of Satisfaction and Fit Problems with
Career Dress on Career Women's Willingness to
Trade Styling Options, Time, and Money for More
Sizing Options in Career Dress
Janith S. Wright and Sally K. Francis

Apparel Manufacturing on the Reservation
Janet J. Else

Historic Textiles Become "Real"
LoErna Palmer Simpson
Computer Aided Instruction in Clothing and Textiles
Lavonne Matern
ACPTC Central Region Officers and Committee Chairpersons

Officers, 1987-1988

Kitty G. Dickerson, President
   University of Missouri Columbia
Grovalynn Sisler, President-Elect
   Oklahoma State University
Betty Feather, Secretary
   University of California Davis
Michelle A. Morganosky, Interim Secretary
   University of Illinois
Elizabeth A. McCollough, Treasurer
   Kansas State University
Jacquelyn Dejonge, Past President
   University of Tennessee

Council Members

Ann Stemm
   Illinois State University
Jean Hoskin
   University of Kentucky
Laura Dunn Jolly
   Oklahoma State University
Carl L. Dyer
   University of Tennessee
Mary Lynn Damhorst
   Iowa State University
Suzanne Sontag
   Michigan State University
Alternate
   Rita Kean
   University of Nebraska

Conference Committees

Program
   Dorothy Behling, Bowling Green State University
Local Arrangements
   Phyllis Ashinger, Wayne State University
   Sarah Moore, Eastern Michigan University
Registration
   Patricia Cunningham, Bowling Green State University
Research
   Lucy Sibley
   Ohio State University
Educational Resources
   Carolyn Jane Hooper, Wayne State University
Fiber Arts
   Sharla Hoskin, University of Kentucky
Proceedings
   Elizabeth Rhodes, Eastern Michigan University
Hospitality
   Rayneld R. Johnson, Mercy College, Detroit
Publicity
   Betty Bornemier, Eastern Michigan University
   Marilyn Duke, Central Michigan University
Evaluation
   Marjorie Miller, Bowling Green State University
Special Interest Groups
   Usha Chowdhary, University of Missouri, Colombia
Book Resources
   Donna Sloan, Western Illinois University

Regional Committees

By-Laws and Handbook
   Ruth Marshall, Iowa State University
Nominating
   Jacquelyn Delange
   University of Tennessee
Membership
   Marilyn Burns, Oklahoma State University
Fellowship
   Cynthia Jasper, Univ. of Wisconsin Madison

Other Responsibilities

Historian
   Lois Dickey,
   Newsletter
   Janice Huck, Kansas State University
ASTM Representative
   Donna Branson, Oklahoma State University
Alternate ASTM
    Billie Collier, Ohio University
Futures
    Maureen Grasso, University of Texas
1987 Meeting
    Dorothy Behling, Bowling Green State University

National Executive Board

    Mary Frances Drake, University of Tennessee
    Robert Hillestad, University of Nebraska
    Holly E. Bastow-Shoop, North Dakota State University

ACPTC Executive Director
    Sandra S. Hutton
The Soft-Goods Chain

Opening Symposium

Jean A. Hamilton, University of Missouri, Columbia, MO 65211

The soft-goods chain is time and place specific. It functions to facilitate the exchange of goods, services and ideas relative to a particular category of product in an extremely sophisticated market place, a market place characterized by the most complex interaction of technological possibility and social/institutional relationships in human history. But the essential nature of that market place is social. That is, the economic exchange always facilitates the outcome of social needs, social symbols, social relationships.

In ACPTC, our intellectual concern is with the varying dimensions of dress--technological, psychological, aesthetic, historical, social, political, economic--as they contribute to our understanding of dress as a unique expression of human behavior. Regardless of time and space, the economic organization of dress, that is, the manner of its production, distribution and consumption, always facilitates the social agendas of dress. We happen to live in a time and place in which the economic dimensions of dress, of fashion, of soft goods in general, framed by an extremely complex and sophisticated marketing system, are profoundly important to the implementation of the breadth and variety of social agendas of dress that exist in a complex technological society. Hence, it is in all our interests to secure a better understanding of those economic dimensions.

The SOFT-GOODS CHAIN: It responds to the social agendas of dress out enters into a symbiotic interaction with dress as the configuration of the chain itself influences the particular manifestations of dress. The soft-goods chain is long, cumbersome, often fragmented, and often apparently inept. It seeks to manage a most unmanageable phenomenon, that of fashion. Perhaps it is the dynamic nature of the phenomenon we call fashion--predictably unpredictable in both form and duration--that renders the chain sometimes less than perfectly structured and efficient.

I have been asked by the planning committee to conceptualize and organize the opening symposium on the soft-goods chain. In doing so, one of my goals has been to represent strategic points in the channel of distribution, and to do so with people who are professionally very successful, but who also have the ability to stand back from their own daily grind and look at how their responsibilities fit into the marketing system as they affect both others in the channel and the ultimate consumer.

Each of the participants has been asked to begin with a very brief description of their responsibilities relative to their place in the soft-goods chain. Then, in an effort to conceptualize an approach that would lend both internal consistency to their contributions as well as provide thought for continued reflection for the audience, they have been asked to think about the following points and respond to them as seemed most useful from their perspectives in the chain:

1. CHANGE: Changes that have occurred vis-a-vis your role in the channel in recent past, and anticipated short- and/or long-term future change/upheaval. It may help to think of change as it is influenced by (a) technological/production innovation; (b) social alteration (macro or micro change in politics, economics, labor, etc.); (c) changes in ideas and values regarding taste, fashion, "doing business," social responsibility, or whatever seems relevant from your perspective; (d) any relevant interaction among the three areas listed.

2. COMMUNICATION AND OPERATIONAL INTERACTION IN THE CHANNEL: What would be useful for others in the channel to understand about your problems and frustrations? That is, what kind of communication and understanding among channel members would make the chain function better in terms of the welfare of both channel members and ultimate consumers? Or, are the agendas and priorities of channel members and between channel members and ultimate consumers so disparate and contradictory that
there can be no optimizing of agendas for all?

3. THE FUTURE: From your perspective, summarize what you think the soft-goods chain will look like by the year 2000.

Our distinguished guests were encouraged not to feel constrained by the foregoing, but rather to use these points as a starting place. They were encouraged, however, to think about their own particular professional responsibilities in a somewhat global way. That is, while their own professional daily lives and problems provide the rich color of their comments, how do they contribute to our understanding of the interacting system we know as the soft-goods chain?

These participants represent the soft-goods chain from a variety of perspectives:

Ms. Sarah Siler is vice president of manufacturing at Calvin Klein Industries, a division of Puritan Fashion Corporation, New York.

Ms. Holly Ferris is design director and trend developer for Oxford Industries, Women's Wear Division, New York.

Ms. Missy Fish is divisional vice president, divisional merchandise manager of Venture Stores, a division of May Company Department Stores, St. Louis, Missouri.

ACPTC is extremely grateful to these distinguished symposium participants and to their organizations for the time, insight, and communication they very generously share with us. The soft-goods chain is vast; we all contribute to it, and we do so in a variety of ways. Those contributions will be of greater significance and have more value when each of us understands more clearly the contribution of others involved. It is in this spirit that I welcome these guests to ACPTC Central Region and express our gratitude to them for providing what I am confident will be an extremely revealing and stimulating time for us all.
Exciting developments are occurring in the Canadian apparel industry. To update Americans about our neighbors to the north, Linda McKay of the University of Windsor moderated a panel discussion at the ACPTC keynote banquet on the Canadian apparel industry.

Panel members included Margorie Wall, University of Guelph, Ronald Mikulak, Representative of the Canadian Consulate Commercial Officer and Karen Hall, Journalist from the Windsor Star.

A brief overview of the apparel industry was given. The various companies are predominately Canadian-owned (99%), and comprised of approximately 2,360 establishments. The industry is characterized by a large number of small, family owned firms of which about three quarters of the total employ fewer than 50 workers. The large establishments with 100 or more employees (11% of the total) provide about 59% of the jobs and 50% of the value of the industrial shipments.

Geographically, the industry is concentrated in the urban areas of Montreal, Toronto and Winnipeg.

Highlights from the panel included data to reflect the significance of the fashion industry to foreign trade. Mikulak discussed relevant trade issues as to the progress of the industry's attempt to increase market share targeted to the United States. Margorie Wall further defined import/export issues of textile/clothing merchandise. She also cited findings from her research on consumer preferences related to apparel products.

Karen Hall discussed the role of the press in promoting the fashion industry in Canada. She enumerated some of the contributions of Canadians and discussed the present influences of top designers. The Festival of Fashion promotion held in Toronto in April, 1987 was reviewed via a video tape. Leading designers were featured, and Canadian Fashion Awards were announced.

The program concluded with the distribution of educational materials on the Apparel Market and a video presentation of Canadian designs.
Media Usage by Elderly and Young Consumers

Usha Chowdhary, University of Missouri, Columbia, MO 65211

Fashion selection is recognized as a function of media usage (frequency use of fashion information sources). However, a majority of the previous research on this relationship has focused on females and college students, and has ignored the influence of demographics on fashion process (Behling, 1985). Men and the elderly (those over 65) are two of the several neglected segments of the population in fashion research. Contemporary men are reported to be more appearance conscious than their predecessors (Landers, 1987), and the elderly of the eighties are reported to have more purchasing power than their younger counterparts (Schewe, 1984). Stephens (1981) emphasized the need to deliver product messages to older consumers by redirecting their messages to increase advertising appeals and placement. To accomplish this, retailers do need to have a close look at their media usage. Such changes could have critical implications for fashion researchers and ignoring these two segments could deprive them from fully understanding the fashion process. Therefore, it was believed relevant to investigate the media usage of the elderly and young consumers for both sexes.

Cox's (1967) classification of information handling was used to develop media usage measure and to explain the findings of this study. The sample was randomly selected from the list of voters in Butler County, Ohio for the elderly consumers, and from the residence hall directory of Miami University for the young consumers. The final sample consisted of 427 elderly (53% response) and 358 young consumers (48% response). T-test was used to analyze the data and Cronbach's alpha was computed to test reliability of the measure on media usage.

The findings revealed that the measure yielded a reliability of .93 for the young sample and .92 for the elderly sample. The t-test analysis indicated that young respondents (M = 40.16) had significantly more media usage than the elderly (M = 19.70), t(154) = 3.85, p < .01; and young females (M = 46.71) more than the elderly females (M = 36.93), t(336) = 6.38, p < .01.

Further analysis of the data revealed that the young used 6 of 11 market dominated (window shopping, indoor displays, fashion magazines, mail order catalogs, fashion shows, and sales clerks), 7 of 8 consumer dominated (social gatherings, male friends, female friends, public places, prominent men, prominent women, and male television performers), and both of the neutral sources of fashion information (movie actors and actresses) more frequently than the elderly. However, the elderly used fashion columns and ads in newspapers, and radio fashion programs more than the young. A similar pattern was found for the females of both populations. The males of both groups did not differ significantly for fashion columns and ads in newspapers and radio fashion programs.

The findings of the present study have implications for both consumers and retailers. Consumers can use this information to learn about the latest fashions, and retailers can utilize it to delineate advertising strategies for various consumer segments in the population.

References


INFORMATION SOURCES AND REFERENCE GROUP USE AND INFLUENCE BY YOUNG, SINGLE ADULTS IN CLOTHING PURCHASE DECISIONS

Sue G. Byrd - University of Tennessee, Martin, Tn. 38238
Imogene M. Ford - University of Tennessee, Knoxville, Tn. 37996

Current research in the area of consumer behavior has focused on the use and influence of information sources in clothing acquisition for audiences such as adolescents, college students, and career women. Although these are important segments of today's society, research needs to focus on audiences that include a large percentage of the population, such as young, single adults. Young, single adults have become an influential segment of society as a consequence of delay in first marriage, young adults remaining single, and increasing divorce rates.

The objective of this study was to determine the types of information sought from market and nonmarket sources and the influence of this information on the purchase of clothing for young, single adults. The Engel, Kollat, and Blackwell (1982) High-Involvement Model of Consumer Behavior and reference group theory were used as the framework for this study. Reference group theory stresses the influence of family, friends, and associates at work on clothing decisions. The EKB model emphasizes the internal and external influences on a decision.

A national random sample of 2,500 single female and male consumers, ages 20-35, were sent questionnaires resulting in a 41.8 percent (n=1044) return rate, with 36.2 percent (904) usable for analyses. A five point Likert scale was used to examine the degree of use and influence of market and nonmarket sources of information (dependent variables). Analyses of Variance was then executed using the demographic variables.

Findings indicated that young, single adults use and influence of information sources included: clothing and window displays, newspaper and TV advertisements, female and male friends, and mother and sisters. Males and females varied in their use and influence of information sources with females using and being influenced more by these sources. The results indicated that young, single adults looked to individuals of their own sex for clothing purchase information more than they did the opposite sex.

Young, single adults with occupations which tend to be male dominated did not use and were not influenced by female information sources. While those in traditionally female occupations used and were influenced more by females.

As this research suggests, young, single adults have distinct informational requirements concerning clothing purchase decisions. The implications to educators can be seen in the importance of the incorporation of visual merchandising, marketing communications, and psychographics in planning and buying courses in merchandising programs. Retailers in their marketing strategies should recognize the impact of in-store and window displays on clothing purchase decisions.

Nonusers and Users of Clothing Catalogs

Victoria Seitz
Oklahoma State University

Sheth's (1983) model of shopping preference suggests that a relationship exists between patronage attributes and personal values. Hence, this study attempted to predict and contrast nonusers and users of apparel catalogs by salience of selected patronage attributes and various demographic variables. The attributes under investigation included the following: assortment of merchandise, quality of merchandise, value for the price, brand names of merchandise, variety of services, ease of credit for unwanted or defective merchandise, ease of returning merchandise and up-to-date fashionable merchandise. An instrument was developed to ascertain the salience of patronage attributes based on the literature reviewed. A modified Likert scale ranging from very important to very unimportant was used. A population of 123 women working in a university town in a southwestern state were sampled. A 98 percent response rate resulted after three mailings.

A majority (59% and 61%) respectively of the respondents had graduate degrees and were married. Twenty-eight percent of the respondents reported family incomes between $20,000 to $34,999 dollars while 24% of the respondents reported family incomes between $35,000 to $49,999 dollars. Approximately half of the respondents were employed as educators or professors. Fifty-six percent of the respondents reported using catalogs to purchase clothing in the past six months. Approximately 42% and 39% respectively, regarded variety of services and brand names of merchandise important. Over half of the respondents regarded the remaining attributes as very important.

Stepwise discriminant analysis resulted in the attributes brand names of merchandise and adequate sales information as significant (p<.01) in predicting and contrasting nonusers and users of clothing catalogs. An analysis of the group means suggested that catalog users considered brand names of merchandise and adequate sales information more important in clothing purchases than did nonusers. The two variables explained approximately 10% of the variation between the two groups suggesting that perhaps other attributes, such as fashion related characteristics, may contribute to predicting and contrasting nonusers and users.

Marketing implications include development of catalogs that incorporate brand name as well as adequate sales information such as price, garment care, and fiber content, in catalogs (Smallwood-Seitz, 1987). Recommendations for further study include replicating the study using alternative sampling methods and populations.

References


A PROFILE OF THE MIDWESTERN PATRON OF HMONG TEXTILES

Jeanette Slaybaugh, Mary Littrell and Jane Farrell-Beck

Iowa State University, Ames, Iowa 50011

Justification: In the past, Third World craftspeople produced objects for use within their own communities. However, with the increasing impact of industrialization, many of these hand-produced objects are no longer needed locally. Instead, craftspeople have turned to consumers from another cultural tradition. In this new market situation, the craftperson often does not know why one object appeals to the consumer and another does not. The Hmong are one refugee group in the United States with an established internal craft tradition. Since 1970, 40,000 Hmong have migrated to the United States from refugee camps in Thailand (Stout, Reilly, & Nelson, 1983). Presently the Hmong are making efforts to sell their textiles in a market of midwestern consumers.

Objectives: The first objective of the research was to develop a profile of the midwestern patron of Hmong textiles. This included the patrons' aesthetic and socio-economic criteria for purchases, their shopping practices for Hmong textiles, and their knowledge and impressions of Hmong textiles. The second objective was to make recommendations based on the profile for improved product design and marketing of Hmong textiles. The research was considered exploratory and the profile as hypothesis generating for further research on craft patrons.

Method: Twenty residents of a midwestern state who had purchased at least three Hmong textiles participated in a two-hour, in-depth interview. As part of the interview, participants ranked ten Hmong textiles according to personal preference and discussed, in detail, the reasons for their rankings. Participants also completed a short questionnaire concerning their textile-related experiences. Both qualitative analysis (content analysis) and quantitative analysis (hierarchical cluster analysis, SAS program) were applied to the data.

Findings: Four profiles of midwestern patrons of Hmong textiles were identified. Fine Workmanship Consumers prefer textiles that are finely executed. They greatly appreciate the amount of time and skill involved in the detailed stitching of the handwork. As well as fine workmanship, a textile must have a pleasing color scheme and design for these consumers. Supporters of the Hmong People are most interested in the textiles as examples of Hmong craftsmanship. The fact that purchases support the Hmong people is also important to these consumers. Pragmatic Consumers like textiles that can be displayed in their homes as wall-hangings or pillows. Their interest in the textile's aesthetics is secondary to the functional attributes. Finally, Patrons of Folk Art are patrons who are interested in Hmong textiles that tell a story or relate to the artist's life. These consumers were unaware of the Hmong before purchasing a textile. Across all consumer profiles, a textile's usefulness was an important consideration when purchasing.

Implications: Future research will focus on refinement and expansion of the consumer categories for patrons of textile handicrafts. The research has implications for product design and marketing strategies among the Hmong. For instance, the Hmong need not adopt only the colors popular in the United States; many consumers appreciate the colors and design indigenous to the Hmong textile tradition. In addition, patrons seem eager for fine detail and workmanship. Finally, the potential use for a Hmong textile is often a restricting factor in purchasing; various prospective functions should be clearly defined and displayed for the impending buyer.

Consumer attitudes toward imported apparel have been examined in several different studies which have produced conflicting results. There is a question as to whether consumers actually use the informational cue of country-of-origin in their purchase decision making. While the U.S. apparel industry is attempting to survive the influx of imports, some of their attempts, such as the "Buy American" campaign, have not been successful.

The objectives of this study were:
1) to examine consumers' attitudes toward imports, 2) to determine whether certain demographics were related to attitudes, 3) to examine consumers' knowledge of the affect of imports on the U.S. economy.

This paper is part of a larger study in which a 2x2 factorial experimental design was used to examine the influence of source of origin, store prestige and "Buy American" campaign on consumer's assessment of apparel. The random sample of 395 women was selected from consumers at two shopping malls located in a large midwestern city.

Sixteen attitudinal statements were the basis for establishing consumers' views of imported versus domestic apparel. Item analysis of these sixteen items was done to ensure reliability. Those questions which correlated highest with the total score were retained. The coefficient alpha for the measure was .70. As a result of item analysis three items were eliminated.

Reduction of the remaining thirteen items into more general categories was done through principal component factor analysis with varimax rotation. Using the criterion of eigenvalue greater than one, two factors resulted from the analysis.

Factor one was labeled the "Patriotic Patron" and factor two was labeled the "Prestige Patron". Stepwise regression was used to examine the relationship between four variables and subjects' factor scores. The variables were professed patriotism, age, education and income. All four variables were significant (p < .01) predictors of the patriotic Patron orientation. Three of the variables age, income and education were significant predictors (p < .01) of the Prestige Patron orientation. Not surprisingly there was a strong relationship, r = .35, between professed patriotism and scores on factor one, the Patriotic Patron. There was also a moderate inverse relationship between education and scores of the Patriotic Patron; subjects with more education scored lower on factor one. The two typologies are discussed in relation to consumers' knowledge about how imports affect the domestic industry.
SEGMENTING THE HOME SEWING MARKET

Catherine Ogden Levin and Rita C. Kean
University of Nebraska-Lincoln, Lincoln, Nebraska 68583-0802

Much of a household’s standard of living is produced by members of the household itself, through joint production and consumption of goods/service (Thurow, 1970). Markets which specialized in "do-it-yourself" consumer products/services enjoyed increases in retail sales during the 1970’s and early 1980’s. Toffler (1980) coined the word "prosumer" to describe those persons who jointly produce and consume goods/services, rather than purchase them in the marketplace.

An example of the “prosumer” group are home sewers. Economics and creativity were the most frequently cited reasons for home sewing in the literature, but with structural and demographic changes in society, other motivations for sewing may exist which are congruent with Toffler’s concept. The purpose of the exploratory study was to determine if home sewers exemplified the “prosuming ethic” through identification of underlying motivations for sewing, and isolation of segments of home sewers, using the sewing motivations as criteria for group membership.

Data were collected by means of a two part instrument designed for this study. Part one was an opinion measure which assessed motivations for home sewing. Part two elicited demographic information. One hundred five randomly selected female shoppers exiting one of five fabric stores in a midwestern city with an SMSA of 200,000 comprised the sample.

Factor Analysis was employed to determine sewing motivations, using items from part one of the survey. Seven factors were identified: economic concern; use of sewing resources; interest/disinterest in crafts; interest/disinterest in fashion; practicality of sewing; degree of satisfaction with commercially produced items; knowledge of fiber and fabric performance. These factors were the criteria for segmenting respondents into five groups using Cluster Analysis.

The five groups were labeled: Utilitarian; Practical; Craft-oriented; Upscale; and Aggravated. Analysis of Variance (ANOVA) following the General Linear Model revealed differences among the five clusters at the .05 level of significance as to sewing orientations. No differences nor associations were found among the clusters and demographic variable when ANOVA and the chi square test for independence were employed.

It was concluded that home sewers comprise a diverse market as evidenced by the existence of distinct groups of home sewing prosumers within this sample. Hypotheses were formulated for further empirical study. Because the variables of the Marketing Mix (product, price, promotion and distribution) must be altered dependent upon the target audience, the study also provided valuable insight into the home sewing market for retailers and marketers of these products. Suggestions were made for marketing activities specific to each group of home sewers identified.

Marketing researchers over the last twenty years have investigated factors affecting the consumer decision process, and many elaborate consumer models have been developed. It has been known that one of the factors which influence the consumer decision process is situational influence. Although a considerable amount of effort has been exerted toward the investigation of situational variables related to buyer/purchase behavior, very little is known about the situational influence on the consumer decision making at the problem recognition state. This study was designed to explore the consumer decision-making process. It focuses on the problem recognition stage related to clothing consumption behavior and utilizes a model which includes situational and individual variables affecting the daily selection of clothing.

The purposes of the study were (1) to test the existence of exogenous and endogenous dimensions of situational influence and clothing orientation of individual influence affecting the selection of daily clothing using factor analysis, (2) to test the hypothesis that in the case of selection of daily clothing, the situational influences are mostly exogenous in nature, and (3) to pilot test situational and individual influences on three demographically different female populations—college, professional, and suburban/nonworking women. This type of study can assist marketers and retailers of female clothing in developing the problem recognition profile analysis for women's market segments according to demographic profile. Once market segments in problem recognition are identified, marketers of female clothing can plan appropriate promotional strategies.

After the pretest of the three measurements (thirty-six statements containing exogenous, endogenous variables of situational influence, and clothing orientation of individual influence), the survey was conducted utilizing a cluster sampling technique from (1) 385 female college students from four residence halls, (2) 62 women from two professional organizations, and (3) 63 suburban/nonworking women from three community women's organizations, the data were factor analyzed by utilizing principal axis factoring technique to determine the existence of the three proposed factors. Oblique rotations were performed on the listing of thirty-six independent variables to verify the underlying structure of latent variables present in observed data. After the low factor loading items on all factors (lower than .30) were eliminated, three factors were extracted: one from exogenous variables, one from the endogenous variables, and one from the clothing orientation variables. Analysis of variance was performed with three populations with regard to each factor. Scheffe test was performed to test the significance of difference between the three populations with regard to the three factors.

The result of factor analysis indicated that the situational influence was mostly exogenous in nature. The situational endogenous factor consisted of variables which measured the self-enhancement dimension of behavior related to clothing. It was found that although situational exogenous factor possessed the highest factor loadings and number of variables, three groups of women showed difference in the degree of influence they received from three factors. The situational exogenous factor and the clothing orientation factor influenced the study group the most for the selection of daily clothing while the situational endogenous factor influenced the suburban group the most.

Marketers and retailers of female clothing may benefit from the findings of this study in furthering their understanding of consumer motivations related to clothing and thereby better articulate their promotional strategies of clothing for specific market segments.
PURCHASE EVALUATION OF WOMEN'S APPAREL: IN-STORE STUDY

Molly Eckman Mary Lynn Damhorst Sara Kadolph
Iowa State University, Ames, Iowa 50011

The present research was conducted to investigate consumer evaluation of apparel in two retail settings. Differences in criteria used by purchasers and non-purchasers were analyzed to develop a model of the purchase decision process.

The present study provided a methodological contribution to the body of research on consumer decision-making through incorporation of free response interviews at the point of purchase. A review of 20 previous studies of garment evaluation indicated that none of the studies included free response interviews in which subjects self-selected criteria for evaluation, real products were presented as stimuli only 35% of the time, and data were collected out of the retail setting in 85% of the studies. The present research begins to fulfill a need for store intercept studies and collection of responses only minimally shaped by the researcher in realistic settings with real products.

Method. During the summer of 1986, 80 adult female customers were interviewed at two women's specialty apparel stores in a mid-sized Midwestern city. Customers were approached after they had tried on outerwear garments and were asked if they would participate in the study. Without prompting from the interviewer about specific categories, respondents listed both what they liked and did not like about a garment they were purchasing or not purchasing. The sample was accidental; 52 respondents purchased their garments while 28 did not purchase.

Using a grounded theory approach (Glaser & Strauss, 1967), free responses were sorted into 17 categories of evaluative criteria developed from the data. Frequencies of criteria were organized into 2 x 2 x 2 contingency tables--store by purchase decision by polarity of response. Pearson chi-square tests were computed separately for each category.

Findings. When positively evaluating their garments, purchasers referred most to garment styling, fit, and workmanship. A majority of non-purchasers' positive responses referred to styling, color, fiber/fabric, and comfort while most negative responses about rejected garments related to styling, appearance, and fit.

Evaluation of color and fit was dependent upon whether respondents were purchasers or non-purchasers (p<.05). References to appearance on the body had a non-significant tendency to depend on whether respondents were purchasing or not purchasing the garment (p>.10).

Implications. The results provide a basis for a tentative model of the point-of-purchase decision process. Different criteria are proposed to have primary effects in two stages of the process--decision to try on and trial in the dressing room. During the first phase, color, style, fibers, and fabrics probably attract consumers initially and determine selection of items to try on. During the second phase, fit and comfort must be minimally satisfactory; then styling, appearance on the body, and price are weighed together to determine the final decision to buy or reject.

Overall, the most important criteria for apparel assessment are related to aesthetic characteristics. Some of the categories used by respondents have been tested infrequently in previous research of the purchase process. For future investigations, consumer responses from the present study could be employed to develop rating scales of evaluative criteria that are relevant to apparel consumers.

CONSUMER PERCEPTION OF APPAREL QUALITY: STORE AND BRAND TYPE INFLUENCES

Michelle A. Morganosky, University of Illinois at Urbana-Champaign, 61801

Product quality is a major cue used by consumers in the decision-making process. The importance of the quality cue is evidenced daily in advertisements by both manufacturers and retailers. Theoretically, the quality concept can be placed within a general theory of value, intermediate between a specific and global value concept.

The purpose of this research study was to use congruity theory to measure how perceptions of apparel quality change when various brand types are associated with various store types. Congruity theory is a form of consistency theory which states that when individuals experience inconsistency, tensions arise which force restoration to consistency. It was hypothesized that the perception of quality for brand types independent from store types would differ significantly from the perception of quality for brand types in association with store types.

A national sample of 952 individuals who met the criterion of being the person who did most of the household shopping for apparel was drawn on the basis of a systematic probability sample of households in the United States. Random digit dialing was used to eliminate selection bias of listed over unlisted numbers. There were 604 interviews (64% response rate) obtained.

Variables in the study consisted of perceived quality for apparel store and brand types. Quality perception was measured on a four-point Likert scale (excellent, good, fair, or poor). Consumers were asked to describe the quality of apparel sold in four different store types (department, national chain, off-price, and discount). Quality was assessed with store types individually and also in association with brand types. Brand types consisted of name brands, designer brands, and store brands. The inclusion of off-price stores in this study was seen as particularly important, since off-price apparel stores are rapidly expanding and are a fairly new form of retail institutional type. The inclusion of store brands was also seen as significant because many apparel retailers (especially department stores) are expanding the percentage of store brands that they carry.

Results of Bonferroni paired t-tests indicated that the perception of quality for name and designer brand apparel was significantly lowered by association with national chain, off-price, and discount stores. Thus, consumers were more likely to adjust for brand/store quality discrepancies by lowering their evaluations of the brand type rather than elevating their quality perceptions for the store type. Name and designer brands were most hurt by association with the off-price store. In relationship to store brands, department and national chain stores were significantly harmed by the association with store brands. The perception of store brand quality was significantly improved when associated with department stores and significantly lowered when associated with discount stores.

These results have implications for both apparel manufacturers and retailers. Manufacturers need to be cognizant of the potential harm that can occur to their quality image because of association with certain store types. This is particularly important in light of the growing number of off-price stores that carry name and designer brand clothing. Likewise, certain store types such as the department store need to reconsider the growing emphasis they are placing on store brand clothing. Department stores may be underestimating the potential harm of carrying store brands.
FABRIC HAND DESCRIPTORS ELICITED BY TOUCH VERSUS TOUCH AND SIGHT

Geitel Winakor, Lei Chang, and Charles J. Kim

Iowa State University, Ames 50011

When judging hand of textile products, consumers normally see and touch fabrics simultaneously. Yet much textile hand research presents fabrics so that judges can feel but not see them. If judges can see the fabrics, does fabric color affect description of hand? Often judges are asked to select descriptors from a list of words provided by the researchers. Are these the same words that consumers use themselves? Some results suggest that background or interest of judge affects responses to textile hand. This research addressed these questions, which were unanswered, or incompletely answered, in previous research.

Untrained judges responded to six woven fabrics: cotton corduroy, rayon velvet, polyester-cotton sateen, wool flannel, polyester crepe, and acetate satin. Each fabric was presented in white and in blue. Judges were female undergraduate university students, 20 majoring in art and design, 20 in textiles and clothing. Samples 12" by 15" were attached at one end to neutral cardboard; half the judges first touched and later touched and saw each of the six fabrics, three presented in white and three in blue; treatment order and colors were reversed for the remaining judges. Judges responded individually in writing with words that they chose to describe hand of each fabric.

Judges wrote a total of almost 2000 words and phrases, representing 228 different words and phrases. Specific words recorded most often were soft, followed by smooth, rough, fuzzy, warm, and lightweight. Researchers sorted these into 18 categories with the help of textiles and clothing graduate students. Categories having highest frequencies were texture, followed by tactile comfort, compressibility, weight, fabric name, and thermal comfort.

For each category with 50 or more responses and for each word or phrase having 20 or more responses, an ANOVA was computed. The Freeman-Tukey transformation (1950) was used to adjust data for low frequencies. Fabric was the effect most often significant, both for categories and words. For example, judges used the word "smooth" most frequently when handling acetate satin and least frequently for wool flannel. Color of fabric, major field of judges, and order of treatment were each significant for at least one word or category, as were some interactions. For example, color by order was significant for fabric weight. Judges listed more words describing weight when they saw and touched pile and napped fabrics in blue and smooth-surfaced fabrics in white, regardless of order of treatment. Background of judges, at least at this level of experience, seemed to have little effect on their choice of words.

Words elicited in this research were compared with words elicited in other research that used free response. They were also compared with words provided by researchers for judges to use in describing textile hand. Words offered by researchers using techniques such as the semantic differential were more numerous and varied than those listed by naive judges, but judges can probably understand more textile hand words than they use themselves. In future research, use of oral rather than written responses might elicit a greater variety of words and phrases. Also, use of stimulus fabrics having more subtle differences in hand might reduce the effect of fabric and produce more clear-cut results for other effects than were obtained in this research.

Reference

Yarns which are blends of two or more different fibers have traditionally been used to achieve a balance of properties in consumer textiles (Horrocks, 1985). However, in designing blends of this type, two points should be considered. First, the properties of fabrics made from blended yarns are not necessarily linear functions of the amounts of each fiber in the blend. Flammability (Coplan, 1959) and tensile behavior (Kemp & Owen, 1955) are fabric properties which are synergistic or antagonistic and cannot be predicted entirely from properties of the constituent fibers. The second problem is that the concomitant disadvantages of the fibers also occur. Some properties, such as mechanical behavior, are dominated by the bulk material of the fiber, whereas other properties such as moisture sorption and transport are dominated, at least initially, by the surface characteristics of the fiber. It is of interest to separate bulk from surface dominated properties to more carefully define, and achieve, the advantages of each.

A composite rayon/nylon fiber was produced by running a 43 micron thick nylon 6 monofilament through a fiber coating die where it was contacted by a solution of high wet modulus viscose rayon flowing from a pressurized reservoir. The rayon coating was then coagulated in commercial strength acid bath. Coating thickness was controlled by varying the line speed and the pressure of the viscose reservoir. The mass fraction of core and skin was determined from the linear density. Moisture regain and the mechanical properties of modulus, tenacity, elongation to break, and toughness were measured.

Regression analysis indicated that in general the properties examined were linearly related to the mass fractions of core and/or coating material. The effect of the rayon skin was more significant than that of the nylon core for moisture regain. The regain for nylon measured from the regression analysis, 3.8%, is similar to the reported value of 4.5% (ASTM, 1984). The predicted value for rayon, 19.3%, is much higher than the reported value, probably due to the lack of orientation of the rayon skin compared to commercial rayon fibers.

The mechanical properties were mainly influenced by the nylon core, although the coating did affect the values, through its effect on linear density. Modulus, tenacity, and toughness are influenced by linear density, therefore these values were calculated on both a total material basis, and on a "coating free" basis which used the linear density of the uncoated nylon core. In both cases regression analyses showed an increase in these three mechanical properties with increasing mass fraction of nylon core, but with a lower slope for the coating free analysis. The predicted value for the pure nylon component was 49.4 gf/tex compared to the literature value of 40.8 gf/tex (Morton & Hearle, 1975). The core dominance on tenacity was confirmed by observation of absolute breaking force values, which showed a dependence on core mass fraction. Results generally indicate that for composite fibers of this type it is possible to decouple coating and core properties.


The purpose of this research was to develop a computational method for fitting woven fabric to non-algebraic surfaces using numerical analysis techniques. At the present time, fitting a fabric covering to a three-dimensional object is a time consuming art. No computational methods exist for fitting fabric to non-algebraic surfaces. A better understanding of how fabrics are fitted to three-dimensional objects could aid in automation of custom production of garment and the improvement of standard sizing.

Little work appears to have been done on predicting specific configurations that will be adopted by a fabric based upon modeling the physical mechanisms responsible for fitting. Many subjective evaluations of complex fabric behavior have been related to physical measurements of fabric characteristics primarily through statistical correlations; however, attempts to predict the configuration that a specific fabric will adopt on a specific surface are rare. The only computational method found for making this type of prediction was developed by Mack and Taylor (1956) for surfaces of rotation. No computational methods were found for fitting non-algebraic surfaces.

Although many different coverings may be "fitted" to the same surface, for this research, we adopt the definition for fit used by Mack and Taylor, i.e. the fabric is everywhere in contact with the surface. The assumptions that we make about the fabric behavior are similar to those made by Mack and Taylor; the most important of these assumptions being that the yarns do not stretch; warp, filling intersections act as pivot points; and the distance between adjacent warp, filling intersections is small enough so that the curvature of the surface is nearly constant between intersections. Our assumptions about the surface, however, are markedly different, we make no assumption about the surface other than that it is continuously differentiable.

The method that we developed is based upon modeling the process of smoothing fabric over a surface. It maps points from the fabric onto the surface of the object being fitted using numerical analysis techniques, in contrast to Mack and Taylor's method which maps points from the surface onto the fabric plane using analytical equations. On the local level, each intersection of the fabric is mapped onto the surface based upon the locations of two adjacent intersections, one on a connecting warp and one on a connecting filling. The point to be fitted is located at one of the intersections of a circle which is determined by the radius of the inter-warp spacing, swept around the intersection connected by a warp yarn, and a circle, which is determined by the radius of the inter-filling distance, swept around the other point. The exact location of the new intersection is determined by solving two differential equations. The entire process is mediated on the global level by three types of parameters: initial conditions, e.g. the mapping of an initial set of points onto the surface; terminal conditions, e.g. the completion of the area to be fitted, or when buckling of the fabric occurs; and the direction of smoothing.

Our method produces results that agree well with both empirical data and with values calculated using Mack and Taylor's fitting equations for surfaces of rotation. This method is a step toward better understanding the relationship between the two-dimensional shape of a pattern and the three-dimensional form of the body. A complete understanding of this relationship will be necessary to attain automated production of custom fitted apparel which has been predicted numerous times over the past fifteen years.

References

THE EFFECT OF MICROCLIMATE COOLING ON SWEAT RATE AND PERCEIVED COMFORT WHILE WEARING PROTECTIVE CLOTHING

Donna H. Branson and Maureen Sweeney, Oklahoma State University

Philip Warren, U.S. Army Natick Research, Development & Engineering Center

The use of protective clothing continues to rise due to an increase in development and handling of hazardous substances for a variety of settings. The increased use has also been accelerated by an increased awareness and knowledge of potential negative side-effects of new and existing hazardous substances. Despite advances in design and development of new materials, heat stress continues to be a serious problem for those working in moderate and hot environments while wearing protective clothing.

Auxiliary cooling, both air- and water-cooled vests and suits, worn beneath protective clothing have been shown to be effective in reducing physiological stress under certain environmental circumstances (1). Air-cooled suits and vests are based on assisting both the evaporative heat dissipating mechanism of the body and convective heat transfer. The U.S. Army has found that hand and face sweating while wearing chemical protective ensembles are particular problems in terms of performance and perceived comfort. The present study was conducted to examine the effects of auxiliary cooling on sweating and discomfort in the torso, face, and hands of soldiers wearing chemical protective clothing.

Sixteen male military volunteers participated in two test sessions, one per day for two consecutive days. Testing was conducted in an environmentally controlled chamber with a mean temperature of 20.0°C and 70% humidity. An air-cooled vest which supplied ambient air to the neck and front and back torso, was adapted to allow additional air to be supplied to the hands and face. The vest was worn beneath Army-issued chemical protective clothing for each test session, one day with auxiliary air and one day without it. A repeated measures Latin Square design was used. Heart rate, core and skin temperature, and sweat rate of the face, palm, and forearm were recorded at one minute intervals throughout the three-phase two-hour test session. During the baseline phase, subjects were fully instrumented and then seated inside the chamber until stable heart rate, skin temperatures and sweat rates were attained. During the treatment phase, subjects pedalled on an exercycle for five minutes producing a mean metabolic rate of 112 W. The recovery phase had the subjects seated in the chamber until stable heart rate, skin temperatures and sweat rates were achieved. A set of eleven-point ballots assessing perceived thermal comfort, wetness, and temperature sensation were completed during each phase.

In general, subjects perceived increased wetness during the treatment phase and increased thermal discomfort over the test session. This is in congruence with the sweat rate data which appeared to be highest during the treatment period. While sweat rates did not, in general, increase after treatment, the chemical protective clothing's inability to allow evaporation of the sweat resulted in sweat accumulating at the skin surface and the perception of increased discomfort. These findings give further support for the importance of removing moisture in the microclimate. ANOVA results showed that auxiliary cooling significantly reduced palmar sweat rate during the treatment phase. This was not found to be true for other body locations. Since auxiliary cooling with ambient air was shown to significantly reduce hand sweating, auxiliary cooling with cooled air holds promise for alleviating hand maceration and bacterial infections, and sweating of the face and torso.

DETERGENTS, WATER LEVEL, MECHANICAL ACTION AND SOIL REPELLENT FINISHES

AS FACTORS IN LOWERING METHYL PARATHION IN SELECTED FABRICS

Debra N. Hild, Joan Laughlin, and Roger E. Gold

University of Nebraska-Lincoln, Lincoln, Nebraska 68583-0802

Recommendations for laundering pesticide contaminated fabrics include using hot water, HDL detergents, and prewash and pre-rinse treatments. Obendorf and Klemash (1982) found no differences between a powdered detergent containing carbonate and zeolite builders and an unbuil t, liquid detergent (HDL) in residual triolein (not pesticide) remaining in cotton/polyester after laundering. Differences were found between detergents in the locations of triolein within fibers. The powdered detergent was more effective on fiber surfaces. The researchers also found that a prewash product removed oil from the interfiber capillaries and crevices of cotton fiber and reduced oil in the lumen. In this same study increased mechanical action and detergent concentration removed more oil from fabrics. No research to date has examined the effect of detergent (type and concentration) with a prewash product, water level and/or mechanical action in lowering pesticide residue in fabrics. Research has also shown that soil repellent finishes (SR) decreased adsorption of pesticide, but studies have not examined the effect of SR finishes in subsequent residue removal.

A 50/50 cotton/polyester fabric with two finishes, unfinished and SR, was contaminated with methyl parathion (1.25% a.i.) emulsifiable concentrate. In a complete random factorial research design, independent variables of detergent concentration and detergent type (Phase I), water level and mechanical action (Phase II), and SR history (Phase III) were studied.

Distilled water was used to launder specimens in a Launder-Ometer at 60°C. Following extraction, remaining residue were analyzed on a gas chromatograph and reported in ug/cm². GLM followed by LS means tests with p < 0.05 were performed.

Half the recommended amount of detergent was inadequate for effective residue removal. A negative linear relationship between detergent concentration and residue remaining was observed, with a leveling off at the higher concentration levels. Greater residue removal at increased concentrations of detergent were found for SR fabrics. Detergent choice was less important when pre-wash products were used.

Amount of wash liquor affected residue removal more significantly than did mechanical action. A negative linear relationship was observed between water level and residue remaining with a leveling off in residue remaining at the higher water levels after laundering. The level of mechanical action (steel balls) made no difference in the amount of residue remaining after laundering. The SR finish over contaminat inhibited residue removal in the laundering process. Fabrics that had a SR finish applied over two contaminations had much higher residue after laundering.

Recommendations from these data include laundering after each contamination, using increased concentrations of detergent and maximum water level. Particularly disconcerting was the finding that laundering was less effective in removing residue from specimens that had SR finishes applied over previous (unlaundered) contamination, since much work published to date recommended using SR finishes. SR finishes are recommended because they decrease adsorption of pesticide and they may limit exposure to contaminant. The results of the mechanical action may be of interest to researchers who have raised the questions of whether to use 10, 20, 25, or 50 steel balls in Launder-Ometer canisters, given that no differences were found in this study.

EFFECT OF SYNTHETIC PERSPIRATION AND SYNTHETIC SEBUM
ON THE ADSORPTION OF GRANULAR PESTICIDE TO FABRIC

North Dakota State University, Fargo, North Dakota 58105

Dermal exposure to pesticides can occur when pesticide residue contacts clothing during handling, mixing, loading, and application. Much of the research on limiting pesticide exposure has considered penetration and removal of liquid pesticides from clothing. Granular pesticides have generally been considered a problem only if they are left in cuffs or pockets and are subsequently activated in the laundry process. Recommendations for reducing granular pesticide exposure usually refer to avoiding wearing of contaminated clothing, or to shaking the pesticide from the clothing before laundering.

One reason some pesticides are manufactured in granular formulations is that their relatively high toxicity makes the granular formulations safer to use. This toxicity may become a hazard to the applicator when the pesticide comes in contact with fabric soiled with perspiration and sebum. Sebum is the waxy substance secreted by sebaceous glands, concentrated on the forehead. However, the interaction between granular pesticides and perspiration and sebum on fabrics has not been previously studied.

The purpose of this study was to determine whether fabric soiled with synthetic perspiration or synthetic sebum promotes pesticide adsorption to fabric. Since applicators may delay changing clothes worn during granular pesticide application, the effect of time on the level of granular pesticide adsorbed is also considered.

Five 5 cm X 5 cm samples of 100 percent cotton twill fabric were soiled with 1.0 mL synthetic perspiration (AATCC Test Method 15-1979), 1.0 mL synthetic sebum (Huisman & Morris, 1971), or were left unsoiled. The conditioned soiled fabric was then contaminated with 0.42 grams of Granular Temik 150 (aldicarb) pesticide. The pesticide was removed from the fabric and extracted with 150 mL methyl alcohol after 4 hrs, 8 hrs, 24 hrs, and 72 hrs of contamination. The level of pesticide residue was determined by high performance liquid chromatography.

The results were statistically analyzed using analysis of variance and general linear model procedures. A small but significant amount of granular pesticide was adsorbed to the fabric under all test conditions. Sebum promoted the greatest adsorption of pesticide residue, followed by perspiration, then the control. The amount of pesticide adsorbed to fabric increased over time with the 72 hour period of contamination having the largest amount of residue adsorbed to the fabric.

This research shows the possibility of pesticide exposure when granular pesticide comes in contact with fabric. Pesticide use guidelines therefore need to consider the interaction of granular pesticides with perspiration and sebum-soiled fabric, as well as the need to promptly remove granular pesticides after contact with fabric.

References
MOISTURE ABSORBENCY AND FOLIAR PESTICIDE RESIDUE TRANSFER TO FINISHED AND UNFINISHED FABRICS

*Rinn M. Cloud, Lucy Champagne, and Steven M. Buco

Louisiana State University Agricultural Center

One type of farm workers' exposure to pesticides is foliar residue transfer to clothing or skin as the individual brushes against treated plants during activities such as field inspection or harvesting. Previous studies have shown that significant amounts of pesticide may be absorbed by fabrics and that absorbed residues may be difficult to remove. It has been suggested that water repellent or soil release finishes may reduce the levels of pesticide absorbed by fabrics. However, finishes such as durable press resins may enhance pesticide absorption.

The use of laboratory moisture absorbency tests as screening methods for fabrics to be worn in pesticide treated fields has received little attention. The purpose of this research was to determine whether standard tests for moisture transport or absorbency of fabrics could be used as indicators of potential for absorption of pesticides through foliar residue transfer.

Shirt weight fabrics of three fiber contents were used: 100% cotton, 100% polyester, and 50% cotton/50% polyester blend. The 100% fiber fabrics were tested only in the unfinished state while the blend fabric was tested with three finish conditions: unfinished, durable press finished, and soil release finished. Fabrics were worn by volunteer subjects into soybean fields treated with synthetic pyrethroid insecticide. Levels of pesticide contamination were determined using hexane extraction and gas chromatographic analyses. Unexposed fabric specimens were subjected to standardized laboratory testing procedures for moisture regain, wicking, drop absorbency, and resistance to surface wetting.

Analysis of pesticide residues indicated no significant difference between the two 100% fiber fabrics, but a significant difference occurred between the 100% cotton fabric and the blend fabric. No significant difference in pesticide residue was found for type of finish on the blend fabric. Other results indicated significant differences in moisture related properties of fabrics by fiber content and by type of finish. In general, the 100% cotton fabrics exhibited the highest levels of absorbency and moisture transport while the 100% polyester fabrics exhibited the lowest levels of these properties. Differences by type of finish on the blend fabric were less consistent.

Moisture regain and drop absorbency were higher for the soil release and durable press finished specimens than for the unfinished fabric. However, the finished fabrics had a slower rate of wicking and a higher resistance to surface wetting than unfinished fabrics indicating less transport and penetration of moisture through fabric. Results of Pearson correlation analyses for moisture absorbency and pesticide residue absorption were not significant but suggest that the drop absorbency and warp wicking properties of fabrics should be investigated further for viability as screening tests for potential absorption of pesticide residues through foliar residue transfer. Further testing is also needed on fabrics of different weights and geometry.
The purpose of this research is to characterize and compare the textile remains recovered during archaeological excavations at two early fortifications in Tennessee. Fort Loudoun is located in Monroe County and was the westernmost fort in a chain of British outposts which extended into Tennessee from Charleston, South Carolina. It was built and occupied from 1756 until 1760 in an effort to help solidify the British alliance with the Cherokee Indians and to deter possible French encroachment from the south. Fort Southwest Point, an American Federal period military outpost, is located in Roane County and was built and occupied from 1792 until 1807. It was officially established to protect white settlers from Indian acts of hostility, but during its fifteen year occupation its purpose reflected changes in Indian-white relations and the federal government Indian policy.

The textile remains consist of six fragments of fabric and four fragments of metallic ribbon or braid. Methodology combines historical research with the physical and technical characterization of the textile remains using both optical and scanning electron microscopy. The results of the fabric characterization are compared with existing period documentation of supply lists (including clothing supplies on hand), purchase vouchers, and trade goods lists. This comparison forms the basis of an exploration of similarities and differences in the use of clothing and other textile products at British and American military outposts located on the frontier of Tennessee within a fifty year period.

The research is significant because the survival of historic textiles in archaeological context in the southeastern United States is rare. The existence of relevant contemporary documentation which specifically lists and describes clothing and textile items used at the two forts provides an even more unique opportunity to compare written records with surviving artifacts.
FORMS AND COMMUNICATIVE FUNCTIONS OF OJIBWA INDIAN DRESS

This study was intended to fill a gap in our understanding of the ways in which dress served a communicative function for the Ojibwa, a Woodland Indian group. At least one researcher (Cyr, 1978) has concentrated on the forms, but no previous studies have used quantitative methods to analyze the modes and communicative functions of Ojibwa Indian dress. The specific objectives of this study were:

1. to list items of Ojibwa Indian dress in lexicon form.
2. to identify modes of Ojibwa dress from 1820-1980.
3. to determine when changes in Ojibwa dress occurred.
4. to correlate communicative functions of dress with items of Ojibwa dress.

Photographs, paintings, and sketches, documented as indigenous to Wisconsin and Minnesota, were chosen as the primary source of data because they yield information that is seldom recorded in written literature and is often impossible to detect through a study of artifacts. These visual materials can indicate what type of dress was appropriate for each age group, sex, social status, and political rank. In addition, they show the way in which elements of dress were combined, as well as the manner in which specific articles of dress were worn. An instrument was developed to record information pertaining to Ojibwa dress identified for 647 subjects. Members of the Ojibwa tribe served as informants, providing information about the photographs, paintings, and sketches.

Statistical analysis, which included the use of multivariate crosstabulations, was used to determine modes of Ojibwa dress for seven time periods, encompassing the years 1820-1980. The analysis identified what garments were most often worn together and how frequently each combination occurred. It was found that in each successive period the Ojibwa wore less indigenous dress and more non-Indian clothing. Specifically, Ojibwa Indian dress dominated the modal dress before 1860 for Ojibwa men and before 1880 for women. After these times non-Indian dress was characteristic.

The change to non-Indian dress appears to have been a gradual but steady process in which Ojibwa Indians adopted non-Indian dress step by step. First, fabric was substituted for leather, although the forms of dress remained the same. Second, articles of Ojibwa dress were combined with non-Indian dress until 1959. The last stage involved the complete adoption of non-Indian dress, with perhaps an accessory that displayed an Ojibwa design. Historical evidence supports this process, which reflects the acculturation of the Ojibwa into mainstream American society.

After the modal forms of Ojibwa dress were identified, specific articles of Ojibwa dress were correlated with functions. It was determined that traditional Ojibwa dress represented special occasions, high social status, and high political rank, whereas non-Indian dress was indicative of everyday occasions, such as work situations and lower social status. The results of this study indicate that items of Ojibwa dress have retained much of their meaning even though they have not been observed in the mode of Ojibwa dress for over a century and in spite of many changes in the political, economic, and social aspects of Ojibwa life.

REFERENCE

During the nineteenth century numerous magazines provided fashion plates and fashion information along with their general stories, articles, book reviews, recipes and poetry. These magazines provided abundant information on the changes that occurred in fashion from descriptions on style, color, and trim to detailed advice to the dressmaker on how the style changes should be made on old dresses to make them "like new". Peterson's Magazine reported in April 1859,

The demand of fashion are so numerous, that it is almost impossible to supply them, and so old styles have to be renewed, but nearly always with some light modification (Peterson's Magazine, April, 1859, p. 328).

Two such magazines included Godey's Lady's Book and Magazine and Peterson's Magazine. Both magazines included fashion plates with short descriptions of the dresses illustrated as well as a fashion column. This column provided lengthy discussion on other garments not illustrated but fashionable and as the following quote from Peterson's Magazine (August, 1862, p. 157) indicates, explicit advice on how the current sleeve shaped, bodice or skirt should be constructed.

Discussing how full skirts are set on the waist in large "plaits" known as "Box plaits", Peterson's explains,

... between each of these plaits is a false plait either cut out in a point, or where there is an objection to cutting the material, they may be laid underneath quite flat, these false plaits are made to avoid so very much fullness being set in at the waist, and the skirts. ...

The purpose of this study was to examine the construction advice as presented in the fashion sections of two popular nineteenth century magazines from 1859-1869 as an aid in the documentation of day dresses. Monthly construction advice was reviewed and recorded. Each dress element was discussed and analyzed separately as style changes were often made in the sleeves but not in the bodice or skirt. The construction advice collected was illustrated within the manuscript with the use of photographs of fashion plates, drawings, and photographs of extant dresses from the period.

This research is important because 1) such dress elements as sleeve styles and trim changed monthly and 2) as the silhouette of skirts changed, the method of construction changed as well. 3) Construction advice provides the costume historian, student, and curator with the knowledge of how style changes were made in existing dresses. This is valuable in the examination of previous stitching lines and in understanding the original purpose of the stitching lines. 4) Study of construction advice provides the costume historian with the perspective of the dressmaker and will aid in the restoration of a dress, the documentation of day dresses and the reconstruction of a day dress for historical purposes.


Recent research on nineteenth century women's apparel has focused on developing a better description of North American dress as distinguished from European dress. This research attempts to continue this focus and additionally to explore neglected areas of unfashionable dress, and dress among agrarian women. The purpose of this research was to describe prescriptive standards for women’s clothing as expressed in farm journals in the period 1850-1900. Directives for proper behavior were found in household advice columns in four late nineteenth century journals: The American Agriculturist (1850-1900), Kansas Farmer (1863-1882), Prairie Farmer (1854-1875), and Country Gentleman (1870-1900). Correspondence showing individual women's reactions to clothing advice and expressions of personal clothing philosophy also were examined. Content analysis was used to group information thematically. Themes found in agrarian journals were then compared to themes found in mainstream social conduct literature (gift books, advice manuals, etiquette books, household guides) to determine if a separate prescription existed for farm women compared to the general population.

Several major themes in common were found in the literature: (1) dress was viewed as an important indicator of feminine qualities (industry, economy, decency, for example); (2) neat and proper attire was associated with a felicitous family life; (3) becoming attire fit in with women's responsibility to ornament the home; (4) dress was viewed as a factor affecting women's health; and (5) following fashion was negatively viewed as an activity which could take time away from women's responsibilities as wives and mothers.

Similar advice appeared in both mainstream and agrarian sources, but emerged from different perspectives. For example, a common theme urged women toward simplicity in dress. In the mainstream literature, the fear was that overinterest in dress would distract women from their duties as wives and mothers. However, in agrarian sources, plainness was stressed for pragmatic reasons—extravagant dress was not deemed functional for agrarian lifestyles.

Lifestyle differences affected prescriptions in other ways. Farm labor, especially outdoor labor, was said to masculinize women by making them muscular and tanned; premature aging also was associated with the stereotype. This was in direct conflict with women's ornamental role. A major portion of the agrarian advice focused on reconciling this image of the "laboring woman" with that of the ideal "gentle lady", a common 19th century stereotype.

Greater stress was placed on economy in dress in agrarian literature—in terms of both time and money spent on dress, emphasizing farm women's instrumental roles as well as perceived social class. Altogether, a more aggressive role for women was generally accepted by agrarians. The major conclusion is that a perceived dichotomy existed between "city" and "country" clothing behavior (which further can be described using other categories of primary sources).
WOMEN'S RIDING CLOTHING IN THE CENTRAL UNITED STATES, 1880-1930

Jane Farrell-Beck, Juliana K. Albrecht, Geitel Winakor
Iowa State University, Ames, Iowa 50011-1120

Styles of clothing for active sports have affected streetwear and evening fashions since at least the late 1700s. Writers disagree about whether there was a connection between women's riding costume and daywear fashions. Research on women's riding clothing in the central United States may help to resolve this question.

The first objective was to describe riding clothing of women in the central U.S. between 1880 and 1930. The second objective was to suggest hypotheses on associations between: daywear and riding attire; men's and women's sportswear; safety features in riding clothing and in daywear; and divided garments for women for sports and streetwear.

The researchers photographed and described 20 riding habits, 13 individual garments, and 17 riding accessories found in 9 collections in Minnesota, Iowa, and Missouri. They checked the museum dates of garments by comparing photographs of the garments to illustrations in primary literature (Harper's Bazar (sic), Vogue, and riding manuals). Literature also gave further description and interpretation of prescribed riding attire. Primary sources, such as census figures, and secondary state and local histories provided social and economic information about the cities and states of interest.

Most women probably rode sidesaddle until cross saddle riding became acceptable in the early 1900s. U.S. women chose riding garments that provided protection from weather and dirt, gave some freedom of movement, looked fashionable, and preserved etiquette. U.S. women copied English women's costumes, but in fact all women's riding clothing imitated menswear styling. Habits were severely tailored and meticulously fitted. Women wore their hair close to the head; they omitted makeup and extraneous jewelry. Formal and hunting habits were strictly regulated in every detail; informal habits could vary in fabric, color, and style. Safety features in skirts included shorter and slimmer cuts than were fashionable for streetwear; riding skirts had unfaced hems.

"Safety skirts" had the right back or side section cut away and "apron skirts" were foot-length in front, but only hip-length in back. By the early 1900s, women wore divided skirts for cross saddle riding. Visible breeches came into use in the 1910s, although breeches concealed under skirts had been accepted in the 1800s.

Etiquette regulated many aspects of riding costume, but the design of habits also made concessions to safety and comfort in the saddle. Changes in riding skirts seemed to relate to function, but changes in the length, fullness, and detailing of coats followed fashion.

Several questions remain to be answered: Did menswear influence women's clothing for sports other than riding? Did men's and women's sports clothing ever develop in parallel ways? Did the safety features in sportswear affect the design of streetwear for women? Did the wearing of divided garments for riding have a demonstrable influence on the acceptance of pants for women's streetwear?
DESIGN CHARACTERISTICS AND INFLUENCES OF 1930s MISSOURI QUILTS

Rebecca Blanchard*, University of Missouri - Columbia, Columbia, Missouri 65211

Betty L. Feather, University of Missouri - Columbia, Columbia, Missouri 65211

Published quilt historians have, for the most part, ignored 1930s quilts and implied "important" quilt history took place before 1900. Owners of twentieth century quilts feel these quilts make a significant contribution to social history. The foci of the research was to substantiate the significance of 1930s quilts by identifying design characteristics and inspiration sources as well as infer relationships between these variables. One hundred and fifty-eight selected quilts from all areas of Missouri were analyzed and recorded by design components and fabric characteristics. Primary literature sources available to Missouri during the 1930s, including women's magazines, farm journals, newspapers, quilting manuals and books, were examined for patterns and designs which corresponded to the identified quilts. To enrich the visual data, 20 quilters or descendants of quilters who practiced their craft during the 1930s were interviewed.

Patterns for quilt designs were in abundant supply in the periodical literature of the 1930s and Missouri quilts reflected these traditional and contemporary trends. More than 95% of the quilts could be traced to distinct or inspirational pattern sources. Most quilts examined were made with fabric scraps that had been used to the best design or space advantage. The most frequently produced designs dictated the use of a wide variety of scraps which in turn accounted for their popularity.

The typical quilt made in Missouri during the 1930s contained hand-pieced fabric scraps and purchased coordinating solid fabrics. It was moderately to heavily hand quilted in more than one style which accentuated the different elements of the design and was contained by borders and bound at its edges.

A common misconception of 30s quilt characteristics is that they were pastel colored. While this investigation revealed that pastels were popular, bright colors and medium tones of colors were equally popular. White fabric used adjacent to bright colored fabrics tends to soften the overall effect; in 84% of the quilts examined, white fabrics were used in large amounts.

Missourians, as did many Americans, experienced economic hardship during the Great Depression. For many families, quilts made with fabric scraps, printed feed sacks and the better parts of worn clothing provided less expensive bedcovers than purchased blankets. Some quilts were a contradiction to the economic pressures because they were made with all new fabrics purchased specifically for quilts. Although most quilts were made primarily for warmth, some were made for pleasure, indicating women were willing to spend money for their leisure in depressed times.

Design inspiration, then as now, stems from a variety of sources and reflects the technology, political events, economic and social conditions of the period. A relationship did exist between quilts and the inspiration sources in at least two major ways. Inexpensive and readily available printed information provided numerous quilt patterns for all classes of women. Social activities in the form of quilt contests, displays and informal sharing with friends and neighbors provided the vehicle for design ideas and dissemination. Thus the quilts of the 30s do provide a historical record of peoples' leisure activities, the concepts of aesthetics and societal values of the period.

27
MANAGING TURNOVER OF ENTRY LEVEL RETAIL MANAGERS

Linda K. Good and Grovalynn F. Sisler
Oklahoma State University

Turnover rates among retail management trainees, the entry level position for apparel merchandising graduates, have been reported to be in the range of 24 to 49 percent. Most organizational executives proclaim people to be their most important natural resource. However, if organizations strongly believed in the development and growth of their people, it should be visible in such measures as turnover, absenteeism, salary levels, commitment, and satisfaction.

This study was guided by role theory which suggests that if individuals occupy boundary-spanning positions, then higher levels of role stress are likely to be experienced. Entry level managers experience inordinate amounts of role stress. If the level of role stress plays an important part in the development of satisfaction and organizational commitment, then the management of stress should be a primary component of the training and development of entry level managers. The result should be employees who are less likely to leave the company.

The purpose of this study was to examine the relationships among role stressors, job satisfaction, and intent to leave for entry level retail managers. Role stressors included role ambiguity, role conflict, and work-family conflict. Intent to leave was measured as the surrogate variable for turnover. A second purpose was to compare the results of the study with an empirically tested model to determine if the model was operative with a retail manager sample. The causal model linked the three role stressors to job satisfaction, which was linked to organizational commitment, which was linked to intent to leave.

Two major multi-unit national retail companies participated in the study. Seven hundred forty-three questionnaires were mailed to entry level managers and 368 were returned and usable, yielding a 49.5 percent response rate. The questionnaire items consisted of previously tested, reliable instruments. Internal consistency reliabilities ranged from .80 to .95.

Multiple regression and path analysis were used to analyze the data. For the entry level managers, job satisfaction was a function of role conflict and role ambiguity (path coefficients -.42 and -.34, respectively, p < .01). When high levels of role conflict and ambiguity were present, job dissatisfaction was more likely. Work-family conflict was significantly related to job satisfaction, but represented a much weaker link. However, work-family conflict was significantly related to intent to leave, indicating that despite job satisfaction and organizational commitment, work-family conflict could lead to employee turnover. The data fit the hypothesized model parsimoniously and explained 65 percent of the variation among entry level managers. The model suggests that a low level of role stress leads to job satisfaction, which leads to organizational commitment. The result is a lowered intention to leave the company.

This research indicates that executives in retail organizations should concentrate on lowering the levels of role stressors present in entry level management positions in order to reduce turnover. Educators in apparel merchandising should prepare students to cope with stress on the job, so that student's job expectations will be more realistic and job-related stress, less likely.
The purpose of this study was to investigate the internal and external influences that affect the retail apparel buyer's purchase decision of three different levels of women's fashion garments: new fashion, ongoing fashion, and classic fashion. Webster and Wind's (1972) general operational model of organizational buying behavior provided the conceptual framework for this research. Four major categories of influence were identified through the literature as environmental, organizational, group, and individual, with separate influences within each category revealed. A sample of fifteen department store chains with a total of forty-five women's wear buyers belonging to Fredrick Atkins Buying Office were sent questionnaires, containing open-ended, yes/no, and multiple choice questions, resulting in an 87.6% store return rate.

A one-way ANOVA and Duncan's Multiple Range Test were employed to determine significant differences in means between the three fashion garment types. Total weighted scores were calculated from the frequency distribution for all forty-six influence questions to determine the weight of influence each question held. A Likert Scale using 1-5 from no influence/strongly disagree, to great influence/strongly agree respectively was used to weigh the most and least influential questions. Scores of 130 and over were classified as showing high influence, while scores of 100 to 129 were considered influence, and score below 99 were low influence.

The degree of fashion newness of the three garments, and environmental, organizational, group, and individual influences were shown to affect the purchase decisions examined in this study. Therefore the five null hypotheses were not acceptable. Nine questions revealed differences between the level of fashion newness of garment types. The ten most important influences by rank were found to be: expected sales, quality, cost, key seasonal item, being a "good buy," color(s), fiber, styling, planned retail price, and merchandise mix. All forty-six influences tested did, however, show some influence.

The buyer's role as decision maker was shown to be multi-faceted. Conclusions indicated that the distinctions between consumer and organizational buying, as well as industrial and retail buying decision making were unjustified. The four interrelated categories of influences identified in the study were also shown to contribute to the retail apparel buyer's purchase decision, and the purchase of newer fashion garments revealed different decision making strategy than garments that were considered classic fashion.

REFERENCES

APPAREL SALES REPRESENTATIVES: PERCEPTIONS OF THE SELLING ROLE

*Teresa A. Summers and Renee D. Howerton
Louisiana State University

Functions performed by sales representatives (reps) such as selling, support and maintenance, and nonselling activities are vital to the apparel industry, but these functions are changing (Legomsky, 1985). Reps, unprepared for change through lack of training or limited communication with manufacturer employers, may develop altered perceptions of their job functions. Studies of sales reps in non-apparel industries have shown these altered perceptions contribute to role ambiguity which can affect a rep's overall well-being and job performance (Donnelly and Ivancevich, 1975). The purpose of this study was to further understanding of the role of the apparel sales rep by determining perceptions reps have of their profession through their responses to role conception statements and actual functions performed. Reps (n=100) selected at random at a regional apparel mart responded to role conception statements categorized as: factors which represent major challenges facing sales reps; traditional attitudes toward the role of the sales rep; and job functions for which sales reps are generally responsible using a 5-point Likert-type scale. Actual functions performed and demographic information were also elicited. Data were analyzed using the Kolmogoroff Smirnov one-sample test and frequency tabulations. Sixty-four completed questionnaires were returned, but only those (n=43) with complete responses to all role conception items were used. The majority of reps were from 30-49 years of age, male, single, and had some college and sales experience. Reps agreed their jobs are crucial to the apparel industry, but reps indicated uncertainty about the adequacy of commissions for the long hours worked in representing manufacturers' lines. Reps also perceive a lack of adequate training for their positions; therefore, many individuals may be less successful because they receive inadequate communication from manufacturers, or they are operating with inadequate preparation for the job. Apparel reps may represent multiple lines simultaneously for years without ever meeting the manufacturers or seeing production facilities. Hitchcock (1984) states that if a rep believes he can build a longterm relationship with a manufacturer who is committed to such a relationship, the rep is likely to spend more time promoting and selling that manufacturer's line as compared with other lines he may represent. Continuous communication, training, and a fair and dependable commission from the apparel manufacturer could help to reduce role ambiguity experienced by the rep as well as strengthen the rep's sales performance. Understanding the apparel sales rep's perceptions of his role could assist manufacturers in building stronger relationships with their sales force and educators in preparing students for careers in apparel sales.


This study was the pilot for a three phase project designed to assist small to moderately sized apparel manufacturers with the conversion of apparel design, pattern design, grading, and marker making to computer-assisted apparel design, pattern design, grading, and marker making. The project stems from a growing supply of package software programs for apparel design intended for use with personal computers. Many companies are still executing apparel development/production functions using manual techniques. Implementation of personal computer technology on a small scale would be cost effective and require about 1/10 the initial investment as compared to full scale industrial computer equipment.

Apparel manufacturers operating within the state were identified using a telephone survey to obtain the following types of information: parent company, if any; location of facility; size of company, by number of employees; number of years in operation; product description; and interest in personal computer technology transfer. The sample, drawn from the 1986-87 DIRECTORY OF LOUISIANA MANUFACTURERS, resulted in a total of 38 firms.

Results indicated that some of the firms operate under parent companies, while others are independently owned. Those that operate independently would be more likely to convert to personal computers in a short time span because they would not have to go through corporate headquarters. The independently owned companies are also smaller and seemed more amenable to conversion of some of the functions to personal computer, since they tend to perform all the standard functions (apparel design, pattern design, marking, and grading). One fourth of the manufacturers are located in the Greater New Orleans area with another small concentration in the southwestern part of the state. The remaining companies are located throughout the state. A majority of the firms (53%) employ from 100 to 499 individuals, with 16% of the companies employing from 500 to 2499. The apparel industry in the state is not a new industry as evidenced by the fact that over half (53%) of the manufacturers have been in business in Louisiana from 11-25 years, with two companies operating in the state since 1926. The type of product made includes sportswear, uniforms, dresses, jeans, and t-shirts in children's, men's and women's sizes.

Over half of the firms contacted indicated that they were using manual design/production techniques and were interested in converting some of these to personal computer.

It was concluded that the apparel industry in the state does exist and is thriving. Many of the companies expressed an interest in learning about personal computer-assisted apparel design, pattern design, grading, and marker marking. These companies cannot afford to invest millions of dollars in industrial computer systems, and as a result are still accomplishing much of their design/production functions manually. Phase two of the research will involve a detailed needs assessment of apparel manufacturers who are interested in converting some of their design/production functions to personal computer.
Care Labeling as a Public Policy Issue for Home Economists

Wanda A. Sieben, University of Minnesota
Cherilyn N. Nelson, North Dakota State University

Textile product labels are an example of a manufacturer-to-consumer communication system which influences consumer purchase decisions and utility expectations. One such system is the Care Labeling Trade Regulation. Although the original 1972 regulation required the attachment of care instructions to garments, such instructions were often incomplete, inconsistent, or inaccurate. A 1984 amendment to the regulation specified that one care instruction method be stated in terminology defined by the amendment. The amendment also required that manufacturers have a reasonable basis for instructions provided to consumers. The care label therefore becomes an implied warranty that the product will not be damaged by the care procedure. However this warranty becomes null and void if the consumer does not follow the care instructions provided. Unfortunately it is not unusual to find conflicting care instruction labels on items that macroscopically appear to be the same to consumers. An example is large-volume clothing items supplied by several different vendors. To professionals these labeling variations cast doubt on the existence of testing to establish a reasonable basis for the care instructions.

A laboratory analysis was designed to assess whether there was a reasonable basis for the care instructions for a current fashion item, i.e., untailored, 100% cotton, plain woven shorts. Specifically shorts produced by two different manufacturers and with different care labels were studied. The care instruction procedure and a series of alternative washing and drying procedures were compared with respect to shrinkage. The use of bleach with respect to yellowing was also considered. Of the care methods used, line drying produced the least amount of change in dimensions regardless of water temperature. However, line drying was not recommended by either manufacturer on the care instruction labels attached to the shorts. Bleaching with chlorine bleach or oxygen bleach did not cause yellowing, invalidating the "do not bleach" recommendation of one of the care instruction labels. These results cast doubt on the likelihood that there was a reasonable basis for the development of these care instructions.

With such labeling, consumers may experience considerable economic loss due to product failure. Consumer education alone will not prevent such economic loss. Consumer advocacy by home economists is also necessary. That advocacy can include involvement in the development and refinement of laws and trade rules that are attempts to help consumers function in an extremely complex textile product marketplace. But unless the Federal Trade Commission is notified of existing problems, such public policy evolution will not occur.
Etiquette Rules as an Approach to Understanding Social Behavior

Katherine Winslow,* University of Minnesota

Gloria M. Williams, University of Minnesota

Over time cultures develop systems of rules that, while varying in complexity, perform several functions. They are used (1) to establish familiarity with the context or situation encountered, (2) to enable prediction of expected behaviors based upon identification of the situation, (3) to enable individuals to align or identify themselves with a group or subgroup of the culture, and (4) to provide some measure of either social control or social order within the society which is essential to the long term maintenance of that society. These rules operate collectively to enable individuals or groups to satisfy human needs. They state, without explanation, the way that things are expected to be and the behavior that is to be followed. Rules acquire a degree of permanency when the originators of these prescriptions and the rationale for their existence have long since become separated. Rule systems that regulate day-to-day interaction are more implicit and may apply differentially to different members of the group, depending upon perceived status. They may be synonymously referred to as social norms, conventions, customs, standards, laws or institutions and may be either prescriptive or proscriptive in form. The legal system and constitution are rule sets, explicitly stated and enforced within our society. Rules of etiquette prescribe social behavioral expectations based upon specific situational parameters.

One of the more easily observable rules governed activities within a culture deals with the wearing of clothing for specific occasions. Within this category, the rules range from legal regulations to etiquette guidelines. Although the rules of dress may vary in explicitness and may be followed without conscious thought, they are brought to our attention through popular literature and research. Recently, there has been a proliferation of "how to" prescriptive books for dress. Popular magazines, such as Vogue and Glamour, provide rapid updates about acceptable attire for specific occasions. The quantity of research dealing with clothing in the workplace indicates the importance attached to this topic within our society.

Initially, books of etiquette were chosen as sources of data for this study on the basis of currency in terms of publication and their availability to the public in bookstores and libraries. Four of these were used - published since 1975. Like most books catering to clothing prescriptions, books of etiquette provide a construction of reality or a definition of the situation as a composite of cultural expectations. Based on Gregory Stone's work, three significant life events were chosen for analysis - baptism, marriage, and death. Each requires special clothing and as Stone has said, each life event signals a change in clothing.

The general purpose of this study was to examine written descriptions of these events in order to grasp the complexity of meaning constructed by each author. Analysis of the baptismal event - the task of this paper - entailed (1) a classification of the dimensions of the event, (2) a delineation of the sequence of events involved, (3) an examination of the dimensions of the ceremony, (4) clarification of the roles and positions of individuals and the articulation of these roles, (5) identification of the social practices and action-options of the participants including any processual aspects of the situation, (6) identification of the nature of social relations and interactions that occur, and (7) a description of the clothing and classification of its dimensions along with assessments of its symbolic significance.

A qualitative strategy was developed which incorporated strategies from content analysis and the analysis of social life and social settings. Once the categories were established, comparisons of events were possible within and across author descriptions.

Baptismal events were found to have religious, legal and social dimensions. In this sense, they may be considered as rites of passage, as a final step in assigning and recording the given name(s) of the individual, and as an extension of societal rules for establishing and maintaining social order, among other results.
Descamps' Structural Analysis of Fashion: An Introduction and Critique

Rachel K. Pannabecker

McPherson College, McPherson, KS 67460 and Kauffman Museum, North Newton, KS 67117

The purpose of this study was to examine and critique the structural analysis of fashion developed by a French social psychologist, Marc-Alain Descamps, of the Université René Descartes--Paris V (Descamps, 1979). Although available in print for over seven years by a major French academic publishing house, Descamps' work is virtually unknown in English-speaking North America. However, Descamps is familiar with and cites North American publications, both "classic" writers on fashion (e.g., Nystrom, 1928) and textiles and clothing researchers (e.g., Roach & Eicher, 1965). Therefore, an important objective of the presentation was to introduce the work of Descamps to the membership of ACPTC-CR as well as to critique it.

In his book, Descamps developed a five-level definition of la mode or fashion, constructed a structural model of fashion, and presented a study on fashion and clothing (including an evaluation of materials and a discussion of cultural influences) and a study of non-clothing fashion (commentary on clothing accessories, body adornment, and home furnishings, followed by a discussion of fads). Descamps' structural analysis of fashion was selected for evaluation because of its cohesiveness as a model and its contribution to existing fashion theory.

In Descamps' conceptualization, fashion is a complex psycho-social reality incorporating twelve "vectors". These vectors correspond to various societal domains, such as "politics" or "industry", or to social-psycho-social concepts, such as "change" or "norms". Oppositional forces operate on each vector. For example, "conservatism" and "revolutionary" are the opposite poles of the "politics" vector. A specific fashion is a result of the synergistic action of the vectors. Fashion is therefore an "over-determined" phenomenon that expresses at the same time individuality, society, the unconscious, as well as its own autonomous evolution.

The researcher critiqued Descamps' structural analysis according to four factors: (a) structure (simplicity and elegance of the model; structural coherence), (b) relationship to "classic" theories of fashion (completeness of the Descamps model to subsume psychological, social, and economic explanations of fashion), (c) relationship to the structural analysis of fashion developed by Barthes (1967), and (d) utility as a predictive model.

In summary, the critique revealed the Descamps structural analysis to be a unique contribution to fashion theory by integrating "classic" theories published in English, French, and German into a new structural model. While the analysis is applicable to non-clothing fashion, it does not have predictive value, and its ability to generate empirical research remains to be demonstrated. Furthermore, the twelve vectors should not be considered to be exclusive. Other vectors can be proposed from fashion research (e.g., a vector of "age" with oppositions of "elderly" and "youth" as suggested by the research findings of Behling, 1985).

References

CLOTHING ACQUISITION PRACTICES AMONG THE ELDERLY

Hazel O. Jackson, Department of Textiles and Clothing, The Ohio State University
1787 Neil Avenue, Columbus, OH 43210

Many research studies have been done on "problems" faced by the individual during the aging process. A large majority of these studies concern the changing needs of the elderly population. Another large part of the research focuses on the "problem of adjustment," i.e., the ability of the individual to find satisfaction in the new role of "senior." Very little research attention has been given to identifying the strengths of the elderly as individuals and certainly not to the combined strengths of the elderly. Too little is known about who they are, what they do, what they prefer, and how they manage in their daily lives.

The purpose of this case study was to identify support structures among the elderly. A leading objective was to present and analyze coping structures, networks and other support systems that are used by a small group of elderly people in an attempt to remain relatively independent and self-sufficient for as long as possible.

The social support system of the aging may be described as a mixture of various individuals, institutions and societal services. These groups have their own unique role and relative importance at various phases in the aging process (CANTOR, 1980).

Respondents, relatively healthy and active, were individuals between the ages of 72 and 86 years. Sixteen networking clusters were identified. A total of ninety-seven individuals of different age, gender and relative/friend assortments were involved in the study.

The interview schedule included items regarding the people with whom the elderly share concerns and spend most of their time. The schedule also asked the respondent to identify those areas of daily living in which they needed assistance. They were also asked to identify the person (helper) called on to provide the assistance.

Descriptive statistics were used to analyze the data. Frequency summations and photographs were used to present the data.

Of the six (6) items presented to determine how the elderly get their clothing, five (5) were claimed by a substantial number as "need help" areas. A few of the males reported seeking help with "transportation to shop for clothing." Many of the elderly acquire clothing through gifts from family members and friends. Seventy-one percent (71%) of the males and about fifty-seven (57%) of the females use a "clothing shopping companion." Eighty-five (85%) of the females and almost forty-three (43%) of the males use family members and a few close friends as their "personal clothing-shopping service." These respondents do not require or appear to use a mail order system for acquiring clothing.

An analysis of "clothing acquisition helpers" shows that daughters serve most as helpers. The daughter/helper is middle age and helps as often as the wife in the case of the couples. Other relatives, male and female as well as friends also assist the elderly. In most instances, the person called on to provide assistance is a spouse, a daughter, or close relative. In no instance did elderly individuals, male or female, admit taking control of the active aspects of clothing acquisition. Perhaps they cannot.

Professionals need to learn more about the heterogeneity of this increasingly expanding old, older and oldest age group. Those who train professionals who work with the elderly need to become more knowledgeable of this group and their needs. Those professionals and trainers of professionals in textiles and clothing need to design classes, workshops, programs and curriculums which have a strong focus on developing student skills in working with a cluster of lifestyles and clothing interests/need areas.

Breast cancer treatments can create body image disturbance. It is known that this disease can induce loss of confidence about sexual attractiveness and apprehension about intimate relations. As self-esteem is complex, being able to feel positive about some aspects of the self lessens the overall impact of the disease. Women use a variety of mechanisms to compensate for loss of body image; these behaviors can be constructive by facilitating psychological adaptation to the disease and its treatments.

The purpose of this research was to examine the potential relationships between self-esteem, appearance attitudes and clothing concerns. A questionnaire was drafted incorporating a broad range of concerns: medical treatments, social support, self-esteem, attitudes toward a mastectomy, need for information, knowledge level about issues related to a mastectomy and priorities of these issues. Two thousand women who had received a Reach to Recovery visit in the past 24 months were identified for a state-wide survey. The return rate was 53% (933), eliminating questionnaires returned due to insufficient address or death.

Measurement of women's self-esteem, appearance attitudes and clothing concerns was accomplished in the following manner. The Rosenberg Self-Esteem Scale (1965) was selected for a global measure, good reliability, ease of comprehension and conciseness. The Mastectomy Attitude Scale, developed and refined by Heyl (1979), contained appropriate variables and was adapted for this study. Clothing and prosthesis use was one of six concerns identified by post-mastectomy patients and medical professionals. Degree of knowledge was measured by an assessment of the six areas of concern. Clothing items focused on application of design principles to compensate for possible uneven bustline, fit and adjustment of bra and prosthesis. The ranking of the six areas of concern was used to indicate women's priorities.

Data were analyzed using measures of central tendency, factor analysis, chi-square, analysis of variance and regression. Women perceived clothing and prosthesis problems (M=3.32) more important than social support and sexuality concerns (M=3.08, 2.83) but less than cancer information, hygiene and exercise, and nutrition and weight control (M=4.36, 3.75, 3.71).

Factor analysis of Heyl's Mastectomy Attitude Scale resulted in seven factors, which accounted for 53.12% of the variance. Factor three was labeled appearance and contained six variables. Appearance was highly related to self-esteem (r=.393, p<.0001) but not to clothing concerns (r=.045, p<.258). There was a trend in relationship between self-esteem and clothing concerns (r=.07, p<.07).

This research indicates post-mastectomy women have concerns about their clothing and prostheses. These findings indicate women's appearance does influence how they feel about themselves. Further research is proposed to understand and explain these relationships.

References


EFFECTS OF BEING LABELED UNFASHIONABLE ON TASK PERFORMANCE

Jane E. Workman
North Texas State University, Denton, Texas 76203

Results of studies examining the effects of self-esteem on performance are inconclusive. Since self-esteem and performance are dependent on situational factors that may override prior history of success (Langer & Benevento, 1978), two outcomes are possible with evidence to support each. The inferior status implied by a negative label such as "unfashionable" may lower self-esteem 1) leading to decreased persistence on a task due to negative expectations and resulting in substandard performance (Aronson & Carlsmith, 1962) or 2) leading to increased persistence on a task in an attempt to bolster self-esteem and resulting in improved performance (Gurwitz & Topol, 1978). The purpose of this study was to examine the effects of being labeled "unfashionable" on performance of a subsequent task.

Sixty-two undergraduate female volunteers participated in the 3-phase experiment. During Phase 1, subjects working independently circled clothing words hidden in a matrix of letters. This task had been pretested and a level of performance set to insure success for everyone attempting it. During Phase 2, subjects worked in pairs with one subject choosing randomly a "fashionable" or "unfashionable" label. The second subject was assigned the other label. Control group pairs received no labels. For 50% of the pairs, the "unfashionable" subject chose clothing appropriate for a list of situations while the "fashionable" subject recorded the selections. For the remaining 50% of the pairs, the "unfashionable" subject recorded selections chosen by the "fashionable" subject. Thus there were four groups: fashionable/decision maker; fashionable/recorder; fashionable/decision maker; and fashionable/recorder. During Phase 3, subjects worked independently on another word search task equal in difficulty to the first. It was predicted that subjects labeled "unfashionable" would show a significant difference in their scores on the Phase 3 task when compared with the control group.

The major dependent variable was the number of words correctly circled on the word search tasks. As expected, ANOVA indicated the groups performed equally well in Phase 1 (M=4.66). During Phase 3, complete the task was used as a measure of difficulty in making decisions; ANOVA revealed no significant difference between the groups. On the Phase 3 task, ANOVA indicated a significant difference due to label (F=3.77, p<.03). Consistent with Gurwitz & Topol (1978) the "unfashionable" group showed a significant improvement (M=5.14; M=7.33) while the control group did not (M=4.18; M=5.20). Analysis of cell means indicated that the "unfashionable/decision maker" group scored highest on the Phase 3 task (M=9.13). Duncan's multiple range test showed this to differ significantly from the "unfashionable/recorder" group (M=6.23). This is congruent with the findings of Rodin & Langer (1977) who found that providing opportunities to make decisions had the effect of rendering their subjects more competent.

This study has implications for those working with groups such as children, the elderly, and the hospitalized who may feel a lack of control because parents, administrators, nurses and others make decisions for them. Giving an individual an opportunity to make decisions about clothing could lead to a greater sense of control over life.


In a considerable volume of research in the field of textiles and clothing, stimuli are presented to subjects for the purpose of gaining insight into the nature of interpersonal judgments made and interpersonal behaviors which result from nonverbal messages transmitted by dress. Some researchers routinely use college students as subjects. Others, arguing for external validity, assume that students are a unique segment of society and, thus, espouse the use of other samples of subjects to gain greater generalizability. Do college students indeed make judgments on the basis of dress cues different than the judgments made by non-students? No research has been found which documents whether perceptual differences using dress cues exists between a college student population and the greater society. The purpose of this research was to compare differences in the perceptions of others on the basis of dress cues made by college students with those made by non-students. This research, thereby, makes a methodological contribution to the field of textiles and clothing by strengthening the internal and external validity of its research. A face-to-face interview was conducted on a sample of 97 women in a small mid-western university community. Subjects were obtained at the conclusion of a telephone interview of randomly selected women, 18 years of age or older; the response rate for the telephone interview was 77% of those sampled. Stimuli consisted of 20 sketches of a standard female figure, wearing different forms of dress. All aspects of appearance, other than the dress, were controlled. The forms of dress were identified on the basis of observations conducted both on campus and at the largest shopping mall in the community. Measures consisted of 11-point rating scales of 15 personal characteristics. The characteristics were chosen as a result of a content analysis of text accompanying advertisements in magazines and newspapers; personal characteristics which were used as descriptors of the wearer of the advertised apparel were considered in the analysis. The publications studied were the most recent issues of those sources identified as read most often by a randomly selected sample from the same population as the subjects in the present study. Subjects were shown each of the 20 sketches and asked to indicate their judgments regarding the personal characteristics of the probable wearer of each stimulus dress. For analytic purposes, the subjects were separated into two independent groups: a student group \( (n = 26) \) and a non-student group \( (n = 71) \). T-tests were calculated to compare the two groups on the basis of their judgments of each characteristic for each stimulus \( (15 \text{ characteristics } \times 20 \text{ stimuli } = 300 \text{ pairs of means}) \). Of the 300 pairs of means, only 30 (10%) were found to be significantly different. No personal characteristic yielded ratings that were consistently different for the two groups. Four of the 15 characteristics yielded similar ratings; the remaining 11 were judged significantly different by the two groups for no more than four sketches of dress. In fact, only one characteristic, beautiful, yielded significant differences for four sketches; the rest yielded different judgments for three or fewer stimuli. These findings suggest that although some perceptual differences exist between college students and non-students, the differences are not great. Students appear to be relatively similar to non-students. Perhaps judgments, opinions, attitudes, and such are relatively crystallized by the average college age \((18-21)\). Future researchers who study dress as a perceptual cue need to approach sample selection with caution. Although external validity might be enhanced by using non-students, the increased validity might not be worth the extra expense and time. Students might, nonetheless, validly be used as subjects in such studies. As with most experimental studies which deal with human subjects, external validity might be achieved through replication using a variety of samples of subjects.
Role of fashion opinion leaders as change agents is widely accepted in the areas of marketing and textiles and clothing. Fashion leaders are believed to be responsible in advancing or receding of the fashion process. Majority of the prior work in this area examined the relationship of fashion leadership with selected socio-psychological variables. However, none of the published research studies studied the predictors of fashion opinion leadership from a global perspective. The present study investigated the correlates of fashion leadership among university students.

Adoption and diffusion of innovations provided the theoretical framework for the present research. Rogers and Cartano's (1962) opinion leadership measure was adapted for fashion research, and the leadership category was determined utilizing Chowdhary's (1984) strategy. The sample was randomly selected from the residence hall directory of students. The survey was conducted using the total design approach of Dillman (1978). Of the 750 mailed questionnaires, 375 (50%) were returned and a usable sample of 363 (48%) was obtained. Cronbach's alpha was computed to test the reliability of measures. Discriminant analysis was executed to test leadership classification. Multiple regression was employed to ascertain the variance explained by the selected variables, and descriptive statistics were used to describe the sample.

The sample was comprised of 38% males and 61% females. The majority of the sample was white with an age range of 17 to 26 years. Major activity involvement of respondents included visiting friends and relatives, shopping, travel, sports, and club meetings. The findings yielded acceptable range of reliability coefficients for fashion opinion leadership measure (0.83), self-esteem (0.88), media exposure (0.93) and fashionability (0.52) measures. Discriminant analysis revealed that 84% cases were classified correctly for two leadership categories. The results from multiple regression analysis unveiled that the selected variables explained 62.2% of the total variance. Age perception, participation in sports, attendance in sorority and club meetings, major, fashionability and self-esteem were the main contributors to the model.

The findings have implications for those involved in understanding, explaining, and predicting fashion process. Results also yield useful information for the marketers and retailers interested in promoting fashion merchandise.

References


The Influence of "Crafted With Pride in U.S.A." Campaign and Consumers' Demographics on Purchasing Imported Apparel

Nancy L. Cassill University of North Carolina-Greensboro Greensboro, North Carolina 27412
Patricia Huddleston Michigan State University East Lansing, Michigan 48823

In recent years the United States apparel industry has been severely impacted by the import and subsequent sale of billions of dollars of foreign-made apparel products. The "Crafted With Pride in U.S.A." media campaign, a joint effort of both the textile and apparel industries, is designed to promote apparel products made in the United States.

Today's average U.S. consumer is increasing in age, affluence, educational attainment and mobility, reflecting basic demographic changes in society. Retailers are aware that today's operating environment is different from that of a decade ago due in part to these ever changing demographics. Merchandisers need to ascertain how the "Crafted With Pride in U.S.A." campaign as well as these demographic changes are reflected in consumer purchasing patterns.

The purpose of the research was to investigate the influence of the "Crafted With Pride in U.S.A." campaign and female consumers' demographics on purchasing imported apparel. Variables chosen for examination were: familiarity with "Crafted With Pride in U.S.A." campaign, consumers' age, annual apparel expenditures, educational level and urbanization, and evaluation of imported apparel. These criteria included fashionability, overall appearance, and quality of construction.

The survey research method was used and a commercial mailing list composed of a large cross-national population was purchased. A random sample of one thousand female consumers ages 25-44 was drawn April, 1986, resulting in 383 usable questionnaires (43% return rate).

Use of the General Linear Model (GLM) with Analysis of Variance (ANOVA) resulted in significant relationships between the familiarity with the campaign and demographic variables and the twelve imported apparel evaluative criteria variables. Type III Sums of Squares were employed to determine significance. Lease Square Means were used to plot significant relationships.

Significant differences were found between the levels of the demographic variables and the imported apparel evaluative criteria. Female consumers who were very familiar with the "Crafted With Pride" campaign were more likely to notice country of origin labels, purchase American apparel products, and indicate the inferior quality of imported apparel. As annual apparel expenditures increased, women were more likely to feel that imported apparel was fashionable and offered distinctive styling with the overall appearance of imported apparel very acceptable. As education increased, consumers were more likely to notice country of origin labels. Urban women found the quality of construction and the sizing of imported apparel very acceptable, while rural women were more likely to purchase American products and notice country of origin labels.

The demographic profile provided a clearer and more complete picture of the female consumer to assist retailers in targeting products and promotions. This profile facilitates market segmentation, thereby enabling them to better meet the needs of their target market. These results will also benefit textile and apparel producers in promoting domestic products and marketing specialists in planning product promotion strategies by providing a profile of female consumers who respond favorably to the "Crafted With Pride" message. Further promotion strategies can then be developed using this profile.
Textile Handcrafts: Meanings for Tourist Consumers

Mary Littrell and Marlena Beavers
Iowa State University, Ames, Iowa 50011

Throughout the world, artisans must develop tourist and export markets if their crafts are to survive. In the tourist market, craftpersons from one cultural tradition produce crafts which they hope will appeal to consumers of another cultural tradition. The purpose of this research was to broaden knowledge about tourist consumers of textile crafts through analysis of "special" or "meaningful" textiles acquired during international travel. Csikszentmihalyi and Rochberg-Halton (1981) proposed that cherished artifacts provide a continuum of opportunities for owners to symbolically relate to their environments. Objects such as trophies or sports equipment can symbolize a person's differentiation from others through emphasis on skills and experiences unique to the owner. Other objects such as family photographs or heirloom quilts can symbolically integrate the owner with others through memories of events or persons associated with the object. Specific questions addressed in the exploratory research included: 1) Do "special" textile crafts hold meaning that symbolizes the owners' differentiation from or integration with their environments; 2) Does meaning vary with the type of "special" textile craft?, and 3) Can consumers be classified based on meanings of "special" textile crafts?

Ninety-eight participants met criteria of being frequent international travelers and regular purchasers of textile handcrafts when traveling. Participants responded to the questions: "From all of your travels, what handcrafted textile or clothing item(s) have you purchased that is most 'special' or 'meaningful' to you?" and "Why is the textile craft 'special' to you; what meaning does the textile hold?"

Data were analyzed with a content analysis system developed to fit the unique context of the data. Interrater reliability was .89. Content categories were submitted to chi-square analysis for examination of textile type with use of content categories. Hierarchical cluster analysis (SAS clustering procedures) was performed for identification of consumer groups with similar use of content categories.

Five major categories and eighteen subcategories of meaning were identified from the tourist consumers' descriptions. Meaning in Category I, Use of Textile and Category II, Shopping Experiences with Textiles symbolized the tourist consumers' individuality or differentiation from others. Meaning was related to the textile's longevity of ownership and suitability for personal use, or to a unique or challenging interaction with a craftperson or seller at the time of purchase. Meaning in Category III, Associations with Place/Culture and Category IV, Recollections of a Place/Culture symbolized individuals' ties and integration with important events or people in their past. Textiles were valued because they were typical of the textile traditions or culture of a place or because the textiles evoked memories of the travel experience. Content in Category V, Intrinsic Qualities of Textiles did not seem related to Csikszentmihalyi and Rochberg-Halton's continuum of meaning. The category included meaning attached to the craft due to its beauty, workmanship, age, or investment value. Consumers' use of content categories for describing their "special" textiles varied by four types of textiles: wall hangings, rugs, apparel, and other household textiles. Clusters of consumers emerged based on themes highlighted in combinations of Categories II, III, IV, and V.

The findings have implications for craftpersons who want to attract tourist consumers. Products and marketing strategies that contribute to feelings of unique ownership, ties with the foreign culture, and memorable shopping experiences for the tourist consumer are recommended.

The United States textile and apparel industry is suffering from increasing imports from developing countries, especially Korea, Hong Kong, and Taiwan. Moreover, the European Community and Japan have imposed a more restrictive policy on imports from developing countries so that the U.S. has been additionally burdened by imports. Korea is one of the largest textile and apparel exporting countries to the U.S. In 1986 shipments from South Korea were up 9.8 percent from 1985. The Korean textile and apparel industry has consistently led the process of industrialization and economic growth in Korea. Recently, however, increasing protectionism in developed countries has limited the quantity of imports from Korea. In addition, increasing world competition by China and Southeast Asian countries with low-wage labor is also threatening Korea's textile and apparel industry.

The U.S. is Korea's major trading partner for textile and apparel products; however, the two countries face different problems and socio-economic conditions. The major purpose of this study is to use an ecological systems theory approach to compare differences between textile and apparel manufacturers in the U.S. and Korea on perceptions of major industry opportunities, problems, business practices, and opinions. In order to investigate these differences, a questionnaire was mailed to presidents of textile and apparel manufacturing firms throughout the United States. Standard Industrial Codes 22 (textile mill products) and 23 (apparel and other textile products) were used to distinguish the two industry groups. Approximately 3 percent of all manufacturing firms listed under these codes in the Colt Microfiche Library of State Directories were randomly sampled for inclusion in the study. One hundred sixty-seven questionnaires were returned yielding a response rate of 33 percent. A Korean version of the questionnaire was mailed to 356 presidents of textile and apparel manufacturing firms randomly selected from the 1985 Korean Textile Yearbook. The response rate for the Korean version of the questionnaire was 32 percent.

Manufacturers' business practices and opinions were measured by using a series of Likert-type scales in which respondents were asked to indicate their degree of agreement or disagreement on a 10-point scale. In addition, the manufacturers were asked to rank order according to importance a list of major opportunities and problems confronting their companies within the next five to ten years. T-tests were used to compare differences between Korean and U.S. textile and apparel manufacturers on perceptions of major industry opportunities, problems, business practices, and opinions.

Results of the t-tests revealed that U.S. manufacturers were significantly more likely than Korean manufacturers to agree that they are placing more emphasis on marketing and advertising, and are doing more offshore production. Korean manufacturers were more likely to agree that they are placing additional emphasis on product quality and productivity. Korean manufacturers were significantly more likely to view technology, expanded growth in foreign markets, and improved product quality as posing major opportunities for future growth. U.S. manufacturers were significantly more likely to view expanded growth in domestic markets and improved flexibility in production as major opportunities for future growth. These findings can be interpreted from an ecological systems theory which indicates that the Korean textile and apparel subsystem may be more of a closed subsystem than the U.S. textile and apparel industry. The two subsystems also vary in relationship to their inputs, outputs, and interactions. These findings have implications for an understanding and analysis of the international trade situation.
As multi-faceted beings, individuals have numerous talents and abilities which they utilize in their roles as consumers. For merchandisers examination of the interaction between the talents possessed by consumers and the promotions targeted to them is important. This study sought to evaluate whether the advertisements of a retail department store interacted with multiple consumer talents or whether they focused primarily on academic modes of information processing.

While examining intelligence tests, L.L. Thurstone was one of the first to gain scientific insight into the multiple talents which can be used for thought. He identified over twenty talents. Guilford later developed in his "Structure of Intellect" model a periodic table of the mind suggesting 120 talents. Calvin W. Taylor (1986) classified these talents into nine categories: academic, productive thinking, communicating, forecasting, decision making, planning, implementing, human relations, and discerning. Each of these processes provide appropriate opportunities or arenas for study of consumer behavior.

Taylor's theory provided the framework for this study. The research design was content analysis. Advertisements of a large retail department store chain were utilized. A sample of ads published in a Houston metropolitan newspaper during a one month period were selected. Sixty ads were evaluated by a seven member research panel. Additionally a ten percent sample or six of the sixty ads were randomly selected for evaluation by 34 senior level university students with training in retail promotion.

Each research team, the seven member panel and the 34 seniors utilized a short questionnaire which was developed by the panel and pretested using a one week series of ads published by a competing department store chain.

In addition to brief demographic information the questionnaire asked the evaluators to view each ad independently and respond to questions designed to preliminarily measure the ad’s potential for interaction with each of the talent areas proposed by Taylor.

The Composite means for the responses from each of the two evaluation teams illustrated a pattern of talent interaction. Ranked mean scores of the data generated by the responses of the seven member research panel to the 60 ads published during the month showed planning to be the most utilized talent followed in order by academic, discerning, decision making, productive thinking, implementing, forecasting, and human relations abilities. Nearly identical were the means produced through analysis of the subsample by the 34 senior retail promotion students. For those six ads planning was utilized most followed by academic, discerning, decision making, forecasting, productive thinking, implementing, and human relations talents. Only the position of forecasting differed in the two rankings.

The findings suggest that although the selected ads did have the potential to interact with several of a consumer's multiple talents opportunity remains for retailers to develop appeals capable of interacting with the full range of consumers' multiple talents.

Managerial turnover in any industry causes concern among the company principals as well as among workers. Retailing suffers from high turnover levels, but no studies have examined reasons for turnover of retail managers, specifically buyers. Several studies of turnover alluded to a possible relationship between leadership style and turnover.

The purpose of the study was to determine whether buyers' perceptions of their personal leadership styles had any relationship to the buyer's stated intent to leave the organization. Intent to leave was found to be positively related to turnover in previous research. In a study of retail employees turnover was highest among young employees.

Specific null hypotheses tested were: 1) buyer intent to leave is not related to self-perception of leadership style orientation, and 2) buyer intent to leave is not related to age or sex of the buyer.

The previously tested and validated Leader Behavior Description Questionnaire (LBDQ) was used to determine leadership style orientation. The LBDQ focuses on two fundamental dimensions of leader behavior: initiating structure and consideration. Initiating structure was believed to reflect a characteristic attitude about profit-consciousness in retailing. Consideration reflects a more behavioral approach that may be used by retail buyers.

Intent to leave was measured on a previously developed scale. After pretesting in one store, the entire instrument in booklet form was sent to 105 retail buyers in two major department stores. Of seven major department stores that interviewed on campus Spring 1986 three were currently involved in another departmental research project, two others declined participation and two agreed to participate. After two contacts the response rate was 60 percent. Fifty-five usable questionnaires were analyzed.

The mean score for initiating structure was 46.1 and for consideration skills was 43.8 out of a maximum of 60, indicating a high degree of self-perception on each trait. Intent to leave scores ranged from 4 to 20 with a score of 12 representing uncertainty as to intent to leave.

Pearson product-moment correlation analysis indicated no significant correlation between either buyer initiating structure or consideration skills and buyer intent to leave. Analysis of variance between age group and intent to leave only approached significance (p=.08). A t-test analysis indicated no significant difference between males and females with regard to intent to leave. Thus none of the null hypotheses tested could be rejected. Females rated themselves higher in consideration skills than did males. Initiating structures positively correlated with how long the buyer had worked for the company.

Retail recruiters want to select people who will be committed to the organization and who can work well with others to accomplish store goals. The research indicated that an individual's self-perception of his/her own leadership style had no bearing by itself on intent to leave the company. Though personal leadership style had no effect on buyer intent to leave, additional research has begun to examine the similarity between a buyer's personal leadership style and the leadership style of his/her Divisional Merchandise Manager. This relationship may have some bearing on a buyer's intent to leave.
AN ANALYSIS OF LABORATORY ABRASION ON LIMITED USE GARMENT FABRICS

Sherri Martin-Scott, Nancy Kerr, Helena Perkins
University of Alberta, Edmonton, Alberta

Recently, researchers have become interested in disposable or limited-use coveralls for agricultural workers when working with pesticides. These garments are: 1) lighter in weight, and hence more comfortable and functional than traditional impermeable protective clothing; 2) they exhibit a high degree of resistance to chemical penetration; 3) they are economically priced; 4) they do not require decontamination after use; and 5) they provide an extra layer of protection. However, the durability of these garments must be examined before knowledgeable recommendations can be made about their use.

This study was conducted to establish realistic levels of abrasion for laboratory testing of pesticide penetration through limited-use coverall fabrics. Kimberly Clark's Kleenguard\textsuperscript{1} Extra Protection (EP) coveralls, which had worn for an average of 12 hours in a field trial, were examined for abrasion and visually rated according to a five point scale which ranged from 5 (no abrasion) to 1 (very severe abrasion). Specimens were abraded on two abrasion testers: 1. the Brush Pilling Tester (2, 3, 4, 6 minutes of brushing time); and 2. the Taber Abraser (100 and 300 cycles, CS-10 wheel, 250 g load) and then compared to the field trial specimens. The laboratory abrasion was evaluated through residual tensile strength tests and visual observations of scanning electron microscope (SEM) photos. Laboratory abrasion was tested on two coverall fabrics: Kleenguard (EP) and Saranex\textsuperscript{2}. Both Kleenguard EP and Tyvek are 100% spunbonded olefin fabrics and both coveralls are recommended by the manufacturer for use with liquid pesticides. Statistical analysis was conducted using one-way ANOVA and Duncan’s Multiple Range tests. In all cases, indication of significance was set at 5% probability.

In terms of residual tensile strength, the abrasion produced on the Brush Pilling Tester closely resembled the range of abrasive damage found on the garments worn during the field trial. The mean tensile strength for Kleenguard EP specimens abraded 100 and 300 cycles on the Taber Abraser was significantly different from all field trial specimens except for those at level 1 (very severe abrasion). In SEM photos, damage to the fabric structure and fiber surface was similar in field trial and Brush Pilling Tester specimens. In contrast, the Taber Abraser twisted fibers into “ropes” and produced severe damage, pulling out microfine meltblown fibers from the inner layer of the Kleenguard EP fabric structure; effects not observed in any other situation. There was no significant difference in tensile strength of Saranex specimens abraded 0, 100 and 300 cycles on the Taber Abraser. In the SEM photos of abraded Saranex, the coating had begun to wear away.

Kleenguard EP, the abrasion produced on the Brush Pilling Tester was more similar both in terms of tensile strength and visual appearance to that observed on coveralls worn approximately one day in a field trial than the abrasion produced by the Taber Abraser. The Brush Pilling Tester is better suited than the Taber Abraser to simulate field trial abrasion on Kleenguard EP fabrics prior to pesticide penetration studies. Saranex coated Tyvek was not significantly abraded by either instrument.

\textsuperscript{1}trademark of Kimberly Clark
\textsuperscript{2}trademark of The Dow Chemical Co.
\textsuperscript{3}trademark of E. I. Du Pont de Nemours & Co.
This research examined the trends in teaching ready-to-wear product knowledge to fashion merchandising students. The findings of this study are valuable in providing direction to clothing professionals considering curriculum alternatives.

The objectives of this research included: (1) identification of trends in college teaching of ready-to-wear product knowledge to fashion merchandising students; and (2) exploration of attitudes regarding apparel analysis versus clothing construction.

For the purposes of this study, apparel analysis was defined as a course which concentrates on quality/cost components of ready-to-wear through a lecture format. Clothing construction was defined as a course which stresses quality garment construction through a lecture/lab format.

A survey questionnaire was mailed to all U.S. members of ACPTC (524). A final response rate of approximately 56% was achieved. Of those responding, 33% currently taught a clothing construction course, 12% currently taught an apparel analysis course and 13% currently taught both.

Approximately one-fourth (26%) of the respondents reported that the curriculum had changed in their department during the past five years to eliminate traditional clothing construction course requirements and substitute an apparel analysis course. An additional 30% reported that similar curriculum changes were under consideration.

Most of the respondents (64%) felt that apparel analysis was a better course for teaching product knowledge to fashion merchandising students than clothing construction. Respondents perceived that an apparel analysis course would also be viewed as the better course by other departmental faculty members, departmental and university administration, fashion merchandising students and their parents.

When expressing their attitudes about apparel analysis versus clothing construction, respondents felt that quality textbooks, adequate references, and teaching samples/examples were more readily available for clothing construction courses than for apparel analysis courses. An apparel analysis course, however, was selected as a more efficient course making better use of instructor time, as a better way to teach ready-to-wear evaluative skills, and as better in giving fashion merchandising students the ability to apply such knowledge in professional situations.

The research findings contain implications for the improved teaching of both types of courses. Clothing construction should incorporate more opportunities for students to learn ready-to-wear evaluative skills and apply that knowledge to professional situations. Apparel analysis, as an emerging area of study, has a clear need for quality textbooks, adequate references and teaching samples/examples.

The results of this survey indicate that there is definitely a strong trend toward apparel analysis courses and away from clothing construction courses in college fashion merchandising curricula. Further research is needed to investigate the effect of this trend on students' ability to evaluate ready-to-wear quality.
LEARNER CHARACTERISTICS OF STUDENTS IN A SELF-INSTRUCTIONAL COURSE OF BASIC CLOTHING CONSTRUCTION

Marian Lichterweiner, University of Wisconsin-Madison

Francesca Heisey, University of Wisconsin-Madison

Self-instructional programs have been advocated as a way to accommodate the wide range of skills of students in basic clothing construction courses at the post-secondary level (Reich, 1971; Brandi, 1978; Taylor, 1981). While such programs have been found to be as effective as lecture-demonstration in terms of the satisfaction, comprehension, and skill acquisition of the majority of students, a number of students appear unable to work independently and consequently become frustrated by their inability to understand and perform the techniques.

The purpose of this research was to examine selected learner characteristics of students in a self-instructional basic clothing construction course at the post-secondary level in an attempt to identify characteristics that might explain why some students can work independently while others cannot. Theory suggests that the learning event is affected by a number of characteristics particular to each individual learner (Gagne, 1970). The learner characteristics of interest in this study were spatial abilities (spatial visualization and orientation), locus of control, motivation, and experience.

The sample consisted of 60 college students enrolled in a self-instructional basic clothing construction course. The subjects were given a battery of tests to assess spatial abilities. Data on locus of control and motivation were collected by instruments. Data on experience were collected by student self-report. Ability to work independently was assessed by observation and was operationalized in terms of expected learning behaviors. A student who worked independently (1) used instructional materials (textbooks, displays, pattern directions) to replace lecture-demonstration and to aid in problem solving and (2) sought to learn new techniques and improve existing skills.

Throughout two semesters the researcher acted as a participant-observer noting each subject's learning behaviors in a journal. Based on this information it was found that subjects could be divided into three groups: (1) those who consistently failed to display the expected learning behavior (dependents); (2) those who, during the semester, made a transition from not displaying to displaying the expected learning behaviors (transition); and (3) those who consistently displayed the expected learning behaviors (independents). Data were analyzed using logistic regression for ordered categorical data. The product of spatial visualization and orientation was the only variable included in the model. Variables were included in the model if they were significant at the \( \alpha = .05 \) level.

The findings seem to indicate the advisability of pre-testing students for spatial ability as a means of identifying those that might be expected to encounter difficulty in a self-paced clothing construction course. Intervention in the form of tutoring or an attempt to train spatial abilities might be considered.

References


Research investigating the effect of clothing stimuli on perceivers' responses to wearer's attributes has increased in recent years. The role of clothing in impression formation has been examined in a number of studies which utilized photographs or line drawings of clothed figures as the stimuli for subjects' response. However, these studies presented subjects with only a small portion of the cues inherent in real life encounters.

The advantage of using drawings or photographs is that it is possible to do highly controlled experiments in which the effects of particular visual cues can be studied. However, a disadvantage is that the stimuli in question may not have the same effect in real life conditions where more information is available. Past research employing photographs and/or drawings has neglected to examine the impact of additional cues that would be available in a more realistic situation. This study examines the manner in which clothing cues combine with other physical appearance and nonverbal cues to influence perception. It is hypothesized that the impact of clothing cues will diminish as the number of additional appearance cues increase.

Two hundred twenty students were randomly assigned to one of 12 experimental treatments (four costumes by three methods of presentation). Each subject viewed either a black and white drawing, a color photograph, or a color videotape of a female applicant interviewing for a management position and rated that applicant on 14 management characteristics using a five point Likert scale. Each applicant was exposed to only one costume and one method of presentation. Length of exposure was held constant at 30 seconds for each method of presentation. Analysis of variance and a LSD Multiple Comparison were used to estimate the effect of method of presentation on subjects' perception of management characteristics.

Findings showed that method of presentation was significant at the .01 level and supported the hypothesis that the impact of clothing cues will diminish as the total number of cues are increased. The effect of clothing cues on the perception of management characteristics was greatest when subjects viewed drawings of the costumes (fewest number of cues presented) and least when subjects viewed the videotapes (greatest number of cues presented). LSD Multiple Comparison showed that the videotaped presentation was significantly different from the other two methods of presentation (black and white drawings and color photographs) at the .05 alpha level.

A great deal of research on clothing and person perception has made use of brief exposure to static photographs or drawings. The findings of the present study suggest that much of this research may overestimate the effect of clothing cues on perception of the wearer. Future investigations examining the effect of clothing on person perception need to be sensitive to the mediating effects of additional cues which are present in actual encounters. Research designs which include numerous physical appearance cues (such as videotapes or actual observations of the stimulus person) will be useful in predicting the effect of clothing cues on perception in real life situations.
Clothing Judgments as Inferred from a Person's Physical Attributes

Sharron Lennon, Indiana University

Jane Larkin and Ruth Clayton, Utah State University

Much research on the role of clothing in human behavior reveals that an individual's clothing affects judgments of the individual's personal attributes. This research sought to examine how an individual's attributes might affect judgments of the clothing worn. Implicit personality theory (Schneider, 1973), the idea that perceivers infer relationships among the attributes of an individual, can be used to explain why people are willing to assign personal attributes based on physical cues. According to the theory, individuals tend to form mental constructs of expected behavior traits based upon observations of the correspondence between physical and expressive attributes of others. Two attributes of people which are immediately apparent in first encounter situations are age and body type or size. The idea that fat people are jolly or that age denotes wisdom and competence are examples of inferred relationships between physical and expressive attributes of others.

The purpose of this research was to determine whether or not the physical attributes of a person might affect judgments of the person's clothing. For this investigation the physical attributes studied were age and body type (size of the model). 

Subjects were 207 businessmen and businesswomen, each of whom volunteered to participate at monthly professional meetings. The participants viewed and responded to 6 black and white photos of females, 3 wearing suits and 3 wearing dresses. Respondents were asked to judge the degree of professionalism conveyed by each ensemble by responding to 6 seven-point unipolar adjective trait scales which were then summed. The experimental design was a 3(Age of model) by 3(Body type of model) by 3(Garment fashion detail) incomplete randomized block design. Four separate analyses were performed using analysis of variance. Dresses and suits were analyzed separately as were businessmen and businesswomen. There were main effects for body type for both suits and dresses for each group. For neither group did age of model affect judgments of a suit's professionalism. There was a main effect for age when businessmen judged women in dresses, although no corresponding effect was found for businesswomen. These age and body type effects indicate that, indeed, a person's physical attributes do affect judgments of the wearer's clothing. Planned post hoc analyses revealed that (1) for both groups suits were judged more professional than dresses, (2) overall, businesswomen judged suits as more professional and dresses as less professional than businessmen, and (3) although both groups of subjects judged suits as equally professional when worn by all age groups, businessmen, but not businesswomen, judged dresses as more professional when worn by the models in the oldest age group.

Implications of the research include (1) when being judged by businesspersons as in job interviews, suits convey more professionalism, (2) as compared to young women, older women have more leeway regarding wearing dresses while still conveying a professional image, and (3) most importantly, the physical attributes of an individual are used by others when making judgments regarding the individual's attire and thus implicit personality theory offers a means of explaining and predicting some clothing research.

Impressions of Personality Based on Body Forms:

A Test of Hillestad's Model

Kim K.P. Johnson and Jane E. Workman

North Texas State University, Denton, Texas 76203

Hillestad (1980) proposed that characteristics which constitute appearance consist of two major sources: those associated with dress and those associated with the body. Past research has demonstrated that dress communicates information about individuals. The purpose of this research was to investigate whether impressions of personality varied by size and shape of male and female body forms.

Three hundred eighty-five male and female undergraduates served as subjects. Each subject received a questionnaire with a line drawing attached. Each drawing was either a male or female previously rated by judges as representing an ectomorphic (thin), ecto-mesomorphic (thin/muscular), mesomorphic (muscular), endo-mesomorphic (heavy/muscular) or endomorphic (heavy) body form. Each subject rated one body form on 22 characteristics. Ratings were scored on 5-point scales representing a high to low response, e.g. happy-not happy. Data were subjected to factor analysis, analyses of variance, and the Newman-Keuls test.

Factor analysis of the characteristics led to the isolation of three significant factors identified as "masculinity", "activity" and "height". A fourth factor, "appeal", approached significance and was included in data analysis. A test of the reliability of these factors, using Cronbach’s alpha, resulted in reliability coefficients of .87 (masculinity), .74 (activity), .88 (height) and .61 (appeal).

Analyses of variance on all of the factors indicated that male subjects did not differ from female subjects in their ratings of the body forms. However, ratings did vary significantly between the sex of the body form and the different body forms. Analysis of variance on the first factor, masculinity, indicated a main effect for body form, sex of body form and an interaction between body form and sex of body form. The interaction was a result of the female body forms receiving lower ratings overall than the male body forms except in the case of the endomorph which was rated lowest regardless of sex. Analysis of variance on the second factor, activity, indicated a main effect for body form. Results indicated the mesomorph was rated highest on this factor followed by the ecto-mesomorph, endo-mesomorph, ectomorph and endomorph. Analysis of the third factor, height, revealed no significant findings. Analysis of the fourth factor, appeal, revealed a main effect for body form and a body form by sex interaction. The interaction was a result of male body forms receiving higher ratings on this factor than female body forms except for the female ectomorph.

Results indicate that individuals do associate personality characteristics with different body forms. Future researchers interested in the effect of appearance on social interaction may wish to take body form into consideration.

Reference

The elderly population is a rapidly growing segment of American society. In 1970, elderly persons represented 9.8% of the entire U.S. population which expanded to 11.5% by 1977. They are projected to comprise 21.7% of the population by demographers with the Census Bureau. In most past research the elderly are categorized into a homogeneous group, aged 65 and above. Current marketing practices directed toward elderly persons have been stereotypically simplistic which assumes that all persons in this age group are alike. Gerontologists have very recently recognized, however, the tremendous individual differences of elderly persons who are now enjoying many productive years as a group they are becoming more and more heterogeneous. Concurrent with the diversity of lifestyle and bodily changes are social and psychological changes in the lives of elderly individuals. Older consumers represent an increasingly economically powerful and highly diversified market segment with unique motivations and needs.

The purpose of this research was to investigate the clothing needs of the elderly by considering the importance of clothing to them both as a whole and as individuals. One hundred sixty-six male and female respondents ranging in age from 55 to 88 were surveyed using a self-administered questionnaire during the fall of 1986. Senior citizen groups in which 55 was the minimum age criterion for membership were used to obtain the sample. Sentag and Schlater's (1982) proximity of clothing to self (PCS) was used to conceptualize the importance of clothing to the elderly. PCS is defined as the psychological closeness of clothing to the self. In addition, the authors specify the multifaceted nature of proximity of clothing to self by subdividing the model into distinct components which consider clothing as: reflection of self-identity; self-validation through social judgements; nonverbal expression; expression of self-esteem; and related to satisfaction/disatisfaction with the body. The model considers clothing as a facet of the individual's physical and psychological environment and provides a framework for measuring the degree of perceived closeness between individuals and their clothing. Statements regarding clothing were developed to operationalize the components of PCS as specified by Sentag and Schlater (1982). Respondents reacted to each statement on a ten-point agreement scale. A secondary purpose of this study was, therefore to, theoretically expand the PCS model.

For analytic purposes, respondents were grouped into three age categories: young (55-64), middle-aged (65-74), and old (75 and above). ANOVA yielded significant differences between the age groups not only on overall proximity of clothing to self, but also on the individual components of the concept. Scheffe's post hoc comparisons indicated that the youngest group differed significantly from the oldest group; the oldest respondents expressed highest PCS. Clothing as a reflection of self and identity was rated most highly by respondents in the 75 year and above age category. Further, the oldest group expressed significantly less body satisfaction relative to clothing than the youngest group. Sixty-five to eighty-eight year-olds stated that their bodies limited how physically attractive they thought they were; persons between the ages of 55 and 64 expressed significantly lower concern with bodily limitations regarding physical attractiveness. These results indicate that the elderly are not a homogeneous group in their clothing needs. Results of this study suggest that clothing might be used to improve the quality of life for the elderly; if clothing is indeed psychologically significant to the elderly person's concept of self, it can be used in rehabilitation programs to facilitate positive self-feelings. The findings can further be used as a guide for improving marketing strategies and for effectively satisfying the elderly individual's clothing needs.

REFERENCES

A carefully selected foundation is basic to good fit in clothing generally; and for a post-mastectomy woman a properly fitted bra additionally serves as a container to hold the prosthesis in place, to support the natural breast, and to give a smooth effect. Professionals working in this special needs area stress the importance of a good fitting bra and prosthesis to give the necessary visual balance and fill. Correct size, fit, and styling of the foundation relate to satisfying clothing and personal appearance.

The importance of the foundation was included as part of a study, Clothing Designs for Mastectomees, in which both a formal study and a design demonstration working with models, addressed clothing needs. The purpose of this phase of the project was to assess needs of mastectomees in terms of bras. The objectives of the project were to determine the types of bras worn by post-mastectomy women, their perception of bra fit and selection criteria, and any problems related to bra style, selection, fit and choices available.

Following indepth interviews with post-mastectomy women, a survey was developed, reviewed with other professionals, pilot tested, and further refined. The questionnaire was mailed to a random sample of 175 Reach to Recovery volunteers in Ohio. A final response rate of 69% yielded 121 questionnaires for analysis using frequencies and correlation statistics.

Respondents (94%) overall indicated bras they wear were acceptable or excellent in fit. Yet, when asked about specific criteria used in fit of bras, some criteria were not considered by respondents. Over two-thirds listed three criteria: stays centered on the body, fits close to the body at the side, and fits smooth without pressure. Only 55% indicated the bra "hugs the chestwall without spillover at the cup." When asked, "What concerns do you have related to surgical or non-surgical bras?", thirty percent specified fit. Shifting of the prosthesis during daily activities and the prosthesis falling out of the bra were indicated as problems and these related to poor fit and styling of the bras.

Women specified style features and adaptations needed for bra fit and comfort including: padding (20%), minimum of three-hook closure (42%), wide straps (44%), wide side panel (46%), and pocket (50%). Features such as the wide side panel and wide straps, and three-hook closure offer support and smoothness and impact on bra fit and comfort. Such features are especially important for the full figured woman or to support the surgical side where more tissue and lymph nodes have been removed. The type of surgery and resulting physical condition as well as size of the remaining natural breast did impact on bra needs.

In addition to fit cost, style selection, and availability were indicated as kinds of concerns faced by women. In comments given, many specified a lack of available products or styles in department stores or within the communities in which they shopped.

During the design demonstration phase, the focus on fitting the bra related to the surgery and to the uniqueness of the individual. In working with fitters and models with varying types of mastectomies (radical and modified radical), the bra style features needed varied, depending on the amount and location of scar tissue, the extent of tissue removed, the breast size, and personal style preferences. A bra with wide side panels was proven essential in fitting a closely contoured fashion garment.

Several implications for program and curriculum content can be drawn from the results of this study: guidelines for bra selection, bra features related to specific needs in terms of physical conditions or breast size, criteria for good bra fit, and adaptation needs.
SHADOWING: AN EXCHANGE WITH RETAILERS

Holly E. Bastow-Shoop and Shirley E. Friend
North Dakota State University, Fargo, ND 58105

The Department of Apparel, Textiles and Interior Design at North Dakota State University has utilized a Fashion Merchandising Board for two years. The board consists of area retailers with rotating membership, who have worked with the Textiles and Clothing faculty to strengthen the fashion merchandising program. In 1986-87 the group expressed an interest in having greater contact with students in order to provide a more realistic view of careers in retailing. As a means of implementing this suggestion fashion merchandising faculty developed a plan for a "retail visitation day" for students in the entry level fashion merchandising course.

The Advisory Board's responsibility is location of visitation sites for each student registered in the introductory course. All visitations are completed during a one week period. The visitation is an eight hour experience with a merchant to get an idea of what the position entails. Students are provided with categories of retail types from which to choose and an attempt is made to match each student with his/her first choice.

Students research the history and current status of their respective businesses, then formulate questions relative to that business prior to the visitation. The student is responsible for completing a write-up of the day's events which includes what they did, questions they developed and answers they learned, and an evaluation of their experiences in the light of their own career goals. When the students have all completed their visitations the class shares their experiences with one another so a broader spectrum of the field can be realized.

The individual retailer the student shadows for the visitation will also be provided with an opportunity to spend a day with the student on campus. This will provide the retailers with insight on campus happenings, expose them to course offerings and, perhaps, encourage them to pursue a degree or take additional coursework at the university.

Some advantages of this experience to the student are

- students see a retailer in action,
- students can ask questions related to their career objectives of an individual in that career,
- students can make more accurate judgments about their proposed career early in their course of study,
- students may have future employment opportunities with the retailer because of this contact.
The process of costing a garment involves the student in garment specifications, breakdowns, production processes, and a realization of the complexity of what mass production really entails. Costing requires a basic understanding of profits and how profits can be obtained. The process of costing a garment without benefit of a computer program is a good exercise, but the process itself is so tedious that some of the overall perspective may be lost. By using an application of Lotus 1-2-3 the student or teacher is able to quickly realize the steps in costing and the type of information that is required. The user is able to make comparisons between costs of various design features or production processes. The computer program is set up to ask the operator for the appropriate information which it uses to calculate unit costs, contribution margin, and profit.

This program could be used as part of the requirements for a ready-to-wear analysis class, mass production class, or a merchandising class that has a product development segment.

Description of the Resource

The resource consists of three 5.25" floppy disks and a user's guide for operating the costing application. It is offered as an example of how a spreadsheet program like Lotus 1-2-3 can be applied in the classroom.

Within the classroom the costing program:

1. Allows the students to see the effect of product development decisions on cost and profit.
2. Helps the students develop an understanding of the effect of direct labor and overhead costs on the contribution margin.
3. Allows the students to compare contribution margins of various products.
4. Allows the students to compare costs of production for different quality levels.
5. Acquaints the students with the operation of a spreadsheet computer program.
NOSTALGIC DESIGN: CURRENT FASHION REFLECTS HISTORIC FASHION

Diane Frey Iowa State University Ames, Iowa 50011

Can apparel design from the 1700s and 1800s be in vogue in this high tech age? Yes, the "old" becomes "new" again - but it returns with a new interpretation. Nostalgic Design, a multimedia presentation, helps viewers trace 1980s fashion to former eras and see the relevancy of past designs to present-day fashion. Although some students recognize similarities between 1980s and 1950s fashions, few students are aware that 1980s high fashion designs can be traced back to the 1700s, 1800s, and early 1900s.

The educational program, Nostalgic Design, has several innovative features. For example, it is a multimedia presentation that consists of paired-slides shown simultaneously and an audiotape of narration and music. The paired-slides are matched in design but unmatched in eras. In most of the slides, selected parts of two garments are compared, showing that parts of a historic design are adaptable to later eras and new uses. The narration is concise and carefully worded in order to supplement the visual learning. Periodically, the narration is supported by title slides. Title slides announce the subdivisions and objectives of the coming slides.

Whereas many slide presentations focus on women's fashion, this set represents both men's and women's fashions. Also, the presentation illustrates the concept of cross dressing, men's fashions being adopted by women or vice versa.

After seeing the slide program, students ask questions and discuss concepts of old and new fashion interpretations. During the following few weeks, students apply the concept of tracing to an assignment that requires matching parts of current designs to styles from the past. The presentation introduces and clarifies the assignment, while helping students sharpen visual skills.

The presentation lasts approximately 15 minutes. To show it, a person needs two slide projectors, two screens or one large screen, and an audiotape recorder. A synchronizer is optional.

Perhaps one of the most important benefits of this multimedia presentation is its method of teaching how to trace fashions. The paired-slide method allows direct, simultaneous comparisons of past and present fashion designs by showing two slides at once. The viewer can accurately compare and contrast the details in fabric, design, color, proportion, posture, grooming, etc., without relying on visual memory.

Also, learners prefer the paired-slide presentation and find it effective. A class survey indicated that a majority of students preferred pairs of slides rather than single slides for learning about changes in apparel designs.

Among other benefits, research indicates that more learning occurs through vision alone than by hearing alone. But by combining both of these sensory channels, educators increase the potential for learning retention. The slides illustrate visual concepts that are difficult to describe with words alone or to present sequentially. The message is communicated through both the visual material and the brief verbal narration. Title slides within the presentation organize learning and focus attention of specific concepts. The content of the slides illustrates an equal number of men's and women's accessories, hairstyles, sportswear, suits, etc.
Apparel Production Videos: Bringing the Apparel Industry into the Classroom

Ruth E. Glock, Grace I. Kunz, Elsie K. Williams

Iowa State University, Ames, Iowa 50011

Understanding of the processes involved in apparel production are increasingly important to merchandising and design majors. Retailers are involved in product development and designers face pressures to create profitable styles. Apparel production touches upon all areas of textiles and clothing from design and production of styles that will produce a profit to an understanding of the buyer-producer negotiations for garments that will meet consumer needs. Many schools with an interest in expanding their focus on apparel production have expressed concern in the lack of illustrative material and teaching resources. Courses in ready-to-wear or sewn products analysis are being developed in many schools. Faculty need materials that will provide a basis of organization and structure, since few textbooks are now available. Resource materials are also needed to increase student interest and understanding of the mass production process.

Description of the Resource

A series of four video tapes were developed from video taken in three apparel manufacturing plants. One tape is an overview of the organization and structure of the apparel industry. The three other tapes feature different plants and product lines.

Within the classroom the apparel production video tapes are used to:
1. Introduce many of the concepts of industry organization, product development, comparison of fashion and basics, sourcing, equipment uses, quality control and finishing.
2. Illustrate how quality is built into mass produced garments.
3. Develop insight and appreciation of mass produced garments.
4. Acquaint students with the terminology and language of mass production.
5. Develop an appreciation of costs of ready-to-wear apparel.
6. Prepare students for plant visitations on field trips and study tours.
"Sportswear in Action" is a slide-cassette package that presents information on two of the functional considerations in selecting active sportswear. It is designed for presentations to 4-H groups, Home Economics Extension audiences and to lower division clothing and textiles classes at universities, junior colleges or community colleges. It is also suitable for use with men's and women's civic organizations and for in-store presentations by retailers.

The slide-cassette package is divided into two sections and presents information on mobility in active sportswear and the fabrics and finishes used to help the human body maintain its normal temperature while exercising. Theory on body movement, the use of stretch fibers and fabrics, and garment fit and styling are discussed in Part 1 - Mobility. Body responses to heat and cold, and the fibers, fabrics, and finishes available to help maintain body temperature during exercise are the subject of Part 2 - Maintenance of Body Temperature.

Background information on the body theories and textile materials discussed in the slide presentation is also provided for use by presenters. Suggestions for demonstrations and a comprehensive list describing available products by trade-names and end use are included.

Participation in leisure sports in the United States is very popular for people of all ages, and clothing needs for sports activities are often quite specialized. In 1986, the National Sporting Goods Association estimated that American consumers spent approximately $3.5 billion on sport clothing.

Depending on the end use, sport clothing must often meet specific requirements that affect the athlete's ability to move and to protect the body from debilitating physical conditions caused from becoming either chilled or overheated. Active sportswear is frequently evaluated based on various combinations of functional requirements of the clothing. These can include the ability to breathe; resist moisture and wind; wick, absorb, or dissipate moisture to the clothing surface; and insulate the body. Special fibers, fabrics, and/or finishes have been developed in order to create a combination of these characteristics in a single garment. The wide variety of available products and manufacturer claims can be very confusing to the sportswear consumer.

This slide presentation attempts to provide technical information on the products in language that is easy for the lay person to understand. Body reactions that occur while exercising are also explained in order to educate the consumer on the various functional attributes necessary in different categories of sportswear.

Both "Sportswear In Action" presentations can be used alone or in conjunction with lectures, demonstrations, and fashion shows depending on the group viewing the slides and the time available for the presentation. Part 1 of the presentation consists of 35 slides and is approximately 10 minutes in length. Part 2 contains 62 slides and is approximately 20 minutes in length. The slides incorporate diagrams to explain the theory relating to technical developments in fibers, fabrics, and finishes used for active sportswear along with pictures of actual garments that illustrate these developments.

Equipment required for the presentation includes a slide projector, cassette player, and two 80-slide carousels. The slide-cassette package can also be used in a caramate projector.
Visual Merchandising Floor Presentation Guide

Shelley S. Harp, Texas Tech University, Lubbock, Texas 79409

The state of the economy has taken a toll on retailers. Organizations want to hire graduates who require a minimum investment of on-the-job training or funding to incorporate them into the productive work force. Therefore, current demands on merchandising faculty to prepare students for employment in an increasingly competitive environment are intensifying. One way of reducing the time and expense involved in training new recruits is through applied experiences in merchandising course work.

Businesses cannot exist today by selling only replacement merchandise. Retailers must create a demand for new types of consumer goods. Effective merchandising techniques, of which visual presentation of merchandise is a part, help to accomplish this purpose. A high quality level of visual presentation of merchandise stimulates buying and also stimulates the purchase of related or coordinated merchandise. This affects sales volume and profitability in a positive way. Therefore, retailers continue to increase emphasis upon visual presentation of merchandise.

Visual merchandising is a subject area that is included in many merchandising curriculums. Activities involved in such courses provide an opportunity to incorporate marketing and merchandising concepts into practical business applications. Floor presentation of merchandise, a key visual component, is a topic which is briefly discussed in textbooks. As a result, graduates may enter career positions inadequately prepared to apply basic principles of visual presentation of merchandise on the sales floor. The Visual Merchandising Floor Presentation Guide is designed to provide the opportunity to examine the basic principles of floor presentation of merchandise utilized by department stores and departmentalized speciality stores and to evaluate their application on the sales floor. Assignments can be adapted for either undergraduate students (students work in 2-3 member groups) or graduate students (students work individually).

Floor presentation is discussed in relation to merchandise by: fashion statement, classification, colorization, fixturing, intensification, zoning, and overall environment. Students are exposed to an in-depth explanation of each basic visual merchandising principle listed above and the interrelationships that exist between principles. Verbal content is reinforced with graphic illustrations (suitable for transparency production). A floor presentation evaluation assignment is provided to capstone class coverage of the floor presentation guide. Students select a retailer and an apparel merchandise area for evaluation purposes. The assignment consists of an in-store visit, written evaluation, oral presentation, and rendering of a floor move based on transfer of merchandise or receipt of merchandise.

Successful results of the guide have been evidenced in oral presentations of the evaluation assignment and renderings of floor presentation of merchandise which reflect a higher level of understanding and application of principles presented in the guide. Student evaluations have been overwhelmingly positive. Graduates employed in retail organizations cite the guide as one of the most valuable resources acquired during their academic preparation.

Presentation of the floor presentation resource will require 5' X 4' table space and can be presented in poster format in 3 to 5 minutes. Bound copies of the guide will be provided for in-depth review by attendees.
A graduate level course entitled An Interdisciplinary Approach to Fashion Analysis has been created with a syllabus and annotated bibliography. The syllabus presents a ten unit program incorporating seven disciplines: Anthropology, Consumer Behavior, Economics, History, Marketing, Psychology and Sociology. Readings are suggested for each unit with a corresponding (ninety listing) annotated bibliography which includes books and articles from 1928 - 1987. An additional reading list is provided for background information and assignment resources.

This course will serve as an analysis of fashion in relation to cross disciplines within the environment. The major objective of the course is for the understanding and appreciation of fashion and its relationship to historical and contemporary environments and its wide, diverse application. Two (student) assignments are given to ultimately result in a third and final assignment. The final assignment is based on a major fashion concept, or theory, within a chosen discipline to forecast fashion. Any business application such as predicting colors, style, trends or products is the goal.

According to George B. Sproles (Solomon, 1985, p. 56) fashion concepts have been evolving in different disciplines, without a single comprehensive theory to explain and predict fashion. He proposes a conceptual model which includes various behavioral science approaches that could ultimately be merged or incorporated into a "general fashion theory." Supporting Sproles' reasoning, this course examines the integration between variables and disciplines to forecast fashion.

The interdisciplinary approach of the interpretation of fashion will appeal to a broad cross-section of students.
A database management system is used for the storage and retrieval of information. Database systems are widely used by retailers, textile and apparel manufacturers for a wide variety of purposes, for example inventory management or tracking customer purchasing patterns. To be competitive in the job market, merchandising students need to be familiar with the operation of database systems and understand their application in a business setting.

To enable students to familiarize themselves with a variety of software programs, all merchandising students are required to take Microcomputer Applications in Human Ecology. In this course, students use word processing, spreadsheet, and database management software programs. The final project requirement for this class is the design and implementation of a database management system that can be applied to the student's field of study. The teaching resource presented is the project overview and its requirements.

To begin the project, the student must first describe the central purpose of his/her database (eg. customer file, sales associate evaluation). Then the types of information needed in order to make the database useful (eg. name, size worn) must be identified. The students design input formats, output formats and utilize math formulas in the system. Word processing is integrated into this system through use of a "personalized" form letter (such as an advance notice of an upcoming sale). Students turn in to the instructor copies of the input formats, math formulas, form letters, and output formats. The output formats (reports, labels, and form letter) turned in must have utilized some logical selection criteria that demonstrates the ability of the system to meet the goals set by the student.

After the design and hardcopy documentation are completed, students then participate in a 15-20 minute demonstration of this project with the instructor. The final demonstration provides the opportunity for the student to explain his/her system to the instructor and to show aptitude at using both the database management and word processing software programs. Final evaluation of the project is based on the originality and complexity of the project and the demonstration of overall understanding of the database system.

This project can easily be adapted by any university that has microcomputer facilities and can be applied to virtually any commercially available database program. The basic concepts behind the project can be adapted to fit the goals of a particular course. Students benefit because it forces them to apply what they've learned in class and rather than just following a set of instructions (as many computer assignments can become). They also become more adept at problem solving as a result of completing this project.
WEARABLE ART DESIGNS INSPIRED BY WEST ASIAN AND
FAR EASTERN COSTUMES

Soae L. Paek
Northern Illinois University, DeKalb, IL 60115

Wearable art designs presented in this project are used in a costume design analysis course offered in the department. This course covers the theory of visual perception, analysis of costume form, and stylistic analysis of art and costume form of different historical periods and various cultures. The overall objective of the course is to increase students' awareness and appreciation of aesthetic expression of different artistic period and cultures which influenced various forms of art and costumes.

The costumes of other cultures have served as inspirations for the new design ideas for many contemporary apparel designers. The resource exhibit shown illustrates two wearable art design projects produced by apparel design students in the department which were inspired by the native costumes of West Asia and Far East.

The first fiber-apparel design project, West Asian Costume Design Influence on Handwoven Overgarments, was to discover the style and the method specifically designed to shape the garments made with handwoven fabrics (Brubaker, 1975). A careful study of costumes from Balkans, Caucasus, and Ukraine revealed garment design method, bold color combination, and lavish fabric and garment embellishments which served as design inspiration for the project (Fairservis, 1971). The costume form reflects the diverse historical background and mixed ethnic influence of the region. The shaping of the garments was achieved by joining geometrically shaped fabric pieces. This additive method of forming garments allows easy shaping of bulky handwoven fabrics into clean garment silhouette and close coordination of fabric and garment designs. The decorative effects of fabrics and garments in the project were achieved with inlay and eyelet technique weaving, cardwoven strips, braids and tassles.

The second project, A Study in Variation on Kimono-shaped Garments as Influenced by the Ginko Leaf Motif, is a collection of six variations of fabric and garment design inspired by ginko leaf motif (Giesen, 1986). The use of same design motif in all garments provides a sense of unity and cohesiveness to the collection. On the other hand, the careful selection of fiber and yarn types and color scheme as well as subtle modification of basic kimono form for each garment render diversification and variation to the collection. Whether these garments are worn or hung on a wall they are meant to create an artistic visual experience.

The wearable art designs shown here promote viewers' awareness and appreciation of:
1) Costume form of different cultures and social and cultural background which produced it.
2) Abstraction and adaptation of design motifs for creation of new designs.
3) The method used in developing subtly shaped garments from handwoven fabrics.

Clothing and textile professionals interested in teaching and artistry would be able to adopt the materials presented here to their respective audiences.

References


Art Connections is an Extension Service project resulting from cooperative efforts of Extension and resident teaching functions of the Textiles and Clothing Department and the Art and Design Department, the Textiles and Clothing Historic Collection, and the university's art gallery and museums. We developed the project to 1) share these collections with the public off campus, 2) help adults and youth gain art awareness by visually exploring a wide variety of art forms, 3) promote the collections with the public, and 4) serve as a model for local programs with libraries, museums, and historical associations.

We are sharing the idea and process we used so that ACPTC members can use it with their collections. Access to art collections is not essential; an exciting project could be based entirely on historic and/or ethnic textiles and clothing.

Evaluations of two previous Extension touring exhibits showed high interest, participation, and eagerness for greater depth of information. In addition, schools were asking Extension for help due to budget cuts in art education. The resulting three-year project incorporates a stronger educational component than is possible in a self-directed exhibit experience.

The University Collections, including the Textiles and Clothing Historic Collection, lend artworks for ten circulating programs. Extension Specialists develop materials for each program and provide a day of training for county Extension staff and local volunteer docents. In return, Extension staff and docents present programs to local youth and adult groups.

Textiles and clothing are highlighted in half the programs. They include a Paisley shawl, a mola, Eastern European folk blouses, Japanese textiles, and a Navajo rug. The other programs contain a Jumeau doll, a Chinese carved jade bowl, a Russian enameled lamp, lithographs by Ding Darling, and a piece of art pottery. A typical program includes the featured art item, a meeting guide, a slide set with youth and adult scripts, background reading for the docents, and information on the care and handling of the art item. Program content covers historic, aesthetic, cultural, and technical aspects as appropriate for the specific item. The docent tailors the program to the audience and the time allowed.

Precautions are taken to safeguard the artworks. We use plexiglass display boxes to transport and display items such as the pottery and the doll. The Paisley shawl is backed with crepeline; blouses are shown on padded hangers. All textile items are accompanied by white gloves and sheets for wrapping and covering tables. Only Extension staff and docents touch the items, although the audience is encouraged to look closely. When the programs rotate, the exchanges are made in-person only.

For the first year we had hoped there would be 72 programs reaching 1,080 people; instead, staff and docents presented 129 programs reaching 3,000 people, half youth and half adult. In addition, television programs featured four of the artworks. Communities received an estimated 34 hours of time back from each volunteer who received five hours of training. Telephone interviews with Extension staff indicated that the one-day training and written support materials were adequate for volunteers and staff to present programs. Some docents did additional reading for their own information. The project's low cost is a decided advantage.

We saw evidence of increased awareness and appreciation of art in a number of ways. Thank you letters from youth showed visual recall of program information. There was much discussion and sharing of experiences at adult presentations; often participants brought their own examples of the topic to the meetings. One attendee has shown interest in donating her collection of textiles, clothing, and decorative arts to the university while others have indicated interest in donating specific items. Several groups have planned trips to campus to see more of the university's holdings. Many individuals visiting our gallery and museums say they have come as a result of seeing an Art Connections program. Docents have identified potential subjects for Textiles and Clothing research studies requiring purposeful samples.
Heirloom textiles play an important role in many families with the care of these family heirlooms being of great concern. This concern became even more apparent when Arkansans celebrated their state's sesquicentennial birthday.

Textile treasures from the past were removed from storage for display in private homes and public buildings. In some cases, there were surprises (spots, overall discoloration, etc.) and Arkansans sought solutions to their questions on proper care for these heirloom items.

As a result of these calls, a set of textile preservation resource materials was developed. These materials include: (1) a 10-minute video tape on "Textile Preservation - Fiber Basics," (2) a 31-minute video tape on "Textile Preservation - Agents of Deterioration," (3) a loan kit filled with supplies and materials appropriate for storing textile items, (4) a teaching outline for a 1½ hour class on "Heirloom Textile Care," and (5) three fact sheets on "Cleaning and Storing Heirloom Clothes," "Care, Cleaning, and Storage of Heirloom Quilts," and "Home Furnishings and the Sun."

To reach a wide audience in a short period of time, four 1-day seminars were held in selected areas of the state which resulted in the training of 291 volunteer leaders.

These leaders, in turn, agreed to teach textile preservation classes in their own counties.

Objectives of the seminars were: (1) to teach individuals how to identify types of heirloom textiles, (2) to help individuals learn to recognize the cultural and monetary value of heirloom textiles, (3) to teach individuals how to clean, care, and store textile items, (4) to teach individuals how to display textile items in both home and public exhibitions, and (5) to teach individuals how to keep records for both heirloom textiles and handmade textiles created today.

These teaching materials and seminars were the result of cooperative efforts by the Extension clothing and crafts specialists. Additional resource speakers included the director of the Old State House Museum and the curator of the University of Arkansas Museum.

These resource materials have benefited not only individuals but local and county museums interested in displaying and storing heirloom textiles. Thus far, over 2,200 individuals have attended county classes on textile preservation. Many requests for printed materials have been received because of statewide newspaper and television coverage. Teaching outlines have been shared with high school home economics teachers and college/university clothing educators.
A relatively new course in the fashion merchandising curriculum is called, "Apparel Selection and Evaluation", which allows students to learn evaluative techniques for selecting quality garments, as future retail buyers, informed consumers, etc. A realistic approach to utilizing the knowledge gained throughout the semester is an end of term project requiring teams of students to go into retail settings and evaluate similar garments of varying price points.

Students research a specific garment category, such as men's suits, ladies' coats, children's sleepwear, swimwear, etc. Quality of the ready-to-wear is analyzed and compared to various price points; construction details, fabrication, etc. Similarly designed garments are chosen from three price ranges: budget (low), better (moderate), and designer (high). Students are given worksheets to use for evaluative purposes which have been specifically prepared for their garment category, such as non-tailored garments, tailored garments, accessories, etc. Prior to completion of this "Ready-to-Wear Analysis", each team secures permission from area retailers to evaluate apparel from the stores, and to borrow said merchandise for a class presentation. The project is segmented into two parts - a preliminary RTW analysis, where teams initially evaluate the garments within each retail store, and submit a brief written report of garments selected, price points, etc. Upon receiving professor approval, each team next proceeds with the comprehensive RTW analysis, requiring thorough evaluation of design, construction details, etc. Findings are submitted in written format, per team, as well as orally. Each team is required to present findings to the class as if they were sales representatives selling to buyers, or buyers presenting new items to sales personnel. Each team is graded on both oral and written reports.

There is student demand in this area to offer a fashion merchandising curriculum that does not require apparel construction, which is also a trend across the nation. However, the faculty at this institution, as do most, realize the importance of learning to evaluate quality of apparel construction, recognize specific features, and develop a sound apparel based vocabulary, to successfully compete in the fashion business. Therefore, the development of the above described course and final project encourages student involvement. "hands-on" experience, without requiring students to actually construct a garment in order to understand quality and design features.

At our institution, we have found an overwhelming interest among students, both fashion merchandising, and non-majors, in the course, and particularly the final project - RTW Analysis. At the same time, the apparel construction and design related courses have not become obsolete, as many would predict.

Other benefits of this project are 1) students also learn to be more discerning consumers of apparel, 2) students are introduced to varying types of apparel retailers, 3) students inevitably learn that price and quality of apparel are related but also that other store related factors can affect price, and 4) new manufacturing techniques are constantly introduced to students, as a result of always using current, timely garments.
Through support of the Small Business Administration’s Small Business Institute (SBI), an innovative educational approach to teaching was developed for use in two upper division courses, Apparel Shop Entrepreneurship and Fashion Promotion Media. The project format utilizes students’ involvement with small businesses throughout the state for the purpose of consulting with retailers, providing information, and suggesting solutions to problems in the areas of promotion, buying plans, inventory control, and management. The Director of the Center for Apparel Marketing and Merchandising (CAMM) serves as the SBI Case Study Project Director and the professor for the courses serves as faculty coordinator. For the group project, students are assigned to a specific small business which has previously sought assistance from SBI. Requirements for the project include:

1) Log of six visits or communications with client.
2) Completion of a "Store and Owner Profile" survey.
3) Proposal for planned activities and solutions for retailer’s problems and concerns.
4) Oral presentation to class and store personnel including visuals and examples.
5) Typed report to be incorporated into final report compiled by the CAMM director. One of the final reports is submitted for state competition.

Preparing youth and adults for careers in retailing and helping retailers survive in today’s competitive economy is the focus of this case study project. The project blends theory with practical application. Students benefit as they gain hands-on experience in dealing with retailers’ problems. The retailers receive assistance, service, and learning materials needed to improve the efficiency of store operations. Dun and Bradstreet reported that retail casualties have risen 40 percent since 1960. In 1985 about 13,558 retail businesses failed. Causes for failure includes:

A. Inadequate sales (64.5%)
B. Inventory difficulties (27.8%)
C. Competitive weakness (23.0%)
D. Heavy operating expenses (18.6%)

Students involved in the case study class project can address these causes of failure and help the retailer establish merchandising strategies and increase bottom line profits for the business owners.

This teaching resource project could be adapted by other educators and used by home economists in business. If there is no SBI project in the area, this same project could be implemented with local retailers who agree to participate.
The final project assignment was designed for the junior level Retailing class which is required for students majoring in Textiles and Clothing - Retailing option and in Interior Design. Two comparable, but individual, assignments cover the same subject matter with differing applications to fit the interests and needs of students in both majors.

In the two versions of the assignment, the topics are parallel, but the differences enable the students to relate subject matter to the unique organization and operation of varied types of retail stores, design studios or design services offered by stores selling furniture or household textiles.

A detailed assignment including objectives, directions for each section, a list of resources, and a detailed evaluation form is distributed at the first class meeting. From that day, students are expected to collect information and to do personal observations in stores or studios which will later be incorporated into the written report. A collection of resource materials including trade publications, annual reports, and catalogs is made available.

Students select the store and department or studio which form the base for discussion and analysis, or they can choose to develop a hypothetical organization. Those preparing for Practicum often select as their topic the store where they will be employed. The research provides a knowledge base for their on-the-job experiences. For persons who are entrepreneurial, the assignment offers the opportunity to create their own store.

Subject matter from the entire semester is integrated in the 10 sections of the report. The many topics covered cause the student to review the entire course and to gain understanding of the relationships between store or studio organization, target customer, image, merchandise classifications, and profitability.

The assignment is designed so students relate the theoretical information from the text and lectures to an actual operation. Emphasis is placed on using retailing vocabulary. Demographics and psychographics of the target customer are defined in detail. These form the base for determining merchandise classifications, advertising campaigns, visual merchandising, etc.

Students are instructed to think of themselves as entry level management persons who clearly understand the organization and operation of their employer and are responsible for consistent merchandising decisions at the store level or work directly with clients in a studio. Career development is emphasized in the final topic in which students analyze their qualifications for a promotion to a higher position.

The standardized format and evaluation form enable the instructor to evaluate the different assignments within time available at the end of the term.
Teaching Material Culture: The Case Study

Laurel Wilson, University of Missouri, Columbia, MO 65211

The case study is an ideal way to teach students about material culture. The historic house comes with a history that is known and often is filled with furnishings and other belongings of the family who lived there. Students more quickly learn about the advantages and limitations of material culture research.

The University was given a farm which included a house built in 1883. In the house were the artifacts of three generations, some carefully preserved and others that were used until the death of the last resident in 1981. The textile artifacts included a wide range of items such as weaving drafts dating from 1808, rugs, draperies, handwoven bedcoverings, fancy dresses and bathing suits from the 1920s, men's work jackets, and polyester dresses from the 1960s and 1970s. Business records, school records, family letters, photograph albums, and other written materials were also available to students.

Students prepared for the study of textile artifacts by reading designated articles from Material Culture, the Pioneer America Society journal, Winterthur Portfolio, Folklife, Metropolitan Museum Journal, and other journals. Each student kept a journal which was divided into two columns, one column for outlining the main concepts and ideas in the readings and the other for commenting on the ideas or writing questions to be discussed in class.

After approximately 10 class hours, the students visited the farm for a weekend (the farm is two hours from campus) and examined the written materials and artifacts at the farm. Each student then chose one textile or group of textiles to study for the remainder of the semester. Fleming's model of artifact study (1974) was used as a guideline for research. The final project for Fall 1986 was an exhibit in the Missouri Cultural Heritage Center showing the textiles, some related artifacts, and explanations about the findings of the research. The final project for Fall of 1987 will be a museum catalogue which will be available at the farm.

The case example for material culture studies is an excellent way to communicate the advantages and limitations of artifacts for research in history. Most universities have historic houses nearby which might be available for study. This type of study has the added advantage that information about the work done throughout the semester can be shared with the public.

The series of weavings presented here represent an exploration of a variety of surface design techniques applied to warp yarns prior to weaving. The purpose of this exploration has been to develop a fabric that will be suitable for integrating with three-dimensional wood structures. The imagery of the more recent weavings has been related to water and bridge themes, as ultimately I will be designing fabric and wood sculpture based on the theme of bridges, primarily covered and foot bridges.

Techniques I have used include silk-screen printing and painting with textile pigments and bound resist dyed warps with fiber reactive dyes. The eight harness satin weave structure creates a two-sided fabric, appropriate for creating two-sided planes in space. The braiding and finishing techniques I am working into the fabric will allow me to secure the cloth to the wood framework.

The synthesis of these elements will allow me to use bridges as a source for both design ideas and subject matter. I am especially interested in the abstract ideas of what bridges span, what they connect, and how people move through them.
My current work includes a study of structures created by melting synthetic yarns and fabrics. All synthetic fibers were studied. Nylon melts to durable appealing forms, colors and textures not possible in other fiber melt residues. Yarns and fabrics of differing weights and colors were studied. Each is visually unique thus requiring preliminary study before predicting successful combinations. Aging and durability of connections were studied to determine longevity of resulting fiber art forms. Visual forms are limitless and somewhat unpredictable. Nothing can be duplicated exactly. Control is achieved through repetition and experimentation.

The qualities intrinsic in fiber are many and impressive. Primary research in fiber art will continue to reveal this potential. As is true in traditional fiber forms, melted fiber forms respond to the dictation of the material and techniques. "No limitations other than the veto of the material itself are set." (Albers, 1937)

"Celebration Adornment" is a theme which permeates my recent work in wearable art. The work is part of a series of wearable pieces which are based on the concept of celebration. The project stemmed from a long time interest in ways in which fiber is used to celebrate events of life in various cultures.

The work involves multiple techniques in which traditional methods of handling fibers are combined with new, experimental and innovative approaches. Methods and techniques from the areas of fine art and theatrical costuming are combined with those used commonly by fiber artists. The pieces are not created with specific celebration events in mind but are based on visual qualities which are associated with the concept of celebration.

The initial phase for each piece begins with the creation of a structure. Yarns, threads, tapes and other fibrous materials are used to produce structures through such techniques as knitting and macrame. During the early stages, emphasis is placed on characteristics of the materials and how they can be related to the human form to produce rhythmic effects during movement.

Surface embellishment is a dominant feature of the work. Texture is generally created during the construction of form, however, color and pattern can be applied at various stages in the development of a piece. For example, some of the pieces were created from yarns and tapes which were dyed prior to the process of creating structure whereas in others, color was applied by painting the surface after the forms were created.

"Celebration Adornment," the theme for the series, has not only served as a basis for design inspiration but has provided continuity among the various pieces. The theme is broad enough to include newly discovered information concerning the topic as well as new experiences pertaining to materials, processes and techniques. The project has facilitated a building block process in which a few ideas have evolved into many.

Figure I. Celebration Coat XII.
The artist had several purposes in the designing and weaving of this piece of wearable art. A simple rectilinear design was decided upon to allow the naturally dyed yarns to be the most predominant feature. A beige linen warp allowed the yarns to create the most interest. The artist had previously dyed woolen yarns using natural materials including goldenrod, marigolds, mimosa tree leaves, onion skins, apple tree bark, blackberry roots and other native dye substances as well as a few imported dyes. Therefore one of the primary objectives was to design a garment displaying many of these yarns. Another purpose of this particular design concerned designing a garment whose front and back were distinctly different yet compatible so that the wearer can select the front to be a closely woven traditional stripe or a more open irregular weave featuring only two of the hues.

All of the elements and principles of design were considered in the creation of this piece of wearable art. However, the elements of color and texture are perhaps the most important.
Currently, my work includes creative surface designs of a Minnesota landscape. I experimented knotting various individual pieces of yarn and then zeroxed them to show the two-dimensional view of the knot. As my work progressed into actual designs, using the knot as the design element, surface interest was created. I changed the fiber content and size of yarn for variation in each design.

In knotting techniques, the yarns are not interlaced as in weaving but are tied— together or to each other or to a background. The yarn, of various fiber content and size, used as a media, creates surface textures. Instead of twisting yarn around a needle, such as in a French knot, I made a knot and then pulled it through a piece of burlap. In the knotted leafy pine, pile yarns are added to build up the surface and make it appear more three-dimensional (see Figure 1).

Inspiration for my work comes from my Minnesota upbringing and also my traveling to California. The pictures are deliberately small to compel the viewer to look more closely, thus giving them a sense of intimacy with the pine trees. In the future, I plan to adapt my knotting surface techniques into fiber art wearables and creative surface designs on a larger scale.

Figure 1. Knotted Leafy Pine
Collecting antiques and living in a log home provided inspiration for the designing and weaving of this very traditional wool rug. The warm colors selected harmonize with other furnishings and decor of the den which features wide exposed 100-year old poplar logs and a fireplace built of limestone rock. A beige cotton rug yarn was used for the warp allowing the wool strips to predominate the design of the rug.

Bolts of wool fabric were purchased, cut into strips, sewn together into longer strips and then woven in a plain weave in three 30" wide strips. The weaver then hand sewed the strips together using the cotton warp to create the approximately 8' x 12' area rug. Warp ends were fringed to finish the piece and to provide interest.

The artist believes the rug adds warmth, tradition and interest to the room. Knowing that the poplar floor loom used to weave this fiber art is 100+ years adds to the uniqueness and appreciation of the piece.
APPAREL MANUFACTURING:
ITS ROLE IN MERCHANDISING AND DESIGN PROGRAMS

Grace I. Kunz and Ruth E. Glock

Iowa State University, Ames, Iowa 50011

Merchandising and design occur at all levels of distribution in the textile and apparel industry. Vertical integration between the apparel manufacturing and retailing sectors increases the scope of responsibilities for employees that are involved in the development and distribution of product lines. Merchandising involves "the planning, development, and presentation of product lines for identified target markets with regard to prices, assortments, styling, and timing" (Glock & Kunz, 1987). In their professional roles, merchandising and design graduates are often responsible for directing the development and distribution of textile and apparel merchandise. These graduates must understand the issues and processes of garment manufacturing in order to make management decisions that satisfy target customers, utilize resources, realize sales volumes, and reach profit goals. Understanding the manufacturing processes involved in garment production is essential for developing and producing salable ready-to-wear in today's markets.

To serve this need, many textiles and clothing programs have or are developing courses focusing on the global textiles and apparel industry, analysis of sewn products, and manufacture of apparel. A comprehensive understanding of manufacturing processes provides the fundamental basis for management decision making and negotiations between suppliers and buyers in the chain of distribution. Strategies for teaching apparel analysis that are based on apparel manufacturing processes provide a unification of textiles and apparel subject matter.

Development of the subject matter, teaching methods, and instructional materials relative to the manufacture of ready-to-wear apparel presents a challenge and growth opportunity for textiles and clothing faculty. Faculty must see themselves as preparing students for professional roles where satisfying customers is a major responsibility rather than preparing students to be customers.

Faculty development opportunities include professional interaction with local apparel manufacturers through surveys and faculty study tours, participation in apparel workshops offered by apparel industry organizations and universities, and faculty internships in apparel manufacturing settings. Highly productive relationships can be established that will benefit both educators and apparel businesses.

Human Resource Management Research. Linda K. Googe. Workers today are striving for a well-balanced life, placing equal value on work, family, and leisure rather than emphasizing one to the exclusion of others.

There is a very rich literature dealing with the interaction of variables which are thought to lead to voluntary retail turnover. However, there is a paucity of research conducted within retail organizations and an even greater void in research targeting retail managers. The challenge is to begin carving out a niche among the organizational behaviorists and industrial psychologists—and provide methodologically sound retail research in human resource management.

Retail Institutional Change. Michelle A. Morganosky. Research that deals with retail institutional change attempts to understand and explain how retail institutions are changing, why they are changing, and how consumers are responding to these changes. Retailing can be viewed from a systems perspective—a change in one part of the system influences another part of the system.

Some research topics would best be understood by examining them across the marketing system. For example, private label merchandise might be studied from the manufacturer's perspective as well as the retailer's and consumer's perspective. More importantly, the interactions and influences between these systems need to be examined.

Retail Research: Involving the Retailer. Steve N. Badenoch. Involving a retailer in research can be accomplished by using a product approach with a clear definition of the target market for the product. It is the responsibility of the researcher to identify the value of the research, in terms of end use, for the retailer. To do this requires an evaluation of the retailer's perceived need.

What is being suggested is admittedly putting the cart before the horse in a marketing sense. However, if the product is identified in the broadest sense and then the needs investigation is done, the possibility for a fit or at least a connection of serendipity increases. The approach here is to identify what one has to sell and then look for a buyer.

Retailing As Science or Theory is My Life. Richard A. Feinberg. The use of theory to guide retail research has value in leading the growth and development of a science of retailing, in contributing to retailing on a practical level, and in contributing to the development and refinement of broad principles of social science and marketing.

At the same time, while theory driven research has distinct advantages, there is room for people doing descriptive research, and there is room for people engaging in dust-bowl empiricism. The call for theory driven research is easy, doing the research is hard. Instead of spending time and energy complaining about the lack of theory in the fields, researchers should be spending more time and energy creating an environment in which everyone can do his/her best work.

International Retailing. Brenda Sternquist. The transmissions of goods, services and information from producers to consumers has become a global enterprise. Knowledge about the world retail systems is essential before the United States can reduce the current trade deficit. The impact of poor manufacturing decisions from product design to inappropriate packaging are most critically measured at the retail consumer interface.

Foreign retailers have developed progressive training and development programs, creative approaches to human resource issues such as child care and highly sophisticated inventory distribution systems. The frame of study for retail research is not the firm, or the United States, but the world.
Ribbonwork of the Great Lakes Indians: 

The Material of Acculturation

Rachel K. Pannabecker

McPherson College, McPherson, KS 67460 and Kauffman Museum, North Newton, KS 67117

Ribbonwork is a unique decorative art found on clothing and personal accessories and is a material manifestation of culture contact and change. Emerging among Great Lakes Indians in the late eighteenth century, ribbonwork utilized non-native textile goods (imported silk ribbon) and European needlework techniques in distinctly non-European designs and forms. Today, ribbonwork garments signify tradition or "Indianness" to native Americans with a ribbonworking heritage.

In the absence of in-depth investigation and contextual analysis of ribbonwork as a manifestation of acculturation, the author investigated the origin, diffusion, and persistence of ribbonwork. Ethnohistorical data on ribbon and ribbonwork were collected from historical documents (traders' accounts, colonial government records, travelers' journals), historical photographs, ethnographies, museum artifacts, and through interviews with contemporary American Indian ribbonworkers in Oklahoma.

Ribbon was found to be available to Great Lakes Indians during the late eighteenth and early nineteenth centuries through both trade and diplomatic gift and to be a preferred item of exchange. Linkage between ribbonwork and traditional decorative arts was demonstrated through the combination of ribbonwork and indigenous decorative materials on a garment piece, as well as design parallels of ribbonwork to other traditional decorative arts. From the findings on the origin of ribbonwork it was hypothesized that ribbonwork was a manifestation of Indian preferences, it represented the adaptation of Great Lakes Indians to changing economic conditions, and was a unique innovative and yet conservative aesthetic response by Great Lakes Indian women to culture change.

The diffusion of ribbonwork through the Great Lakes region was hypothesized to be a reflection of cultural homogeneity brought about by acculturation and inter-tribal contact fostered by the fur trade, and that trading posts and métis traders were primary agents in the spread of ribbonwork. The persistence of ribbonwork into the twentieth century was related to the integration of ribbon and ribbonwork into Great Lakes Indian cultures. Thus, inquiry into ribbonwork contributed to understanding cultural contact and change among Great Lakes Indians and also to a clarification of the role of material culture in acculturation.
Consumer Satisfaction/Dissatisfaction with the Fit of Ready-to-Wear Clothing

Karen Lilevjen LaBat

Minneapolis College of Art and Design, Minneapolis, Minnesota 55404

The apparel industry has recognized the problem of fit of ready-to-wear clothing and has tried several approaches to manufacturing clothing that will fit many people. One question that persists is the extent to which the consumer also recognizes the problem. Is the consumer satisfied with the fit of ready-to-wear clothing and what influences the level of satisfaction?

The objectives of the study were:
1) to describe the female consumers' satisfaction with the fit of ready-to-wear clothing, 2) to study the relationship of satisfaction with fit to body cathexis defined as one's positive or negative feelings towards one's body, 3) to study the relationship of satisfaction with fit to personal body proportion compared to an ideal body, and 4) to study the relationship of satisfaction with fit to an evaluation of the physical dimension fit of the consumer in terms of a standard sizing system.

The sample for this study was a non-random sample from a student population. The sample included 107 female students aged 19 to 40 who were enrolled in textiles and clothing courses at the University of Minnesota.

Data were collected using several techniques including: 1) a questionnaire developed to assess satisfaction with fit, 2) a body cathexis instrument to assess personal evaluation of body and 3) physical measurement techniques including modification of the somatography technique developed by Douty (1968) and anthropometry measures to assess body proportion and physical dimensions.

Satisfaction/dissatisfaction with fit was defined on two dimensions: 1) as a global measure of availability of good-fitting, fashionable clothing and 2) as an assessment of the physical fit of clothing at specific body sites. Subjects were moderately satisfied with the availability of clothing in their size range, but were not satisfied with the search process necessary to find clothing to fit. The measure of physical fit revealed that subjects were least satisfied with fit at the lower body. Responses to open-ended questions revealed that subjects often stated dissatisfaction with fit in terms of dissatisfaction with their bodies.

Subjects' body cathexis scores showed that subjects were least satisfied with their lower body compared to upper and total body. The measures of physical fit satisfaction and body cathexis were positively correlated. The strongest correlation was for lower body.

A method of analyzing body proportion in terms of the ideal body was developed for this study. A majority of the subjects were larger in lower body dimensions compared to ideal. Correlations of body proportion and fit satisfaction indicated that well-proportioned subjects were more satisfied with fit than less well-proportioned subjects.

Anthropometric measures were used to determine subjects' "goodness of fit" to a standard sizing system. Subjects were fit best at lower body and received poorest fit at upper body. There was no statistically significant relationship between satisfaction with fit and "goodness of fit".

Conclusions from this study were that satisfaction with fit is influenced by personal evaluation of one's body and correspondence of personal body proportion to ideal body proportion. Dissatisfaction with physical fit may be tempered by the availability of diverse sizing systems and styles to accommodate many body types.

Reference


This research was supported by the 1986-87 ACPTC-CR Doctoral Dissertation Fellowship.
ACPTC Eastern Region Officers and Committees

Officers

Nora MacDonald, President
  West Virginia University
Susan Hester, President Elect 1988
  Cornell University
Nadine Hackler, President Elect 1989
  University of Florida
Marjorie Norton, Secretary
  VPI and SU
Suzanne Loker, Treasurer
  University of Vermont
Judy Kline, Council Member
  Clemson University
Jan Yeager, National Representative
  West Virginia University
Judy Flynn, National Representative
  Framingham State University
Jo Paoletti, Past President
  University of Maryland
Judy Flynn, Archivist
  Framingham State University

Bea Kalka, Virginia Tech
  University of Mass.
Research Papers
  Jeanne Heitmeyer
  Florida State University
  Carol Warfield, Auburn University
  Clarita Anderson
  University of Maryland
Graduate Research Competition
  Carol Avery, Florida State University
  Marjorie Norton, Virginia Tech
  Carolyn Callis, University of Alabama
Design Competition
  Judy Kline, Clemson University
  Bettie McClaskey, Winthrop College
  Ellen Randolph, Winthrop College
Innovative Teaching
  Elizabeth Jennaway Eaman
  McGill University
  Anita Malone, Extension
  New Haven Connecticut
  Audrey Jarrelle, University of Connecticut
Poster Session
  Jo Paoletti, University of Maryland
  Mary Helen Marshall,
  Virginia Tech
  Elizabeth Jennaway Eaman
  McGill University
Evaluation
  Kitty Strickland, University of South Carolina
  Margaret Ordonez, University of Maryland
  Flora Cunningham, State University of New York

Conference Committees

Local Arrangements
  Bobbie Fuller, Teresa Wiley and
  Jane Thomas, Winthrop College
Proceedings
  Arlene Handschuch, Framingham State College
Hospitality
  Mary Swinker, Indiana University
  Joan Schmitt, Indiana University
  Mary Wilcoxon, Delaware State College
  Kathy Mullet, Redford University
  Rosalyn Lester, Redford University
  Colleen Frey, Buffalo State
  Ellen DeWind, Buffalo State
Public Relations
  Nadine Hackler, University of Florida
  Susan Davis, University of Rhode Island
  Jo Kellel, University of Delaware
  Phyllis Tortora, Queens College
Registration
  Suzanne Koker, University of Vermont
  Lynn Wilson, University of Vermont

Regional Positions

Futures
  Amelia Adams, Norfolk State University
The textile, apparel, and retail industries are in the midst of restructuring, as are many American industries. A significant recent trend is a growth cycle in mergers and acquisitions. An industry panel was formed to elucidate merger and acquisition activity in textile manufacturing, apparel manufacturing, and retailing. Panel members were: Ward Peacock, Executive Vice President and Chief Financial Officer of Springs Industries; Manuel Gaetan, President and Chief Operating Officer of Bobbin International, Inc.; and Alan Wiley, Senior Vice President of Planning and Research of Ivey's. Their presentations followed the order of the manufacturing-distribution chain. The order is maintained in the summaries below, which were prepared from notes taken during the presentations and an abstract provided by Dr. Gaetan.

Textile Manufacturing: Ward Peacock

Financial analysts have shown greater interest in textile manufacturing firms as the number of firms has declined and increased investment opportunities have arisen. To illustrate merger and acquisition activity, Mr. Peacock reviewed the largest 15 public textile companies as of 1981. All were integrated manufacturers of textiles. Presently, only four remain publically owned and each has participated in mergers or acquisitions, e.g., Fieldcrest with Cannon and Bigelow. Of the 11 others, six were acquired through stock tenders, including unfriendly, friendly, and white-knight buyouts. Three were hostile leveraged buyouts, and two were management-initiated buyouts. Overall, little direct effect of foreign investment has occurred.

Three major structural changes have accompanied the mergers and acquisitions: fewer companies; more holdings by non-textile companies; and higher debt loads, some exorbitant. The industry appears vulnerable to unfriendly tenders, and foreign competition threatens many firms. Enhanced market share can be achieved through mergers and acquisitions, often faster and at less expense than through internal expansion. Heavy debts sometimes are serviced by selling assets. Recent conditions of stable inflation and lower interest rates helped companies with high debt loads to survive. However, recession or increased interest rates could bring downfall. The hope is that firms' restructuring of their operations will improve their financial positions.

Apparel Manufacturing: Manuel Gaetan

Dr. Gaetan entitled his presentation "Anything You Can Do, I Can Do Better..." Merger and acquisition activity in the apparel industry is a function of economic conditions and the federal administration's legal attitude, with some administrations being more tolerant to such activity than others. The apparel industry has sought restructuring and consolidation depending on the outside forces impacting it. For example, many small and medium size companies have been import impacted on a gradual and increasing basis. Inventory rates have gone through a roller coaster ride, also impacting on apparel companies, particularly those whose inventory pipelines were clogged due to poor merchandising and sales forecasting.

During the 1960s and 1970s, there was significant merger and acquisition activity in the apparel industry though there was a sudden lull following 1972. In the 1980s, restructuring and consolidation renewed. The apparel industry was surprised when Blue Bell bought Jantzen, only to be shocked when Vanity Fair bought Blue Bell. Vanity Fair is a company whose acquisitions have been successful as they have integrated vertically and grown through external acquisitions as well as increased sales. They have purchased companies like Bassett Walker, an important active-wear company, Troutman, a trouser company, and many others. Wickes Lumber bought Kayser-Roth from Gulf and Western. When one of its former executives bought $100 million worth of business from Kayser-Roth, Wingspread was formed. That acquisition did not fare well. The Kellogg Company has been very active in acquisitions within
the last couple of years, having bought about six small and medium size companies. The subject of the presentation, however, was not statistics but management. There are two ways to run a conglomerate or diversified company: the centralized and the decentralized styles of management. In the mid-1960s, Genesco was the classic example of centralization whereas Kayser-Roth, with a lean corporate staff, was the classic example of decentralization. Today, Interco is so decentralized that, when a recent corporate meeting took place, company presidents met for the first time. Interco owns Cowden, London Town, Queen Casuals and other companies.

About the only centralized function which is common to all diversified companies and conglomerates is the financial function. Manufacturing and marketing in decentralized companies operate autonomously and independently. About the only time autonomy is lost is when profits fall or disappear. Then that common thread, the financial function, begins to pull towards the corporate office.

Mergers and acquisitions offer such advantages as improving financial position and stability and obtaining land, buildings, and other valuable assets. Yet, management problems may exist. Dr. Gaetan justifying his presentation's title by referring to the common fallacy that the acquiring company is more talented than the acquired company. Many acquisitions do not work out or do not blossom to the synergistic level which they should because, after the "honeymoon" ends, the implied superiorities and related conflicts emerge. They typically emerge when manufacturing and marketing divisions are forced to work together as part of the financial function. Suggestions to resolve these conflicts include the rotation of responsibilities and the use of the "talent tank" method of sharing expertise.

Another major problem lies in corporate raiding and the use of too much money in buyouts at the expense of investments to improve competitiveness. Such practices must be stemmed in order to re-establish U.S. competitiveness.

Retailing: Alan Wiley

Acquisitions and mergers in retailing totalled 400 in the last seven years. During this period, two lifestyles emerged which changed department store customers' viewpoints. First, increased numbers of employed women led to the growth of specialty stores which catered to the needs of this target group. Second, increased education among consumers led to the growth of discounters which catered to the needs of the value- and price-conscious consumer. In response to these changes and resulting profit losses, department stores sought to boost sales through acquisitions and mergers.

The notion of "bigger is better" took effect as retailers grew through vertical and horizontal integration. Reasons for these actions were to attain: geographic and product dominance, elimination of competition, higher returns on investment, and economies of scale and technologies. Between 1985 and 1987, another reason to purchase retail operations came from foreign investors whose major incentive was to acquire U.S. real estate. An example is the 1986 purchase of Allied Stores by Campeau, a Canadian real estate investor. Retail space has continued to grow and has led to the U.S. being "over-stored."

The industry trend has positive and negative aspects. An acquired company is able to liquidate less profitable assets, insulate itself within a larger company, benefit from more sophisticated controls, and facilitate expansion. However, there are disadvantages to both the larger, acquiring company and the smaller, acquired company. The acquiring company experiences high turnovers in management, perhaps including the departure of key management talent. High debt levels also are accrued. The acquired company experiences loss of jobs, and limitations on autonomy and flexibility.

It has been estimated that vertical and horizontal integration in retailing account for 66% of the current activity. Leveraged buyouts account for 19%, divestitures and foreign capital account for 9%, and 3% may be attributed to other industries, e.g., real estate, entering the retail sector.

The assistance of Mary Yuen and Janine Damran in preparing this summary is gratefully acknowledged.
The Bridge Between the Apparel Industry and Consumer

AAMA Consumer Affairs Committee, Jerry B. McGinnis, Harris E. Clark, Jr., William B. Clapp, Jr., Ann Pullium, Victor Hershaft

The AAMA was conceived to form an industry wide organization which will help domestic apparel manufacturers speak with one voice and respond to the competitive threat of imports from low wage countries. AAMA also has strong programs in economics, marketing, technology, education and public relations. Since its founding in 1960, AAMA membership has grown to include two-thirds of all apparel produced in the United States. A main objective of AAMA is to encourage its members to be responsive to the needs and concerns of consumers. The Consumer Affairs Committee was formed to accomplish this goal.

The Consumer Affairs Committee works to disseminate pertinent information to the consumer and reports back to the industry concerning consumer expectations, complaints and trends. The committee is comprised of apparel manufacturers, suppliers, retailers, universities and independent researchers related to apparel manufacturing.


An ongoing major project is an extensive "Consumer Guide" which will serve as a reference for issues dealing with questions consumers ask about clothing specifically involving care, construction, labeling, counterfeiting and sizing. Each of these topics will be reviewed at this meeting. After review of these topics, time is reserved for an open discussion and input on these topics will be noted for the production of the "Consumer Guide".
The U.S. Textile Industry has been the victim of a "hostile environment" for the past several years. The environment is characterized by slow growth markets, a leveling of per capita consumption of textile products, intensified domestic competition, drastically increasing imports from around the world, high budget deficits and runaway deficit trade balances.

The industry response has been somewhat slow and varied; however it has gained momentum in recent years.

The major areas of response are:

**Quality** - the U.S. industry slipped into a position that was inferior to imported products. A commitment to improve has resulted in quality generally considered superior to imports.

**Cost Reduction** - programs of internally reducing costs and helping customers to reduce their cost. Increased use of computerized process control and artificial intelligence.

**Crafted With Pride** - an appeal to the consumer's nationalistic feelings.

**Quick Response** - a partnership with suppliers and direct and indirect customers to drastically reduce the lead time required to get finished product to retail.

**Research and Development** - increased expenditures to assist in product design and equipment and process improvements.

**Legislative Initiatives** - the Textile Trade Bill passed both houses of Congress in 1985. The President vetoed the bill and we fell just short in an attempt to override. A new bill passed the House this year but has not yet come to the Senate floor.

The initiatives outlined above have begun to pay dividends. Industry profits have improved but are not yet at an acceptable level. If the industry can get some semblance of support from U.S. Government it will have a bright future. There is much to be done. The industry is capable of meeting the challenge.
The issues of flammability and soiling of upholstered furniture are important to manufacturers, retailers and consumers. Fluorocarbon finishes are used on many upholstery fabrics for protection from spills and stains. Voluntary compliance with the UFAC standards indicates the manufacturer has made the upholstered furniture to meet specified standards for smolder resistance. However, the question can be raised of whether the soil repellent finishes affect the upholstery fabric’s smoldering characteristics, and conversely, whether experimental smolder resistant finishes would decrease the effectiveness of soil repellent finishes.

A 100% cotton upholstery fabric was used in this study of the effects of finishes on soiling characteristics and smolder resistance. The finish treatments included untreated, borax-treated, fluorocarbon soil-repellent treated, and a borax plus fluorocarbon treatment. Soils used were bandy black clay and oil-bound bandy black. Cleaning methods included vacuuming, sponging with perchloroethylene and use of a powdered commercial cleaning aid.

Soiling and soil-removal were evaluated using reflectance methods. Smolder resistance was evaluated using the UFAC mock-up test, thermogravimetric analysis, and a modified bottom ignition Oxygen Index Test. Analysis of variance was used to determine the effects of the variables. The soil repellent finish reduced particulate soiling. Borax had a tendering and a roughening effect on the fabrics and caused more soil to be trapped on the fiber surface. However, the apparent effects of the borax on the degree of soiling were not large because the borax finish made the fabric appear whiter. Oil-bound bandy black soil was more difficult to remove than was bandy black alone.

Thermogravimetric analysis showed that the borax finish reduced the weight loss which occurred as a result of pyrolysis of cellulose and also reduced the temperature at which pyrolysis of the cellulosic substrate and oxidation of the char occurred. Soils and cleaning methods did not have any significant effect on these results. In the modified Smoldering Oxygen Index (SOI) test, the soil-repellent fabric showed the highest SOI. Unexpectedly, the borax treated fabric had only a slightly higher SOI value than did the untreated fabric. Smolder front maximum temperature of the borax treated fabric corresponded with the decomposition temperature of H3PO4 and for the non-borax treated, it approximated that at which oxidation occurred.

Particulate soils contributed differently depending on the finishes. They increased SOI, maximum temperature and smolder-rate values for the untreated and the soil repellent-treated fabrics, but reduced these values slightly for the borax treated fabrics. All fabrics, however, failed the UFAC test, mainly from ignition of the foam.
FORMALDEHYDE EMISSION RATES FROM DP SHEETING FABRICS

Marie N. Carver

Many consumer products release formaldehyde into the atmosphere at varying rates. This can lead to consumer annoyance and health-related complaints. The purpose of this research project was to measure the amount of formaldehyde released into the home environment from selected durable press (dp) sheeting fabrics. The main objectives were to (1) determine the formaldehyde emission rates ($CH_2O$ ERs) from the sheeting fabric samples and (2) measure the airborne level of formaldehyde released from the samples.

Eighteen samples, each of dp white sheeting fabrics of 100% cotton, 60/40 cotton/polyester, and 65/35 polyester/cotton, were purchased from commercial sources. A Formaldehyde Surface Emission Monitor (FSEM) was used to measure formaldehyde release for the 54 samples after 0, 5, 10, 15, and 25 washings. Emitted formaldehyde was sorbed by a planar distribution of 13X molecular sieve supported inside each monitor and then analyzed by using a water rinse desorption, colorimetric procedure. The samples were measured spectrophotometrically using pararosaniline. The emission rate coefficient ($\mu g/m^2/d$) was calculated for each sample. Finally, the emission rate coefficient was used to estimate contributions (ppb) of formaldehyde to an average room in the home. Total formaldehyde extracted into toluene was measured by the perforator method.

Total formaldehyde analysis showed that the 60/40 cotton/polyester fabric had the largest amount of formaldehyde. The dp sheeting fabric of 65/35 polyester/cotton had the smallest formaldehyde content. Total formaldehyde for the three dp sheeting fabrics decreased with each washing time. Results of the formaldehyde emission rate test indicated that very little of the total formaldehyde was released from the fabrics. The analyses also showed a decrease in formaldehyde emission with each subsequent washing. The amount of formaldehyde emitted leveled off between 10-15 washings.

The dp sheeting fabrics were found to be a source of formaldehyde emitted into the home. The formaldehyde contribution to the home environment was found to be much less than OSHA limitations (3 ppm) in the workplace but it falls within the limitations (100 ppb) for domestic air quality set up by ASHRAE and European countries. The potential impact of formaldehyde release on indoor air quality is a subject of increasing concern, especially with current emphasis on energy-efficiency.
A SURVEY OF AGRICULTURAL WORKERS AND PROTECTIVE CLOTHING USAGE

FOR THE APPLICATION OF PESTICIDES IN THE CAROLINAS

Bette McClaskey, Winthrop College, Rock Hill, SC 29733; Billie G. Oakland, Carol Gahagan, Corinth Milikin, Youn Kim, University of North Carolina at Greensboro, Greensboro, NC 27410

The objectives of this survey were to examine the usage of protective clothing as a barrier to pesticide exposure, laundry practices, and attitudes toward adoption or rejection of protective clothing by agricultural workers exposed to pesticides. After a pilot study was made, a random sample of farmers was taken from a population of 540 farm families in Guilford County, N.C., and 316 peach growers in South Carolina. The sample size was 122.

A demographic profile of respondents was drawn by age, education, crop categories, farm size, and farm income by acre. Pesticide exposure was determined by toxicity level and exposure time. Significant differences were found for laundry methods, protective clothing usage, and attitudes toward wearing protective clothing by state.

A wide variety of protective clothing was reported. However, rubber suits were most commonly reported as being used in the application of pesticides.

Agricultural workers most likely to use protective clothing in the application of pesticides operated large farms generating gross farm incomes over $240/acre and had varying levels of post secondary education. Agricultural workers least likely to wear protective clothing were operating small farms, part-time or full-time, with gross annual incomes of less than $20,000, educational levels below high school, and gross farm incomes of less than $120 per acre.

This research was funded by the Southern Regional Project, S-163, the North Carolina Agricultural Research Service, and the South Carolina Experiment Station.
The relationship between air permeability and thermal insulation of multilayer fabric assemblies

Helen H. Epps
University of Georgia
Athens, Georgia 30602

Thermal insulation materials function by limiting one or more of the modes of heat transfer: conduction, radiation or convection. Impermeability to air is a necessary quality of materials used to limit heat transfer by convection. However, the relationship between heat transfer and air permeability of a fabric assembly is dependent upon the fabric geometry, thickness, and the number of fabric layers which make up the assembly. Previous research has shown that a curvilinear relationship exists between air permeability of a fabric assembly and the number of fabric layers in the assembly (Epps, 1982). However, up to a certain critical number of fabric layers (the number being dependent on fabric thickness and weave openness), the relationship is linear, with air permeability decreasing as the number of fabric layers is increased. In agreement with this theory, relatively air impermeable multilayer fabric assemblies whose individual components are highly permeable to air were developed. It was hypothesized that such an assembly would provide the necessary bulk and would incorporate air space which has been shown to reduce heat transfer by conduction.

The purpose of this research was to determine the relationship between air permeability and thermal transmittance properties for various types of fabric construction, in both single and multilayer assemblies, and to assess the role of fiber, yarn structure, and fabric geometry in the relationship between air permeability and thermal transmittance. A secondary purpose of the project was to develop a method of determining the ideal number of fabric layers in a multilayer insulation assembly, through assessing the fraction by which each successive layer of fabric in a multilayer assembly reduces air permeability and thermal transmittance.

Eleven fabrics representing various fiber and fabric structures were included in the study, and are identified in Table 1. Single and multilayer air permeability of the fabrics was measured using a Frazier Air Permeometer, and thermal transmittance was measured using a Custom Scientific Guarded Hot Plate thermal transmission unit.

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100% cotton, plain weave</td>
</tr>
<tr>
<td>B</td>
<td>100% cotton, twill weave</td>
</tr>
<tr>
<td>C</td>
<td>100% viscose rayon, plain weave</td>
</tr>
<tr>
<td>D</td>
<td>100% spun Orlon acrylic, plain weave</td>
</tr>
<tr>
<td>E</td>
<td>100% silk broadcloth</td>
</tr>
<tr>
<td>F</td>
<td>100% wool flannel</td>
</tr>
<tr>
<td>G</td>
<td>100% Dacron polyester, plain weave</td>
</tr>
<tr>
<td>H</td>
<td>100% spun polypropylene, plain weave</td>
</tr>
<tr>
<td>I</td>
<td>100% polypropylene, nonwoven</td>
</tr>
<tr>
<td>J</td>
<td>100% polyester, nonwoven</td>
</tr>
<tr>
<td>K</td>
<td>100% wool jersey knit</td>
</tr>
</tbody>
</table>

Fabric E exhibited the highest single-layer thermal transmittance, while fabric H had the highest single-layer air permeability. In decreasing order of single layer thermal transmittance, the fabrics were: E>B>C>D>G>I>J>K>l>A>F, and in decreasing order of air permeability the measurements were: H>G>D>J>K>C>B>I>A>E>F. It should be noted however, that the order of the fabrics altered greatly as increasing numbers of fabric layers were tested.

Statistical analysis indicated that for each of the fabrics, there was a direct relationship between air permeability and thermal transmittance. The correlation between the two properties varied among the fabrics, indicating the role of yarn and fabric geometry in determining thermal and air permeability properties of fabric assemblies. As the number of fabric layers in the multilayer assembly was increased, both the air permeability and the thermal transmittance of the fabric assembly decreased.

Reference:
A Study of Women's Traditional Dress Using the Ethnohistorical Method

Ethnohistory has been found to be a viable way for pursuing research on the cultural aspects of textiles and clothing (Pannabecker, 1986). Ethnohistory is an interdisciplinary approach using both documentary methodology as well as field research to study the past of cultures and societies.

The study was concerned with women's traditional costumes of the Argolida-Corinthia region of the Peloponnese. In the 19th century, women's traditional dress in the area of Greece resembled the costumes worn during the Byzantine Empire. There was a slow transition to Western dress styles that took place from the latter part of the 19th century to the first part of the 20th century. Although traditional costumes have not been worn since World War II, many people still remember how they were worn and have saved many of them in their family dowry chests. The objectives of the research were: 1) to learn what local variations existed in cut, materials used, embroidery design and color; 2) to document the changes that took place in the costumes since the 19th century; and 3) to better understand the cultural context of traditional dress within peasant societies.

The research was conducted in Greece during the Fall 1986 semester. The approach to solving the problems was ethnohistorical in that a combination of field research and documentary research was used. Extant garments attributed to the provinces of Argolida, Corinthia and nearby areas in Greek museum collections were studied and photographed. Travellers' accounts from the 17th, 18th and 19th centuries were read for descriptions of Peloponnesian peasant costumes. Nineteenth century paintings and watercolors which included Peloponnesian costumes were studied. Tape-recorded interviews were conducted with elderly women in 53 villages who remembered wearing these costumes. An album compiled from photographs of the costumes in museum collections were used during the interviews to facilitate discussion. In addition, old family photos and costumes from interviewees' dowry chests were photographed.

The ethnohistorical method worked extremely well for this study, providing a more complete picture than if documents alone were used or if field data was the sole source. Considerations to be discussed include knowledge of a foreign language, use of interpreters, interview protocol, the effectiveness of the photo album in interviewing, credibility of interviewees, and "on location" photography. Although all the data has not yet been fully analyzed, tentative conclusions may be made concerning local variations in costumes worn in the many villages of Argolida and Corinthia, the transition from folk dress to fashionable dress, and the meaning of costume within peasant society.

ETHNIC TRADITIONS IN "FIGURED AND FANCY" COVERLET ADVERTISING

Clarita S. Anderson
University of Maryland

We tend to think of brand names and identifiable logos as the inventions of the 20th century marketers. The current fad or fashion of wearing the designer’s name and/or logo on the right side of our clothing is seen as a positive status symbol. Almost everyone recognizes such logos as the alligator, the swan, or the polo pony and identifies the alligator as LeCosta’s trademark, the swan as Gloria Vanderbilt’s, and polo pony as Ralph Lauren’s. Less subtle than the logo are the designer’s names across the back pocket of one’s jeans.

The thesis of my research is the use of obvious brand name labeling and logos in American textile products has a history of at least one hundred and fifty years and during that period of history, the choice of logo or craftsman’s name was very often a matter of the ethnic heritage of the craftsman and/or client. Coverlets rather than clothing will provide the data for the research.

For the purposes of this study, coverlets will be defined as a decorative loom woven bedcovering used as the uppermost covering of a bed. The ethnic heritage of the weavers was either Scottish-English or German. The coverlet consumers were predominately German and Dutch.

A coverlet data base of about 4,000 coverlets was used to test the hypothesis. The coverlets were sorted into the following three categories:

1. those which have at least a logo,
2. those which have at least a weaver’s name, and
3. all others.

Further sorting of categories one and two took place. Category one was sorted by whether or not the logo has been identified. It is safe to assume that all of the logos were recognized at the time of their manufacture and this information has since been lost. Those identified were further sorted by the ethnic heritage of the weaver if known. Category two was further sorted by the ethnic heritage of the weaver if known.

Preliminary studies indicate that the majority of weavers with a German heritage used corner blocks with their name and location plainly indicated. Those of Scottish or English heritage used logos as a means for their identification.

The significance of the research is threefold; it provides a new methodological approach for artifact study, it provides insight into the business practices of 19th century craftsmen, and it establishes differences in ethnic practices among these craftsmen.
Clothing Behavior and Self Concept of Korean Adolescents in a Transition Period

Aehwa Cho, Marjorie Norton

Clothing identifies and differentiates individuals and may express their self concepts. This research investigated self concept and clothing behavior of Korean adolescents in a transition period of sociocultural change. Traditionally the Korean government required students to wear school uniforms. This study in 1982 followed a decision to allow urban high school students to wear non-uniform apparel, though appearance restrictions, e.g., hair length, remained.

The objectives were to (1) measure adolescents' self concept, clothing behavior, and perceptions of their families' socioeconomic class, of home and school environments (democratic/autocratic), and of influences of information sources and brands on clothing choices; and (2) determine relationships among variables.

A questionnaire was developed. It contained the Won Shik Chung self-concept scale with subscales on self esteem, self acceptance, and self adjustment. This scale of the Korean Testing Service has had wide use in Korean schools and has well-established reliability and validity. A clothing behavior scale measured five aspects of clothing use: aesthetics (included neatness), conformity, dependence, fashion, and satisfaction. It was based on Korean modifications of a scale developed by Creekmore. Forced-choice questions pertained to the other variables. Classroom teachers administered the questionnaire to sophomores in two all-male and two all-female private schools in Seoul. Data were analyzed using frequency distributions, comparisons of mean scores, and correlations.

The sample included 181 males and 197 females, mostly middle class. Many perceived home (52%) and school (61%) environments as democratic. Family members were the most influential clothing information source for 41%, followed by friends for 35%. Previous use of uniforms perhaps led to no concern with brands in choosing clothing for 52%. Overall self-concept scores were high, implying positive or neutral effects of the changes underway. Comparisons of mean scores on clothing behavior aspects indicated that aesthetics, conformity, and satisfaction held the greatest importance. Males' scores on all aspects were below those of females. However, the generally low scores on dependence suggested little reliance on clothing for psychological security.

Some significant (.05 level) relationships were found between scores on self-concept subscales and clothing behavior aspects. Self esteem related positively to aesthetics and satisfaction for both sexes, and to fashion for females. Self acceptance in both groups related positively to satisfaction with clothing. Self adjustment related positively to satisfaction and negatively to conformity for females, and it related positively to aesthetics for males.

It was concluded that the adolescents felt good about themselves and their environments. High self concept seemed to be reflected in clothing satisfaction, one of the most important clothing aspects. Long experience with clothing restrictions appeared to be consistent with the reported influence of information sources and brands, with the relative importance of clothing aspects, and with at least some relationships between self-concept components and clothing behavior aspects, e.g., aesthetics which included neatness.
Marketing Natural and Synthetic Fibers to Women Apparel Consumers

Jane Boyd Thomas, Winthrop College, Rock Hill, S. C. 29733
Sandra M. Forsythe, Miami University, Oxford, Ohio 43056

Fiber content is one of the most important factors which influences consumers’ clothing purchase decisions. However, there has been little empirical research to substantiate a preference for natural or synthetic fibers or to link perceptions of fibers with any particular market segment. The purposes of this study were: to study the role of fiber content in apparel purchase decisions among women; to identify women’s perceptions of natural, blended, and synthetic fibers; and to examine the effect of age, income, education, occupation, and clothing involvement on their perceptions of the fibers being studied.

The research instrument was a self administered questionnaire. Information on fiber preferences for casual and dressy blouses and skirts, consumers’ perceptions of four fibers (cotton, polyester/cotton blends, silk, and polyester), and demographic information were obtained from the questionnaire. The surveys were distributed to women shoppers in three Charlotte, North Carolina metropolitan area malls. A total of 177 surveys were returned for a 33% response rate. The data was analyzed using chi-square analysis, principal component analysis, and multivariate analysis of variance (MANOVA).

Chi-square analysis revealed a significant difference in fiber preference (at the .01 level) for a casual and dressy blouse and skirt. For a casual blouse the polyester/cotton blend was the most preferred fiber content while for a dressy blouse silk was preferred. For a casual skirt and dressy skirt the blend was by far the most preferred fiber content.

Consumers’ perceptions of the four fibers showed that respondents perceived cotton to be the most comfortable fiber to wear, polyester/cotton blends as easy to care for, silk as expensive and luxurious, and polyester as very practical. Of the demographic variables investigated (age, education, and clothing involvement) none appeared to be particularly good predictors of women consumers’ fiber perceptions. Only "clothing involvement" significantly influenced the perception of cotton (.01 level) whereas age and education influenced consumers’ perceptions of polyester/cotton blends (.01 & .05 respectively). Perceptions of silk and polyester were not significantly related to any of the independent variables.

There are several implications for marketers, retailers, and retail educators which can be made based on this research. First, retailers need to understand consumer fiber preferences and perceptions and use this information as a tool when making apparel buying decisions. Knowledge of consumers’ fiber perceptions will aid retailers in making merchandising and promotion decisions such as buying apparel made of the fiber customers prefer or promoting the luxury and value of silk. Also, information from this study would aid textile and apparel manufacturers that are interested in using fiber as a promotional tool. Finally, retail educators can use this information in merchandising and buying courses as a basis for discussing how consumer fiber preferences and, more importantly, consumer perceptions of fiber might affect apparel buying decisions and merchandising strategies.
Ramie has been grown in the Far East for many centuries and its fiber used for making cloth even before the introduction of cotton. Despite the fiber's use for a wide variety of products, it was little known in Western markets or widely traded until the 1980's.

The goals of this research were 1) to determine where ramie is presently produced, processed, and finished; 2) to analyze world trade patterns of raw, processed, and finished ramie textile and apparel products; 3) to assess the impact of ramie imports on the U.S. market; and 4) to make recommendations for the marketing of ramie products in order to maintain its presence in international textile markets.

Methods employed to accomplish these goals included a review of historical and current literature on ramie production and trade, as well as analyses of Department of Commerce and United Nations data. These data, collected and provided by individual countries, enabled the researcher to track imports and exports among the major trading countries from 1980 to 1986. Trade patterns from 1930 to 1979 were reconstructed from historical documents.

In the most recent period, three states of ramie trade were examined. These included: 1) raw ramie; 2) processed ramie, and 3) apparel products. Worldwide trading patterns according to stage of processing were described and analyzed. Emphasis in this study was placed on four countries. The three major producers, China, Brazil, and the Philippines, were examined in detail, as well as the major importer of ramie products, the United States.

The U.S. Department of Commerce has been monitoring ramie imports since 1983 under the "Non-MFA Fiber" category. Ramie products imported into the U.S. market were examined on the product category level to assess changes in trading patterns. These data indicate that import levels of ramie apparel have a greater impact on the U.S. textile and apparel trade balance than imports of ramie textiles. Major shippers of particular types of garments were determined in addition to the types of imported garments which most often had a ramie fiber content. The relationship between ramie trade and the provisions of the Multifiber Arrangement (MFA) was examined as well as the implications for further trade under the MFA signed in August 1986. This latest renewal included ramie products for the first time, prompting the United States to define a new set of categories for tracking the importation of ramie products. A plan for marketing ramie products was a logical conclusion to this study since the recent success of ramie apparel in the Western markets has been clearly linked to its non-inclusion in former MFA agreements.
COMPETITION IN THE OECD APPAREL IMPORT MARKET

Rachel Dardis, University of Maryland, College Park, Maryland, 20742
Qinliang Gu, China Textile University, Shanghai, China

The objectives of this study were to examine the export competitiveness of countries in the Far East (China, South Korea, Hong Kong, Taiwan) in the area of apparel. These countries have been responsible for most of the export growth of apparel in the last ten years. Exports to countries in the Organization for Economic Cooperation and Development (OECD) were examined from 1975 to 1984. The OECD market is the largest apparel import market in the world accounting for more than 75 percent of total world apparel imports in the period under review.

In the first part of the study, constant market share analysis (CMS) was applied to exports from the Far East to the OECD using annual data from 1975 to 1984. Three time periods were identified in this analysis. They were: 1975-77, 1978-81 and 1982-84. These periods coincide to some extent with MFA I (1974-77), MFA II (1978-81) and MFA III (1982-86). The OECD apparel import market was separated into five regions - the European Economic Community (EEC) the European Free Trade Association (EFTA), United States/Canada, Japan and Australia/New Zealand. The world of competitors was all exporters excluding the four Far East countries.

Far East exports to the OECD increased in all three time periods. The increase ranged from two billion dollars in 1975-77 to approximately four billion in 1978-81. The three major factors responsible for the growth of exports from the Far East were the world trade effect, which reflected the increase in OECD imports from all countries, the market effect, which reflected different import growth rates for different OECD countries, and the competitive effect, which reflect the export competitiveness of the Far East relative to other exporters. These three effects may be positive or negative and are generally expressed as a percentage of the total increase in exports in a given period. The world trade effect was positive in all three time periods and accounted for 38 percent to 68 percent of the growth of Far East textile exports to the OECD. The market effect was negligible in the first two periods but accounted for 11 percent of total export growth in 1982-84. The competitive effect was 29 percent, 53 percent and -49 percent in the first, second and third periods respectively. The negative competitive effect in 1982-84 is of particular interest since it may reflect the provisions of MFA III which limited export growth from Hong Kong, South Korea and Taiwan relative to other developing countries.

In the second part of the analysis, changes in the OECD apparel import market were examined. Logistic growth functions were fitted to OECD apparel imports from the Far East and OECD Europe (EEC and EFTA) for the 1975-84 time period. The results of the analysis were then used to project the market shares of both these regions. The market share of the Far East increased from 28 percent in 1975 to 40 percent in 1984 and was projected to reach 51 percent by 1994. This increase in market share was at the expense of OECD Europe whose market share declined from 52 percent in 1975 to 37 percent in 1984 and was projected to decline to 27 percent in 1994. These changes reflect the labor intensive nature of apparel production and the fact that wages are lower in the Far East than in the EEC or the EFTA. In addition, some trading-up probably occurred as countries in the Far East responded to quantity restrictions by exporting higher value goods to the OECD. The Far East was also competitive with other developing countries whose market share only increased from 16 percent in 1975 to 20 percent in 1984. This may be due to a variety of factors including productivity-quality control problems as well as quota constraints for emerging apparel exporting countries.
The Sheth (1973) model suggests that one aspect of an individual's background which is likely to affect retail buying decisions is education. One objective of fashion merchandising education is to teach appropriate buying decisions. However, there is no research documenting the effect of a fashion merchandising course on students' decision making. Consequently, the purpose of this study was to compare the retail buying decisions of students before and after completing a fashion merchandising course.

Nineteen students completed a set of hypothetical buying tasks before and after taking fashion merchandising in Fall 1986. Each buying task described a fashion-forward blouse in terms of eight product characteristics, varied at two levels each in a 1/16 fractional factorial design with full replication. For each blouse, students were asked to make a saleability decision by placing a slash (/) along a 100 millimeter continuum ranging from "not at all saleable" to "very saleable".

Hays' omega square (\( \omega^2 \)) was used to assess the percentage of variation explained by each product characteristic. At the beginning, those values were: fiber content (1.31), cut (0.31), color (1.75), brand (2.88), markup (1.50), country of origin (9.69), selling history (2.69), and advertising allowance (16.00). At the end, the values were: fiber content (2.94), cut (1.63), color (6.38), brand (1.54), markup (1.50), country of origin (2.19), selling history (7.65), and advertising allowance (22.06). The results of a follow-up t-test showed that during the course, advertising allowance, selling history, and color became more important in the students' saleability decisions, while country of origin became less important (\( p < .05 \)). There was no change in the other characteristics.

Ettenson and Wagner (1986) demonstrated that selling history and markup were the most important characteristics in the saleability decisions of retail buyers. Other characteristics, including country of origin, were of minimal importance. The results of this study show that during the fashion merchandising course, the saleability decisions of the students became more like those of the buyers with respect to selling history and country of origin. These results offer preliminary support for the relationship between education and retail buying decisions suggested in the Sheth (1973) model.


Computer Skills in Retail Education

Margaret E.L. Huber, University of Rhode Island, Kingston, Rhode Island 02881-0809

Susan L. Davis, University of Rhode Island, Kingston, Rhode Island 02881-0809

The structure of the present-day retail industry is changing due to a number of factors, one of which is increased utilization of computer systems. Research studies have periodically investigated the training needs of students planning to assume retail management positions. Because of the changing scope of the industry and the number of individuals employed, it is important that such data be kept current. The purpose of the study was to compare the viewpoints of retail employment executives and retail college educators toward curricular needs of students interested in careers in retail management. Emphasis was placed especially in the area of computer competence.

The top 50 retail employment executives from the 100 department stores as listed in Stores magazine and of 50 retail educators from four-year American colleges and universities were chosen for the study. A questionnaire in the form of a four-point Likert scale was used to assess attitudes related to importance of computer competencies in the education of retail students. The questionnaire also included questions concerning the extent to which personal characteristics and qualities, background coursework, and degree programs influenced hiring practices.

T-tests were used to determine the statistical significance of responses by retailers and educators. In general both groups agreed on the importance of functional competencies in relation to the use of computers. The data showed that 64 percent of the responding schools are keeping up with new technology and those that do not include computer courses in their program of study have future plans for implementing the use of computers in their curriculum. Over 50 percent of the responding retailers felt computer competencies were important because trainees are asked to use the computer in their work. Answers to questions concerning coursework showed the most response disparity. On the whole, retailers placed primary importance on courses strong in the technical aspects of business (math or accounting, marketing), or had a strong emphasis on dealing with people (management, communications/human relations). Educators, on the other hand, emphasized courses that dealt with "things" (merchandising, marketing), or theory (retail structure and strategy). Findings indicated that educators and retailers are in line in their assessment of the importance of computer training for students interested in retail management careers. The research also indicated, however, that course emphasis in retail education programs is an area for future consideration.

Effects of Fabric Skewness on the Drape of Skirts

Lois Gurel, Carolyn Moore
Virginia Tech

Skewness is one of many fabric defects prevalent in the production of fabrics. In woven fabrics lengthwise and crosswise yarns form 90 degree angles. Skewness results when crosswise yarns are angularly displaced from a line perpendicular to the selvage of the fabric. This condition is induced in the finishing operation when an uneven distribution of tension exists across the fabric. When fabric is made into a garment the lengthwise seams twist around the body, noticeably affecting appearance. Comfort may also be affected adversely. Although there are no mandatory standards for skewness tolerance, the textile industry generally assumes that if skewness does not exceed 1 1/2" (3%) in a 45" width of fabric, garments are not affected. Apparel manufacturers do knowingly buy defective fabric hoping to cut around the defects. However, skewness is a defect that cannot be cut around.

Quality control in fabrics was recently investigated as a classroom project. When examining fabric for defects, we found that 21% of the pieces were skewed from 1" to 2". Data collected again the following year showed that skewness and/or bow were present in 72% of the pieces; 9% were skewed more than 1 1/2". The objective of this research was to determine the amount of skewness that can be present in a piece of fabric before the drape or hang of the garment is affected.

Straight skirts were constructed from fabric with progressive amounts of skewness from 0% to 2% in a 45" fabric. Skewness was measured according to ASTM D 3882. A size 10 mannequin "wore" the skirts and each skirt was photographed from sides, center front, and center back with a stationary plumb line in camera view. Skew was measured with a digitizer to plot x, y coordinate points at hip line and hem. The difference in the points from the stationary plumb line was used for data analysis. Following the first data reading, the skirts were washed according to AATCC Method 143. The photographs and measuring processes were repeated to see if skewness changed with launderings.

An analysis of variance indicated a significant difference between fabrics, $F(4, 39) = 3.64, p < .008$, and seams $F(3.39) = 25.78, p < .0001$. Results of Duncan Multiple Range Test indicate the significant difference occurred at a fabric skewness of 1/2 inch (slightly more than 1%), and that the swing of the side seams was greater than centerfront and centerback. Those who have worked in garment assembly are aware of the problems of off-grain fabrics. Results such as these may help the industry set reasonable limits of skewness in fabric. This project is part of an ongoing project investigating fabric defects and we hope that the information will be of use to teachers and extension personnel working in clothing construction areas and also to the apparel industry in general.
Fabric Flaws In Piece Goods Sold As First Quality

Carolyn Moore, Lois Gurel

Fabric tolerance levels, and grading systems for determining fabric quality were investigated in ongoing research beginning in the Fall of 1985 at Virginia Tech. Data on defects in fabrics purchased for class projects were collected by undergraduates under the guidance of graduate students and faculty. There is no mandatory fabric grading system, but self-imposed systems are accepted within the textile and apparel industry (Powderly, 1981). A 4-Point System generally is accepted in the industry for apparel fabrics. A limit of 40 points per 100 square yards (30 points per 100 yards of 45" fabric) has been set for first quality goods. The 4-Point System was used in this study.

Fabric flaws identified are holes, stains, slubs, knots, broken warp and filling yarns, and dye imperfections. Flaws less visible that cannot be cut around are bow and skewness. Fabric is woven with the warp and filling yarns perpendicular to one another; deviation from perpendicularity in the fabric results in bow or skewness. No single standard is used by the industry to determine when bow and skewness become excessive. Some companies specify a limit of 3% of the fabric width (1 1/2" in a 45" width). Powderly (1987, p. 53) suggests that more restrictive standards for bow and skewness are needed.

Inspecting fabric is time consuming and costly. Many apparel manufacturers are willing to risk up to 15% garment seconds by accepting a lenient inspection to keep the cost of the fabric down. Data collected Fall 1985 indicated that fabric purchased for class projects were graded by lenient standards. The quality of 48 pieces of fabric was determined by the 4-Point system, and 27% were classified as second quality (Moore & Gurel, 1987). A sample of 127 fabrics were used in the Fall 1986 project phase. Defects were found in 35% of the pieces and 12% were graded as second quality. Two yards or less were purchased for 90% of the classroom projects and the most yardage purchased in one piece was 2 5/8 yards. Penalty points were figured on the basis of 6-yard cuts for a fair comparison with industry standards.

Bow and skewness were analyzed in the 1986 data. Skewness and/or bow were present in 92 of the 127 pieces; 9% of the 92 contained skewness in excess of 1 1/2". A total of 19% of the sample of 127 pieces were graded as seconds as results of excessive skewness and patent flaws.

Quality consciousness by the United States textile and apparel industries is a necessity to improve the competitive position and profitability of domestic companies. In mid-1985 some apparel manufacturers invited their fabric suppliers to meet with them in an effort to improve the relationship between the domestic apparel and textile industries (Fortesc, 1986). The meeting resulted in the formation of the Textile Apparel Linkage Council (TALC). The major goal of the organization is to set voluntary standards that can be communicated in a standardized format. One topic being addressed is fabric defect reduction and inspection procedures.

Clothing and textile professionals have a responsibility to alert consumers to inspect piece goods and manufactured apparel prior to purchase. Enough discriminating customers voicing dissatisfaction with fabric quality, in unison with the apparel industry efforts to improve fabric quality, will get the message to the American Textile Industry.

Since the 1930's when skiing was established as a winter sport in Europe and North America, the development of the sport has focused on competitive and recreational skiers. A layered system of dressing, which utilizes the array of garments currently available, provides comfort in a variety of ski conditions for competitive and recreational skiers. However, such a system is not appropriate for ski instructors who must maintain uniformity as a group and ski under a wide range of weather conditions spanning the entire ski season.

The goals of this research were to identify the problem areas in present ski instructors' uniforms and to design a garment which would possess the right combination of fabrics, insulation, and design features to meet the body's need for thermal comfort. Data were collected from three sources. Uniforms currently available were analyzed in terms of fabrics, insulation, and design features. Managers at 111 randomly selected ski resorts in North America were surveyed by mail to determine the role management plays in the purchase and selection of uniforms and to select data collection sites for the instructors' questionnaire. Finally male ski instructors were sampled at 44 resorts in the United States and Canada.

The design prototype utilized information on functions of the body, the basis for cold weather clothing, the structure and functions of textiles, and the questionnaire results. The proposed design considered the combination of fabrics, insulation, and design features required by the ski instructor for protection, thermal comfort, and function.

The middle shell was the critical factor in the uniform design because this layer provided the means to meet the second objective of this research. The designer used the concept of layering different materials in various parts of the garment to provide protection from varied weather conditions and to supplement the functions of the body. The design addressed areas that got cold, wet, or overheated. Combinations of fabrics were selected for the middle shell to enhance the properties of the fabric used for the outer shell. Fabrics selected for the middle shell include Thinsulate®, laminated foam, wool, untreated nylon, and treated nylon. The basis for placement and types of materials used were determined from the evaluation of the uniforms' performance.

The proposed design was developed so that it could be easily adapted to the needs of the resort and the ski instructor. The middle shell can be modified to any outer shell style determined by the resort, and more importantly, further modified depending upon the resort's geographic location and climatic conditions. The designed prototype utilized optimum design features and provides the instructor with a garment that can be worn in a range of weather conditions and at various exertion levels.
One of the newest recreational vehicles is the ultralight aircraft, a miniature flying machine powered with a small engine and easy to pilot. Since this sport is relatively new there is little literature available on ultralights and few regulations governing flying this plane. Of the available articles written about ultralights many speak of problems related to the fabric covering on the wings.

The purpose of this study was two-fold. The first part was based upon exploring the historical development of light airplanes, fabrics used on aircraft frames, and a review of methods and procedures used for testing fabrics which are applicable to ultralight coverings. The second part was based on data collected from a survey of ultralight pilots who belong to Experimental Aircraft Association ultralight chapters in the United States. Descriptive statistics and correlation coefficient analysis were used to identify the demographic information about the pilots, fabric used on the ultralights, and problems involved with the fabric.

The ultralight sport was born out of hang gliding in the early 1970's. Federal Aviation Administration regulations specify that ultralights must not be able to fly faster than 63 miles per hour nor weigh more than 254 pounds. They must stay out of controlled airspace and may not fly at night.

Historically, cotton, linen, and silk were used as aircraft fabrics. The first polyester used on aircraft frames was a lightweight, fine weave fabric. Currently polyester sailcloth is used and may be treated or coated to decrease ultraviolet degradation. Although test methods for light weight aircraft fabrics have been developed by aircraft manufacturers and chemical research laboratories, no specific standards have been established. Weathering and light exposure tests have been used to assess various coatings in relation to ultraviolet degradation of the fabric.

All respondents to the questionnaire were members of the EAA ultralight chapters, males between the ages of 31 and 41. The majority of these were married and averaged one or two children each. The greatest number reported incomes of $31,000-$35,000 per year and had owned an ultralight for a period of 2-4 years. Approximately 34.6 percent reported flying ultralights because they are less expensive and more fun than light airplanes. Most of the owners keep their ultralights in hangars and washed them when they needed it with ordinary detergent. Dacron polyester was the most common fabric used on the ultralight frames.

Fifty-five percent of the ultralight pilots in the survey stated they had problems with the fabric covering their ultralight frames. These included rotted fabric, holes poked into the fabric, tears, and dirty fabric. Although 84.6 percent of the pilots do a safety inspection before each flight there is no standard method of assessing the condition of the fabric. The majority of these pilots simply poke their finger into the fabric to see if it is resistant to holes or tears. In spite of problems the ultralight owners did not think there was a lack of safety standards for ultralights nor were they in favor of more federal aviation regulations.
A special study, funded by a university grant, was offered during the spring of 1986 to seven textile and apparel students. Its objectives were to increase the students' understanding of how the economic principles of international trade apply to the worldwide exchange of textile and apparel commodities, and to understand the costs and benefits to the world trading community of limiting the market access of developing countries as regulated by the Multifiber Arrangement (MFA).

Since 1974, international trade in textiles and apparel of cotton, wool, and man-made fibers has been subject to the provisions of the MFA. It has been renewed three times, in 1977, 1981, and 1986, and each subsequent protocol has further restricted levels of trade. Negotiations for the third renewal were in progress during this special study and thus provided an opportunity to observe the process and players involved in such an agreement.

The special study included the following activities:
1. On campus: literature review, lectures, and group discussion sessions;
2. In Washington: interviews with negotiators and their staffs, as well as other involved people;
3. On campus: follow-up group discussions and presentation of student projects.

The group made two trips to Washington to talk to individuals and visit organizations actively involved in the renegotiation process. These included representatives from the National Retail Merchants Association, the American Textile Manufacturers Association, the American Apparel Manufacturers Association, Congressmen, subcommittee staff members, and government officials from the International Trade Administration, and the International Trade Commission. Students met with representatives of important trading partners including Hong Kong, Great Britain, Taiwan, and the EEC. In addition, students attended a meeting of the Exporters Textile Advisory Committee at the Department of Commerce and heard presentations on anticonteering, the EEC's annexation of Spain and Portugal, trade with Japan, recent trade statistics, and the export expansion program.

Each student was challenged to develop a "product" which would make it possible for other students to benefit from the experience they were to have during the semester. Notes were compiled from each interview, and a set was given to each student. This information, as well as preliminary reading and research, formed the basis for three projects which grew out of this special study. Two board games were designed and produced by these students. Import Pursuit, patterned after Trivial Pursuit, has over 600 questions covering six textile and apparel categories. Rag Trade, patterned after Payday, deals specifically with trade issues, buying and selling of quotas, and the relationship between retailers and manufacturers. These games have been used at a training session for Cooperative Extension agents and by undergraduate and graduate students in the Department of Textiles and Apparel. The third project combined a study and resource package on alternative sourcing possibilities for apparel manufacturers and retailers. This information has been developed further and is currently being incorporated into an interactive computer program which will present students with problems in managerial decision making.
Auburn, a major land grant university, developed the nation's first Apparel Sourcing Fair February 24-25, 1986. The purpose of the Fair was to increase the economic welfare of apparel and textile producers by providing a liaison between them and retail buyers. The Fair provided an innovative format for students and faculty to observe and participate in the interaction and cooperation among the members of industry, government and the university community. Student leadership skills were developed and strengthened by involvement in implementing the Fair. The concept of lifelong learning was promoted by seminars to acquaint apparel producers with requirements of doing business with retail representatives.

The first morning of the Fair, before the seminars began, was set aside for contractors and manufacturers to set up exhibits. The seminars for Fair participants, including faculty and students, emphasized the competitive advantages that domestic producers can have, such as quality and shorter turnaround time. However, the need for domestic producers to provide a complete private label package, i.e., pattern, fabric, trim, and assembly, was stressed in order to compete effectively with overseas suppliers. The reiteration of many of these points by the retailers gave a clear message to the domestic producers.

Informal discussion by all participants over cocktails and dinner the first evening provided a forum for many attendees to learn more about each other. Several of the participants indicated that they learned new ways to handle situations or problems, and that they appreciated the informal opportunity to get together to share information.

The second day producers presented their exhibits showing their individual capabilities in terms of product type and quality. In addition, suppliers showed and discussed the capabilities of their equipment and systems. Not only did the producers, suppliers and retailers find the exhibits beneficial, but the students assigned to work with individual exhibitors learned a great deal about their respective companies. Knowledge and self-confidence came with helping to plan and carry out this event.

A one year follow-up survey of the 1986 Sourcing Fair participants revealed that contacts were made and contracts signed as a result of the Fair. An estimated $2.1 million in sales were generated between fair participants. This increase in sales was responsible for the retention or addition of 150-175 jobs.

The second Auburn Apparel Sourcing Fair, "brought back by popular demand", was held April 6-7, 1987. Other states, as well as trade associations, manufacturers, and retailers have adopted this model for similar events.

Participation in the sourcing fair gave students the opportunity to interact with leaders in the industry. Following the Auburn fairs our students were invited to assist with the 1986 and 1987 AAMA/Bobbin Show Contractor's Sourcing Fairs.

The Auburn Apparel Sourcing Fairs became a vehicle by which students and faculty have gained valuable experiences and contacts. These experiences have opened doors to both internships and jobs. In turn, the Auburn fair has given visibility to the University. Auburn University has gained recognition as an innovator through its Sourcing Fair activities.
Introductory fashion merchandising classes frequently have high enrollments making small group "hands-on" experiences difficult to implement. In order to give freshmen and sophomore students in such classes direct contact with a retail establishment, a project was devised in which groupings of six students acted as "retail consulting firms" to local department and apparel specialty store retailers.

The purposes of this approach were:
1. to give students experience in critically analyzing a situation according to designated criteria.
2. to develop recommendations for improving specific retail settings and
3. to enhance the relationship between the college department and the local retail community.

At the beginning of the semester, students were randomly assigned to a local retailer. The consulting team was then divided into three subgroups; each investigating a separate aspect. Two people investigated the retail site, which included aspects of store location and instore physical components such as fixturing. Two other team members evaluated the product mix by determining the distribution of national and private label brands and appropriateness of merchandise classifications. The third group evaluated the service mix which included credit, price, and merchandise adjustment policies.

Following classroom instruction and discussion of the three different components, each pair of students was given a specific outline to follow in their assigned areas of investigation. From the outline, student teams formulated relevant interview questions for store personnel. At least two open-ended interviews per group were required in addition to more traditional sources of background information such as trade publications and journals.

At the conclusion of the investigation, each consulting subgroup submitted its written report. In addition, an overall group summary of conclusions and recommendations was submitted which addressed the interactive nature of the site, product and service mixes. For example, a retailer having an ineffective lighting system coupled with merchandise crowded aisles and fixtures would, most likely, not be able to sell merchandise as easily as a competitor having a more effective retail setting. Each group made a thirty minute presentation to the class who in turn evaluated the "consultants" on professionalism and presentation techniques.

This project has been used twice and has been positively evaluated by the students. The outlines have been revised and refined each time the course was taught to help students focus more clearly on the subgroup subject areas.

The results of this experience were that:
1. students were able to see the interactive nature of the retail setting, products and service mixtures.
2. students had the opportunity to complete a complex evaluative experience.
3. students had the opportunity to interact and assist professionals as professionals and
4. retailers had immediate feedback from students about their site, product and service mixes.
INCREASING STUDENTS' AWARENESS OF JOB PERFORMANCE RATINGS IN RETAILING

Rosetta LaFleur
University of Delaware

Most students who graduate from fashion merchandising programs enter training programs and become members of merchandising teams. While training, job performance of the trainee and the team is measured by periodic evaluations. Both self and peer evaluations impact on the trainee's ability to advance in the training program. Prior to graduating, few students are exposed to critical, indepth self and peer evaluations.

The strategy incorporated into one aspect of a fashion merchandising product knowledge class allows students to simulate a merchandising team and to experience an evaluation process similar to that used in retailing. On the first day of class students are randomly divided into merchandising groups of five and group managers are randomly assigned to each group. The groups are assigned a product (fur, leather, jewelry, etc.) and required to develop a 15 min. oral and visual presentation. Criteria for performance and evaluation are distributed and discussed. The groups secure examples of the product and plan displays which include brands, ads and prices. Oral presentations focus on product features, manufacturing process, selling and buying points and current merchandising trends.

Performance is evaluated at three levels. The professor and other students in the class serve as peer evaluators and rate the team on common factors which include number and variety of items, organization of display, accuracy and delivery of information. Scores for each factor must be accompanied by written comments and the evaluator's signature. All evaluations are reviewed and averaged by the professor and returned to the group. Team members share the same score as a grade entry (max. 20 pts.).

Each member of the team evaluates the group manager on common criteria of leadership, communication, support, interest and cooperation. Team members must sign their forms and discuss their averaged ratings with their manager before submitting to the professor as a grade entry (max. 10 pts.).

Merchandising teams are responsible for resolving, at the group level, any conflict resulting from lack of input, ratings, etc. Minor conflicts referred to the professor for a resolution result in a lower rating for the team.

The class has been taught for four semesters. Students' comments have been positive and they have consistently cited the valuable insight gained from working with others whose academic standards and values are different from their own. Students understand the importance of formal evaluation of job performance in retailing; nevertheless, they express concern and anxiety about rating peers and having their ratings reflected in their peers' final grades. The most difficult aspect of evaluation cited by students is that of discussing poor job performance and negative ratings face to face with peers.

Future plans for the class include continued use of the evaluation strategy. Efforts are under way to revise the evaluation forms to reflect additional and detailed performance factors related to retailing.
Fashion and Finance was an interdisciplinary program developed in response to a growing interest by consumers in self-improvement programs. Extension specialists, Lenda Jo Anderson and Josephine Turner, used this expressed interest in self-improvement to develop and target the market for a unique program. Professional women, an audience that Extension had not traditionally attracted, were targeted as the audience for Fashion and Finance.

The program content and materials were developed at the state level. Local agents marketed Fashion and Finance to women's business and professional organizations in their counties. The meetings were held in six area settings with groups of usually five counties traveling to larger metropolitan areas. The four-hour program was fast-paced and included a luncheon or dinner with a fashion show provided by a local merchant. All local arrangements were made by county agents. Participants were responsible for the cost of their meals. The size of the meeting was limited by the number that could be seated at designated sites for the area locations. Audiences ranged in size from approximately 70 to 150.

Predetermined goals that guided development of the program content included helping individuals learn to:

* dress to present a powerful professional image
* dress with image integrity without a computer store look
* capsule wardrobe to maximize wardrobe investment
* put impact into professional careers
* identify money problems
* use tools to determine family's financial well being
* identify strategies to handle money problems
* set goals to maximize money management

Area meetings were begun in April and completed in August 1985. In January 1986 a survey of Fashion and Finance participants was mailed to two hundred-sixty participants identified from county agents mailing lists. The one hundred-nineteen surveys returned indicated the following results:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>82%</td>
<td>set goals in the area of self-improvement</td>
</tr>
<tr>
<td>60%</td>
<td>felt better dressed</td>
</tr>
<tr>
<td>73%</td>
<td>reduced expenditures on clothing</td>
</tr>
<tr>
<td>72%</td>
<td>reduced shopping time</td>
</tr>
<tr>
<td>70%</td>
<td>felt they presented a more positive professional image</td>
</tr>
<tr>
<td>70%</td>
<td>used appropriate non-verbal cues</td>
</tr>
<tr>
<td>66%</td>
<td>felt others saw them more positively</td>
</tr>
<tr>
<td>61%</td>
<td>completed a clothing lifestyle assessment</td>
</tr>
<tr>
<td>59%</td>
<td>completed a wardrobe plan</td>
</tr>
<tr>
<td>55%</td>
<td>completed a bodystyle assessment</td>
</tr>
<tr>
<td>53%</td>
<td>eliminated credibility robbers</td>
</tr>
<tr>
<td>62%</td>
<td>set financial goals</td>
</tr>
<tr>
<td>50%</td>
<td>identified family money problems</td>
</tr>
<tr>
<td>48%</td>
<td>reviewed or revised insurance</td>
</tr>
<tr>
<td>40%</td>
<td>changed a savings/investment plan</td>
</tr>
<tr>
<td>39%</td>
<td>determined family net worth</td>
</tr>
<tr>
<td>35%</td>
<td>prepared or revised family's spending plan</td>
</tr>
<tr>
<td>34%</td>
<td>began a savings/investment plan</td>
</tr>
<tr>
<td>33%</td>
<td>applied for credit</td>
</tr>
</tbody>
</table>

Demographic information on the respondents returning the survey indicated that fifty-five percent were employed full-time. Sixty-six percent had a gross family income above $30,000. For thirty percent of the respondents, Fashion and Finance was their first extension contact.

This program was continued by county agents in a spin-off series called Woman's World.
Research of undergraduate's attitudes toward college preparation of their present position found a lack of confidence in case study methods. Interviews and management training programs at retail stores utilize cases to stimulate understanding of the industry and decision making. The MBA degree, the choice for further study for many fashion merchandising majors, uses the case method. The course "Case Studies in Fashion" was developed with the following objectives: 1—to develop a personal system for case preparation, 2—to develop methods for reading a case efficiently, 3—to analyze and prepare cases for discussion, 4—to communicate analysis of cases in written and oral form, 5—to observe selected industry examples through field trips/videos and 6—to summarize concepts from a variety of courses.

Harvard University and Babson College business cases were reviewed; over 100 cases were available in the area of textiles, apparel, retail and home furnishings. A cross section of cases on marketing, management, finance, human resource, management/organizational behavior were selected. Video tapes were reviewed and selected, including Dansk, Textile Corporation, Benetton, Bordados (apparel importer), May Co., Jordan Marsh and Mary Kay.

Seniors who had completed the fashion merchandising internship and all departmental requirements were eligible to take the course. It has been offered two semesters. The class was limited to fifteen students. The course was divided into a one hour and three hour block. During the one hour, concepts central to the case, such as mentoring, management by objective, or the first job were discussed. The three hour block was used for discussion of the case, strategy, decision making, written evaluations and presenting questions for the next week's case. After each unit, a field trip to appropriate business/industry was conducted. Videotapes were utilized, many with a before and after scenario, for students to gain insight in knowledge acquisition and in making decisions. Assertiveness training in how to answer questions and state ideas was stressed. Communication models and future forecasting techniques were successful in increasing student's confidence.

The professor wrote an evaluation for each student after each case. Students were asked to evaluate the case, its content, its presentation, and if it should be repeated in future classes. At mid-term, a conference was set up with each student to evaluate their performance. The evaluations found students gained confidence, poise, assertiveness and awareness of their future potential. Future plans include incorporating Lotus 1-2-3 with the cases for financial analysis.

REFERENCES


A new sophomore level course, "Assessment of Product Quality," focuses on apparel, accessory, and textile products for the home and was prepared for non-design students in the Apparel/Textile program. Because of the diversity of students in the introductory courses and their limited experiences with sewn products, remedial lessons in basic terminology in an auto-tutorial format were developed. This study aid brings students to a more common level of understanding of construction and design details necessary for assessing and evaluating sewn products.

AT&T Series 500 Videotex Frame Creation computers were used to develop colorful animated lessons in a self-paced dictionary format. The lessons can be viewed in their entirety for one hour or reviewed in individual segments. The four topics are: 1) closures, 2) seam types and finishes, 3) contouring, and 4) reinforcement. Computer terminals were conveniently available for students outside of class time and precious classroom hours were not wasted in review of background material. These videotex lessons provided more time to discuss current events and quality issues facing the apparel and textile industry, and for helping students develop and refine their evaluative skills.

Student response to the videotex programs was positive. The computer's capacity for showing movement provided insights on apparel construction operations and features that would easily go unnoticed with traditional textbook study. The colorful animated graphics were so captivating that students found notetaking a distraction. In the future, students will be provided with a script of the lessons to eliminate this problem.

This teaching aid is basic enough to be used in a variety of apparel and textile courses, and Cooperative Extension Agents have viewed it with enthusiasm for their clothing programs.
The eventual goal of students of Apparel Design and Apparel Production is to advance from the classroom into an industrial setting. Under the course heading "Product Development and Presentation," an innovative hands-on approach to teaching apparel production methods was developed. Students were given the opportunity to test their skills as designers, managers, and apparel manufacturers in a legitimate marketplace situation, with time constraints and economic restrictions.

Each year the Hotel Administration school sponsors a hospitality weekend that is developed around several themes. The serving costumes for this event are traditionally rented. Through a joint on-campus venture, students from the Hotel School and students from the Apparel Design Option developed a proposal to design and manufacture serving costumes for five different themes of the hospitality weekend. The apparel design students began the process of production by developing design ideas and presenting them to a committee of clients in an authentic setting on the campus. During these design meetings a contract for 120 garments that had to be completed in 22 days was negotiated.

In terms of the educational goal of the apparel design course the project was divided between design and management functions, and the production of volume merchandise. Design and management concepts were part of the course load. They included developing the first design ideas, completing the first pattern and prototype garments, developing management functions for apparel production sequences, and design efficiency. Out of these concepts grew the setting up of a small company for the manufacturing process of the garments. In this context students practiced the concepts of buying, managing, being seamstresses, pressers, and finishers. They learned to apply ideas such as: interpersonal skills, hiring procedures, time, and cost effectiveness of an apparel manufacturing concern. The company provided the professional atmosphere. Through the division of the management and labor functions the students found themselves in a setting which closely simulated industrial apparel manufacturing.

The class size was six students with four others being hired by the company for the production phase. The evaluations of the project were based on regular reports by each student at production meetings and a final report. When students were working for the company they had to keep records of their time because they were paid by the hour. The final grade for the project was based on participation, regular reporting, and the final report.

At the end of the project students identified a number of new learning situations which could not have been achieved without the hands-on learning experience. Among the new learnings identified by students were: fabric buying in large quantities, quality control decisions, dealing with clients from a manufacturing perspective, grading, bundling, careful patternmaking, meeting deadlines, cutting, and sewing methods for mass production.

In my curriculum presentation, I will show visuals of the entire project and material related to the educational goals of the project.
The ACPTC Fiber Arts and Apparel Design Exhibition was a juried exhibit to promote fiber arts and apparel design as two artistic areas of textiles and clothing. All pieces were solicited from the national membership of 700 professors and their students. Each piece was judged and evaluated by three highly qualified professionals, who are listed below. Pieces accepted for exhibit are listed alphabetically by designer name.

**Jurors:**

Joan Mrozek: Vice President of Design, McCall Pattern Company

Femi Richards: Textile Designer and Teacher, University of Massachusetts

Marion Scoular: Needlework Lecturer and Author

**Appleman, Patricia**

Undergraduate Student, Oklahoma State University

*New Mexico Dream*

100% cotton hand-dyed wall hanging

The fabric used in the wall hanging was hand-dyed using Procion fiber-reactive dye. Wheat, leather, conchos, and eucalyptus were combined with the fabric to give the wall hanging a southwestern look.

**Bresemian, Betsy**

Undergraduate student, Western Michigan University, Kalamazoo

**Chenille Kimono Coat**

Hand-knit coat
Cotton and rayon chenille yarns

This chenille coat was hand-knit using a slightly rounded hexagonal pattern motif not typically seen in knits.

**Red Pigskin Vest with Weaving**

Leather vest
Wool and acrylic yarns

The vest pattern was developed by flat pattern method. The two circular areas were cut into strips and interwoven with various yarns.

**Bryant, Nancy**

Faculty, Oregon State University, Corvallis

*Christmas Past*

Two-piece dress of acetate taffeta with rayon velvet trim

Bodice designed by draping
Skirt designed by flat pattern

The plaid fabric inspired this 1890's silhouette. The pleated back gives the illusion of a bustle.

**Tea Dress**

Dress was designed by flat pattern
Textured silk, plain weave with silk crepe de chine trim

This dress was inspired by a 1929 costume. The new creation has a revised shape to conform to the contemporary figure, rather than the original boxy shape used in that time period.
Nordic Heritage

Wool broadcloth dress designed by flat pattern
Cotton trim woven on a table loom

This design was inspired by Finnish heritage of the artist and the shapes and colors of the male Lapp costume.

Chase, Renee

Faculty, Drexel University, Philadelphia

Women’s Evening Dress

100% silk velvet and Alencon lace evening dress

This floor length black silk velvet dress has a cinched waist and a straight skirt with extended hip line pockets and back slit.

Women’s Cocktail Dress

100% silk ottoman

This tea-length dress of black silk ottoman has a straight skirt, tucked at the waist with a back slit for ease of movement. The bodice has princess seaming leading to a stylized armhole and stand collar.

Davis, Susan

Faculty, University of Rhode Island

Women’s skirt and vest

100% cotton hand-knit vest
Cotton, linen, and rayon hand-woven skirt
100% silk shirt

The vest was knit on size 4 needles in a vertical pattern made by alternating stockinette stitch and an open chevron pattern. The skirt was hand-woven in a surface design which keeps the cotton yarn primarily on the surface.

Flynn, Alice

Undergraduate, Marymount College, Tarrytown

Alice’s India

V-neck pullover with kimono sleeves
Harem pants with contrast panels

The inspiration for this project came from the “Customs of Royal India” exhibit at the Metropolitan Museum of Art.

Hillestad, Robert

Faculty, University of Nebraska, Lincoln

Afternoon in Monaco

Silk wall hanging
Direct application of dye
108” by 36”

This wall hanging was inspired by the freshness and beauty of an afternoon spent in Monaco.

Late Evening in Antibes

Cotton wall hanging
Resist dye
44” by 45”

Inspired by the beauty of flowers seen at night in Antibes in Southern France.

Karlsson, Yvonne

Faculty, University of Wisconsin, Madison

Kimono III

Piping and Tassels
Silk

Purple vertical bands rippled on blue kimono. Bands are emphasized with red piping that continues into pleated tassels.

Lee, Sarah

Undergraduate, Oregon State University, Corvallis

Fanfare in Black

Evening dress draped in muslin
100% rayon velvet
Rayon and nylon plaid

Inspired by the curves and shapes of vases.
MacDonald, Nora
Faculty, West Virginia University, Morgantown

Urban Cowgirl
Flax pattern designed evening dress
100% acetate taffeta

A feather cowboy hatband served as the source of design inspiration for this evening dress. The feather band helps create the focal point at the waist. Design elements popular in the 40's were chosen to complement the urban cowgirl look.

McIntyre, Debby
Undergraduate, Oklahoma State University, Stillwater

Mountain Morning
Cotton wall hanging
Hand-dyed, appliqued, and quilted
16" by 20"

A portrayal of dawn breaking over a mountainous horizon and illuminating the grasslands and lakeshore below. It was inspired by memories of the Colorado Rockies.

Richards, Lynne
Faculty, Oklahoma State University, Stillwater

Song of Moses
Hand-appliqued wall hanging
Cotton blend broadcloth
36" by 21"

This wall hanging was inspired by "Song of Moses", Exodus 15.

Rikert, Susan
Graduate Student, Texas Tech University, Lubbock

Catch of the Day
Batik, soft sculpture, penguin
Cotton

Batik lends itself well to fantasy and the unexpected when working with soft sculpture.

Opuntia
Batik, soft sculpture, cactus
Cotton

The desert creatures welcome their strong and silent friends.

Vernal Lights
Hand-woven tote
Linen and wool

Inspired by a burst of sunlight reflected upon the surface of the water.

Dragonfly
Hand-woven coverlet
Cotton and linen
81 cm by 76 cm

Inspired by a dragonfly landing on a picnic table on a warm summer day.

Patchwork
Hand-woven bedspread
10-shaft twill diaper
Wool
240 cm by 145 cm

Inspired by bedding from Ostergotland province in Sweden.

Everest
Hand-woven blanket
Even-sided twill
Wool
220 cm by 142 cm

Rocky cliffs, outlined with snow, reach high towards the deep blue sky. Through the clouds rise the highest peak of them all, Mt. Everest.

Exhibit Committee:
Judith Kline, Chair
Clemson University

Bettie McClaskey
Winthrop College

Ellen Randolph
Winthrop College
The academic community's relationship with computers recalls the cavemen's discovery of fire. Both know the new thing must have tremendous potential, but neither is quite sure what to do with it. In an effort to tame the fire, the purpose of this project was to provide a computer database program suitable for historic textiles. This was done by determining the most flexible commercially available database package and then programming a group of interconnected databases that would be used to establish a framework for coverlet research.

A comparison of four relational database programs for the IBM PC showed that dBase III Plus had not only the most flexibility, but also the most support in terms of literature and users' groups. These two characteristics were found to be very important in adapting a business application to a research situation.

In converting research from the manual index card approach there are some trade-offs. Decisions must be made on what is coherent information which can be organized into computer format, and what to do with bits and pieces of data which mean little now, but could be important to future researchers.

Coverlet research has been done by a variety of methods and from several perspectives. They are generally studied by region, and analysis considers technology, weaver, design, structure or a combination of these elements. Automating the collected data into large-scale databases allows researchers faster retrieval of information. Additionally, new types of research can be developed.

This project required the development of four separate databases for information; coverlet, weaver, design, and structure. Elements from each of these databases can be linked together within the system to create sub-databases for use in answering specific research questions. A fifth database, to be linked to the other four, allows the storage of images of coverlets in the computer.

This database is the start of a longterm study of coverlets, requiring the quantification and analysis of all the research which has been done previously, and the machine-orderly collection of new information. The structure has been designed for current research needs, anticipating that as the aggregate amount of data increases some categories may be redefined.

Although designed specifically for coverlet research, these database structures which allow the reorganization and flexible retrieval of information will be able to be modified to accommodate other areas of textile research.
ACPTC Western Region Officers and Committee Chairpersons

Officers, 1987-1988

Leslie Davis, President
Oregon State University
Phyllis Touchie-Specht, President Elect, Mt. San Antonio College
Rose Fedorak, Secretary
University of Saskatchewan
Mildred Crawford, Treasurer
Colorado State University
Mary Jo Collins, Counselor
Colorado State University
Janet J. Else, Historian
Colorado State University

Board Members

Nancy Bryant
Oregon State University
Marjori Chitwood-Burrie
Long Beach, CA
Barbara Harger
University of Hawaii
Mary Kejgen
Long Beach, CA
Leslie Labhard
California Poly State University
Elaine Pederson
University of Nevada
Tom Peterson
Utah State University
Ernestine Porter
University of Idaho

Conference Committees

General
Susan Wright, New Mexico State University
Program
Lavonnon Matern and Susan Wright, New Mexico State University
Local Arrangements
Susan Wright, New Mexico State University
Hospitality
Betty Campbell, Eastern New Mexico University
Lavonnon Matern, New Mexico State University
Registration
Susan Wright, New Mexico State University
Refereed Abstracts
Janet Else, Colorado State University
Proceedings
Janet Stinson, El Camino College
Evaluation
Jean Rogers, Washington State University
Tours
Betty Campbell, Eastern New Mexico State University
Susan Wright, New Mexico State University

ACPTC National Board
Western Representatives

Leslie Davis, Oregon State University
Susan Kaiser, University of California
Charlene Lind, Provo, Utah

111
On behalf of the American Textiles Manufacturers Institute and its "Crafted with Pride in U.S.A." Committee, I want to thank you most sincerely for the invitation to attend your meeting.

You are the people who are providing the American Textile Industry with one of its most valuable resources—bright young people with the education, training and the motivation we are going to need to compete in the future. We are going to need to compete in the future. We place a very high value on what you are doing; we hope today's meeting will be another step toward a close relationship which will benefit us all.

Let me take a moment to introduce the other people from the textile industry who are here, because we want to get to know you; to hear some of your ideas and learn more about what we as an industry can do to enhance the education of your students.

First, for those of you who don't already know her, let me introduce Dr. Peyton Hudson, assistant professor of clothing and textiles at North Carolina State University, who has been working with us on some of the programs we hope to initiate. —Please stand as I call your names—

Nancy Schrum, Director of Communications for Carolina Mills; Frank Williams, Industrial and Public Relations Vice President; Swift Textiles; Bob Lincks, Director of Product Development for Burlington Industries; and Gail Raiman, Assistant Director of Communications for the American Textiles Manufacturers Institute.

Let me start by showing a brief film at the conclusion of which demonstrates dramatically what our industry is doing to strengthen our competitive position and ensure a future for this vital American Industry. We think you will find it of interest, because you and your students are helping us get to where we are today, and we are going to rely on you even more in the future.

I think this film shows that the American textile Industry is positioned to take advantage of the many things we have going for us. This is because we have worked hard to become the world's most efficient and productive manufacturers of textile products.

The outstanding job you are doing is one of our strongest assets.

We no longer are perceived as a "sunset industry," or as one crying for help because we are not efficient, but we still have a major problem. We cannot compete against 20 cent hour wages, or against governments which subsidize their industries in order to develop and sustain huge export markets.

I, not an economist, but it doesn't take an economist to determine that if imports continue to increase the way they have the past six years, by the time we reach the next decade this essential Industry, of which you are such a vital part, will be decimated.

We can no longer stand by and let the administration preside over the demise of this Industry, for that reason, we have turned to Congress and are seeking legislation which will relate the growth of imports to growth of the
DOMESTIC MARKET, THAT WOULD PERMIT EVERYONE---IMPORTERS AND DOMESTIC INDUSTRY---TO COMPETE FOR A FAIR SHARE OF THE U.S. MARKET.

IF CONGRESS ENACTS THE LEGISLATION, AND WE THINK THERE IS A GOOD CHANCE IT WILL, WE CAN HAVE A BRIGHT FUTURE.

WE HAVE MADE GIANT STRIDES IN PRODUCTIVITY, YOUR STUDENTS HAVE AND WILL CONTINUE TO CONTRIBUTE TO HELPING US STAY AHEAD IN DESIGN AND STYLING. THOSE WHO GRAVITATE TOWARD MERCHANDISING AND SALES ARE OUR LINK TO THE CONSUMER. ALL SEGMENTS OF THE INDUSTRY, FIBER PRODUCERS, TEXTILES MILLS, APPAREL MAKERS AND RETAILERS ARE SUPPORTING THE CRAFTED WITH PRIDE ADVERTISING PROGRAM WHICH YOU SEE ON TELEVISION. THIS IS THE BIGGEST AND MOST SUCCESSFUL MARKETING EFFORT EVER UNDERMINED BY THIS INDUSTRY.

OUR INDUSTRY IS EXCITED ABOUT WHAT "QUICK RESPONSE" CAN DO TO REDUCE COSTS AT EVERY STEP OF THE FIBER, TEXTILE, APPAREL, RETAIL PIPELINE.

IT HAS BEEN ESTIMATED THAT FROZED MARKDOWNS, STOCK-OUTS AND INVENTORIES COST THE TEXTILE, APPAREL RETAIL INDUSTRIES $25 BILLION A YEAR. WE BELIEVE THAT THROUGH QUICK RESPONSE WE CAN CUT THAT $25 BILLION IN HALF. APPAREL MANUFACTURERS SAY THAT THROUGH QUICK RESPONSE THEY CAN SQUEEZE THE 66-WEEK PIPELINE BY AS MUCH AS 20 WEEKS WITHOUT MAKING DRAMATIC CHANGES IN THE SYSTEM. THIS WILL HELP EVERYONE TO RESPOND MORE EFFICIENTLY TO STYLE CHANGES AND SEASONAL DEMANDS.

THE KEY TO SUCCESS IS GOING TO BE TWO "C'S"---COMMUNICATIONS AND COOPERATION, USING SOPHISTICATED ELECTRONIC DATA PROCESSING; WE CAN COMMUNICATE BACK AND FORTH MUCH MORE QUICKLY, AND THROUGH A COOPERATIVE SHARING OF INFORMATION AMONG OUR CUSTOMERS AND SUPPLIERS, WE CAN REDUCE THE TIME FROM THE JILLS TO THE RETAIL COUNTERS SIGNIFICANTLY.

AMERICA'S TEXTILE AND CLOTHING INDUSTRIES HAVE A GREAT DEAL GOING FOR THEM. BUT IF WE ARE TO SURVIVE AND PROSPER, IT WILL TAKE A RENEWED COMMITMENT TO A PROSPEROUS FUTURE BY EVERYONE INVOLVED--EDUCATORS, RESEARCHERS, EMPLOYEES, OUR CUSTOMERS AND SUPPLIERS, AND, YES, EVEN THE GOVERNMENT.

THE ATMI CRAFTED WITH PRIDE COMMITTEE IS LOOKING INTO AREAS WHERE WE CAN WORK MORE CLOSELY WITH YOU TO ACHIEVE SOME OF OUR MUTUAL GOALS. ONE AREA IS THE DEVELOPMENT OF TEACHING MATERIALS. WE ARE LOOKING AT SUCH THINGS AS QUICK RESPONSE AND TEXTILE ECONOMICS OR, PERHAPS, SOMETHING ON FABRIC AND GARMENT QUALITY AND CONSTRUCTION. WE ARE OPEN TO YOUR SUGGESTIONS.

THANK YOU, AGAIN, FOR THE INVITATION. WE HAVE ENJOYED GETTING TO KNOW YOU BETTER AND LOOK FORWARD TO CONTINUED COMMUNICATION WITH YOU.
INTRODUCTION

Much has been made of the phenomena of American industry moving abroad. Labor unions and communities have decried the loss of jobs and income and have, in some instances, proposed legislation that would restrict the mobility of firms, and that would change laws that presently give incentives to firms to move offshore. In U.S. communities which have been hard hit by the exodus of industry, efforts are being made to create a dialogue between industry and other community interests about the social responsibility of business. However, for many of those firms which must compete in highly competitive domestic and international markets, survival is at stake and their sense of responsibility to the community extends no further than the bottom line of their latest profit-and-loss statement.

I was asked by Mary Wright to talk about offshore assembly, and to the extent that I could, the place that apparel and textile activities have in this phenomena. My comments will be restricted to developments in Mexico, the so-called maquila industry, because it has by far the largest offshore assembly complex of the world's developing countries, and because I know that area best. Based upon the, perhaps, mistaken assumption that you may know little about assembly production in Mexico, I will in the first part of my talk try to explain what a maquiladora, or twin plant as they are often called, is and how and why this industry on the Mexican side of the U.S.-Mexico border developed so rapidly. We will then look at the present structure of offshore assembly in Mexico. Finally, and perhaps most important for you, I will try to address the issues, both pro and con, that surround these activities and speculate on their future development.

First, to give you a feel for what apparel assembly may be like on the other side of the border, I will read you two brief selections taken from the book For We are Sold, I and My People, which was written by Patricia Fernandez-Kelly.

Ms. Kelly, an anthropologist, secured a job in a maquila plant as part of her doctoral research. Her book focuses on the exploitation of women by multinational corporations operating abroad, and it has been highly controversial:

On my left side were placed the batches of precut sleeves. On my right were the minute pieces of colorful bias. With one hand, I was to select a sleeve and place it underneath the needle. With the other I had to insert the bias along a special apparatus attached in close proximity to the sewing needle. Once the two parts had been matched, pressure had to be applied on the pedal for just long enough as to bring the bias to the end of the sleeve opening. Afterwards, the needle had to be lifted and the sleeve had to be rotated in order to position the bias along the other side of the opening. Then pressure was applied on the machine's pedal again in order to complete the operation.

As for the production quota, I was expected to complete 162 pairs of sleeves each hour, that is, one every 2.7 seconds, more than 1,200 pairs per shift. It seemed to me that to achieve such a goal would require unworldly skill and velocity. In six weeks as a direct production operator, I would fall short of this goal by 50%.

A little further on, Ms. Fernandez-Kelly makes some observations about the relationship between women operators and male supervisors in maquila plants:

Sandra (a co-worker) knew many women who had been seduced and then deserted by engineers and technicians. In other cases, women felt they had to comply with the sexual demands of fellow workers because they believed otherwise they would lose their jobs. Some were just plain stupid.

... during the first few years of
the maquila program, irregular situations had arisen... A sort of factory harem mentality had been at work... She (Sandra) had known a man who wanted as much female diversity as possible. He had a crew of women, all of whom had - upon his request - eyes and hair of a different color. Another took pride in boasting that every women in his line had borne him a child.

Please keep these observations in mind when we later discuss the role of women in offshore assembly.

II. A PROFILE OF MEXICO'S MAQUILA INDUSTRY TODAY

Mexican official sources reported that at the end of 1986 there were 890 maquiladoras in Mexico employing almost 250,000 people. Over 90 percent of these operations are located in five Mexican border states (Baja California Norte, Sonora, Chihuahua, Coahuila, and Tamaulipas). The factories are concentrated in a few urban areas in those states, the most important being Cd. Juarez with 20 percent of the total factories and thirty-five percent of total employment. The second most important center, Tijuana, has 27 percent of the factories and 12 percent of total employment. Other important assembly centers include Mexicali, Matamoros, and Cd. Chihuahua. The value-added in Mexico during 1986 was over 850 million dollars, making the maquila industry a bigger source of foreign exchange earnings than tourism.

The maquila refers to the process of production and assembly operations which utilize semi-skilled or unskilled machine operations. The maquiladora is the factory that houses the operations. Assembly production in Mexico is facilitated by both U.S. and Mexican legislation. For the most part, maquiladora operations engage in labor intensive assembly operations that combine Mexican labor with foreign (largely U.S.) capital and technology.

Mexico's Border Industrialization Program came into being in 1965 and coincided with the cancellation by the U.S. of the Bracero program. This program had, since the early 1940s, permitted more than 1 million Mexican farm workers to enter the U.S. legally on a temporary basis. Upon the termination of this program, Mexican officials feared that their border cities would be hit by tens of thousands of unemployed Mexican males. Besides the employment objective, the BIP sought to promote border industrialization and technology and skills transfer.

The critical part of the program is that it permits foreign components and capital equipment to enter the borderzone under a bond and untaxed. After assembly, the resulting product is exported. Only under very special circumstances, both then and now, can the assembled products be sold in the Mexican domestic market. Further, foreign firms that engage in assembly operations in the border zone are permitted to own 100 percent of the enterprise (they are normally only permitted a 49 percent share under Mexican law). U.S. tariff codes 806.30 and 807.00 also facilitate offshore assembly by permitting maquila products to be re-imported into the U.S. and to be taxed not on their full value, but on the value-added in Mexico. This value-added consists primarily of salaries paid to Mexican labor.

Starting with 12 plants employing less than 4,000 workers in 1965, the maquila industry by 1977 consisted of 443 plants with almost 80,000 workers. Except for a brief period in the mid-1970's when economic instability in Mexico and recessionary conditions in the U.S. caused the industry to contract, maquila growth has been steady, and after 1982, spectacular (employment has doubled since that time). Initially, the industry was characterized by small firms employing less than 200 workers, with apparel assembly being the most important activity. Today, however, many of the Fortune 500 manufacturing companies have wholly or partially-owned subsidiaries in the Mexican border zone. This has helped to erode the sweatshop image. Most of Zenith's assembly operations are now in the Mexican border zone and General Motors has more than twelve assembly operations in the State of Chihuahua alone. Some larger plants (RCA and Zenith) now employ 5,000 or more workers on multiple shifts and average plant employment is over 300 workers.

What factors account for the rapid growth of the assembly industry in Mexico? First, wages and benefits that are, in many cases, less than one-tenth of the U.S. level and that are competitive with those of other developing nations are a major attraction. Mexican wages became even more attractive with the devaluations of the peso that have occurred since 1982. In early 1982, the exchange rate was 26 pesos/dollar. It is now almost 2,000. The continuation of low wage levels is seemingly assured by the inability of the Mexican economic apparatus to generate jobs for the more than 800,000 new entrants into the Mexican labor force each year. Second, proximity to U.S. markets has played an important role. This advantage is enhanced by the fact that foreign managers and their families can live in the U.S. border cities, and that the services that Mexican-based firms require are readily accessible from the U.S. It should be pointed out, however, that the original concept of "twin plants," one on the Mexican side and one on the U.S. side, has been only infrequently realized.

A third factor has been the successful efforts by both the private and public...
sector in Mexico to reduce the risks for foreign firms that wish to operate there. First, the Mexican government has actively supported the industry, particularly after 1982. This support has included favorable wage and unionization policies, as well as financing. The government has also reduced the procedures involved and time needed to import inputs and export the assembled product. Further, the government now permits maquiladoras to be established in interior locations, to sell part of their product on the domestic markets, and to minimize their tax obligations.

Third, Mexican elites in the border region have actively promoted the industry through investment in maquiladoras, the construction of industrial parks, and the development of organizational schemes (contract and shelter plans) that permit foreign firms to exploit the advantages of producing in Mexico, without having to actually invest in Mexican operations.

Finally, elites on the U.S. side of the border have actively promoted the maquila industry as source of growth and income for U.S. border cities. Alleged advantages include the effect of maquila workers' expenditures and those of relocated U.S. maquiladora personnel and their families on local income and the establishment of enterprises on the U.S. side to supply and service the maquila industry. Underlying these advantages have been the failed efforts of cities like El Paso to attract high productivity-high wage industry.

III. THE PRESENT STRUCTURE OF THE MAQUILA INDUSTRY IN MEXICO.

Presently, at a much higher level of total activity than that of the late 1960s and early 1970s, the assembly of apparel and textiles is a less important maquila activity than that of electric and electronic equipment. The former now accounts for 15 percent of the maquila firms, 10 percent of employment, and 6.5 percent of value added, while the latter is responsible for 34, 45 and 45 percent, respectively. The increased dominance of electric and electronic equipment is due in large part to a surge in the activities of U.S. automobile and home entertainment manufacturers in Mexico. This has also meant that some operations have become more capital-intensive and technologically complex. The bulk of apparel and textile maquiladoras are concentrated in Tijuana, which has proved to be an attractive location for California firms that produce for regional and national U.S. markets.

The maquila labor force has always been dominated by young Mexican females. Female workers, with an average age of about 21 years, have traditionally made up 75 percent or more of the total of line workers. This has been variously attributed to females higher productivity in tedious production tasks and to their docility in front of management and outside efforts to organize or unionize plants. Presently, females make up only about 60 percent of the maquila labor force. The increased employment of men is attributed to labor shortages in major maquila centers like Cd. Juarez, as well as conscious effort to recruit more men.

About 85 percent of the total labor force are employed in non-administrative, unskilled positions, and earn the Mexican minimum wage, which is under $3.50/day. Prior to the devaluations of the peso that began in 1982, the dollar equivalent wage was about double the present one.

Maquiladoras, though mostly foreign-owned, are legally Mexican firms and must conform to that country's labor laws. The work week is 48 hours. Firms are required to pay into funds for social security and housing for each worker. For most workers, the Mexican minimum wage actually functions as a maximum wage. Even under present conditions of labor shortage in some areas, maquiladoras have been reluctant to raise wages above the minimum and largely restrict themselves to competing for workers by offering additional benefits -- subsidies for meals and transportation, child care facilities, etc.

In order to give you a better picture of the maquiladora labor force, let me give you a few results from a survey that I and a psychologist completed this summer:

- The average age is 21 years
- Around three-fourths are unmarried
- Less than 14 percent have completed more than nine years of schooling
- Less than 20 percent came to Cd. Juarez specifically to work in a maquiladora
- 16% of men and 5% of women have worked in the U.S.
- There is a statistically significant difference between male and female incomes and the total incomes of their family
- There is no correlation between workers wages and their time on the job or their level of education
- A large percentage of female workers would stay home or resume schooling if they could not work in a maquiladora
- The majority of males and about 40 percent of females think that wages, benefits, and working conditions are better in the maquiladoras than in alternative sources of employment in Cd. Juarez.

IV. CONTROVERSIES SURROUNDING THE MAQUILA INDUSTRY

A) Benefits to Mexico - The two major benefits to Mexico of maquila-type production are the generation of foreign
Since Juarez to seek work in a maquiladora.

Mexico's role in the U.S. as a viable economic alternative. Our study did indicate, however, that most of those jobs have been taken by young women who are new entrants into the labor force and not unemployed males. Further, little transfer of skills and technology is taking place because job tasks are so simplified for the worker (so called deskilling) and because of the enclave nature of the industry; 95 percent of all non-labor inputs are purchased abroad, thus giving little opportunity to Mexican suppliers.

B) Composition of the labor force - Initially over seventy percent of the labor force was young, single females, thus leading to charges that multinational firms were exploiting the most vulnerable segment of the Mexican labor force. In addition, it was alleged that the practice of employing young females would lead to a deterioration of the structure of the traditional Mexican family, particularly in those cases where the female became the major or breadwinner of the family. On the other hand, it has been argued that wage employment leads to the development of stronger and less dependent female in the male-dominated Mexican culture, as well as the instilling of a work discipline.

C) Exploitation - Critics on both sides of the border have accused the maquiladoras of exploiting vulnerable segments of Mexico's labor force during a period of crisis through low pay, substandard working conditions, and temporary contracts. These contracts permit a worker's employment to be terminated without the worker receiving full benefits allowed under Mexican law. Proponents of the industry usually point to the industry's role in providing new jobs for Mexico during the present crisis and to the general healthy state of the Mexican economy. Working conditions, they point out, are generally substandard in those plants operated by Mexican nationals, and not those owned by foreign multinationals. Further, there is always the veiled threat that if wages did rise to higher levels that many of the firms would have to relocate out of Mexico.

D) Effect on illegal immigration and migration to the Mexican border urban areas - It is alleged that the maquiladoras, by offering employment in Mexico stem the flow of illegal immigration to the U.S. It may be pointed out, however, that the characteristics of maquila worker (single, young, and unmarried), particularly the females, do not fit the profile of the typical illegal immigrant. Our study did not indicate that most considered employment in the U.S. as a viable economic alternative. Our study did indicate, however, that a substantial proportion of the total work force had come to Cd. Juarez to work in maquiladoras. This has probably added to the already rapid growth of Mexican borderland urban areas and exacerbated the task of providing basic social and economic services to the rapidly growing population.

E) Increased dependence of the border and Mexico on U.S. markets - Since most of the assembled products are sold back to parent firms in the U.S., the Mexican border communities are now more dependent than ever on U.S. markets. Recessionary conditions in the U.S. could, therefore, threaten the economic stability of the U.S.-Mexico border region and make Mexican economic and political policy more vulnerable to U.S. influence. This is a non-issue now because of Mexico's severe political crisis. Steps have been taken that would permit some maquiladoras to sell up to 20 percent of their production on the Mexican domestic market, thus lessening dependence on the U.S. Further, the heavy commitment of large firms like General Motors to the industry suggests that factors other than low wages are also fueling the expansion of the industry, which would add to its permanence and stability.

V. CONCLUSION

In conclusion, I would like to say that the maquila industry will probably continue to have a major presence and a major influence on the U.S.-Mexico border economies for a long time to come because of large wage differentials between the two countries and the convenience of a border location for U.S. firms. However, the recent rapid growth of the industry has been fueled by an expanding U.S. economy and economic crisis in Mexico, which has depressed wages and created unemployment. Rising wages in Mexico or recession in the U.S. could have significant negative impacts on the industry's growth and stability. Further, changes in either the U.S. or Mexican laws that facilitate maquila production could also be detrimental, and there is presently some sentiment in the Congress to change U.S. legislation because of the perceived loss of jobs to Mexico.

Despite the apparent short-term benefits of the growth of this industry for border communities, I do not feel, for reasons that I have just mentioned, that it is wise to rely on the maquila industry as the region's major and only source of long-run growth. Furthermore, it is a bit unrealistic, and even ludicrous, to think that healthy regional economics can be built around $3.00/day wage labor.
SELECTED BIBLIOGRAPHY


Dress reflects the values of people as it reveals their efforts to adjust to their cultural environment. This is demonstrated by the dress and adornment practices of a unique ethno-religious group, the Holdeman Mennonites. A primary belief is that, by living and dressing simply in avoidance of the world, Mennonites visually express their Christianity.

Other than anecdotal accounts, very little research has been done on the symbolic use of sectarian clothing as a metaphor of cultural values. Mennonites use symbols in a variety of ways to separate themselves from the outside world: the most visible symbol is their use of distinctive attire as an expression of their religious ethnicity.

This paper was based on eight years of fieldwork with Holdeman Mennonites in California. Using Symbolic Interaction as a theoretical perspective, the selected qualitative methodologies included participant observation and interviews. In order to insure validity, the manuscript of the resulting ethnography (Boynton, 1986) was read and approved by a cross-section of Mennonite women. In addition, this paper is part of a larger body of work on social control within the Mennonite culture.

The focus of the current research was to analyze the use of clothing and social control in the expression of intergroup and intragroup identity. The use of clothing by the Holdeman Mennonites to distinguish themselves from outsiders is a function of intragroup identity, whereas the use of clothing to distinguish liberal from conservative Mennonites within the same congregation relates to intergroup identity.

Social control measures were continually employed by Mennonites in order to regulate the use of clothing. Parallels between conservativism and dress were found. Conservative women dressed in more traditional styles, with less variability in line, color and design details. The more liberal women wore clothing evidencing much more variety in all aspects of costume design. Finally, it was found that clothing is used as a barometer by the Holdeman Mennonites to measure a person's level of religious commitment. An old Mennonite saying maintains that "clothing manifests on the outside what is hidden in the heart" (Gingerich, 1966).

Adaptation to a cultural value system which denies individuality is evidenced by the rigid adherence to sectarian clothing, as evidenced by the Mennonite example.

Distinctive attire, which is standardized without being uniform, functions as a badge of group identity. In doing so, clothing functions as a metaphor for social control in sub-cultures, such as the Holdeman Mennonites, which capitalize on the symbolic nature of clothing to enforce and maintain control over sectarians. Individuality is repressed, while the importance of the group remains paramount. In wearing distinctive attire, sectarians reaffirm their identity as a group separate from the outside world. Concurrently, they use the symbols of clothing to proclaim their level of religious commitment, not only to the outside world, but to the members of their own ethno-religious subculture.

References


Males and females are both likely to have apparel preferences linked to self-concept and social contexts. Yet most research on the importance of clothing in everyday life has considered only the female perspective. Therefore, gender bias is likely to be present in many social-psychological concepts and methodologies related to the study of clothing and personal appearance. The possibility that males may frame and articulate their appearance-managing experiences differently from females must be considered before a contextual, rather than a gender-biased, analysis of clothing will be possible.

The present research focuses upon males' and females' discussions about "favorite" personal articles of clothing. This research represents one component of a larger study on gender and appearance management. Thirty male and thirty female undergraduate students were recruited from psychology, rhetoric, and general education (social-psychological aspects of clothing) courses. Individual, in-depth interviews were conducted to address open-ended questions on clothing and grooming practices, sources of information on fashion, and expression of identity through appearance. The students were asked to bring or wear to the interview both (a) a favorite apparel item or complete outfit and (b) a least favorite apparel item or complete outfit acquired within the last year (to avoid the selection of a disliked garment solely on the basis of outdatedness). Several questions related to personal expression were directed toward the subjects' clothing. This portion of the interview was videotaped to facilitate analysis. Throughout the interview, the qualitative data were taped. These data were later transcribed verbatim and analyzed for content as well as form of expression, using linguistic techniques. The major gender difference emerging from these analyses relates to the manner in which clothing is viewed in connection with the self and others. Males were more likely than females to ground their associations with a favorite article of clothing to a particular context in the past. The males' discussions of their experiences emphasized the mnemonic value of favorite clothing, specifically in relation to personal accomplishments (e.g., athletics, becoming a fraternity member) or sentimental associations with special dates or parties. In contrast, females were less likely to link their favorite articles of dress to a tangible referent. Instead, females related accounts of personal feelings (e.g., "happy", "cheery", "friendly") they experience as they wear these articles. The concept of self as process, or "becoming" through a sense of connection with other people, was reflected in the females' discussions. A typical comment among females was, "When I feel more comfortable, I'm more relaxed, at ease with people."

This research provides the basis for a conceptual framework incorporating gender as a variable in social-psychological clothing research, as well as an increased methodological sensitivity to gender. Future research will build upon these data by developing new, gender-unbiased instruments for measuring personal associations with clothing in social situations, in terms that truly reflect males' and females' experiences.
For workers occupationally exposed to pesticides, dermal exposure accounts for most of the total exposure and protective clothing is the best way to keep pesticides from contacting the skin. Thermal discomfort, cost, and functional and practical limitations have been suggested as reasons why agricultural workers do not wear protective clothing and equipment.

The purpose of this research was to identify the clothing and equipment worn by fruit growers while mixing and spraying two pesticides, their knowledge of pesticide hazard and the relationship between knowledge of hazard and clothing and equipment choices. Data were collected at educational meetings for commercial growers in Virginia and Utah. Growers were asked to check the listed items of conventional work clothing and protective clothing and equipment that they would wear when mixing and spraying two pesticides. In addition, they were asked to rate the same pesticides on a five-point scale from "very hazardous" to "not very hazardous". Pesticides used for the Virginia and Utah studies were Parathion and Captan, and Parathion and Benlate, respectively.

The data were analyzed using analysis of variance and the F-test to determine the relationship between clothing and equipment worn and knowledge of pesticide hazard. The Scheffe' test was used to determine differences between means once a significant F-test was observed.

The samples consisted of 175 and 83 individuals who owned and/or worked in fruit orchards in Virginia and Utah, respectively. In both cases, educational levels ranged from fewer than 12 years of schooling through graduate degrees.

Respondents made different clothing and equipment choices for the two pesticides in both studies. Consistently higher percentages of conventional work clothing and protective clothing and equipment were selected for use with the more toxic pesticide. In both states, the mean for number of clothing and equipment items an individual would wear was higher for the more toxic pesticide.

Fruit growers displayed considerable knowledge of the relative hazard of pesticides. In Virginia a statistically significant relationship was observed between the rating of pesticide hazard for Parathion and the clothing and equipment worn. As the hazard rating for Parathion increased, the means for items of protective clothing and equipment increased. No such relationship was observed for the Utah sample. In Virginia educational programs have been held for more than 22 years and pesticide safety has been emphasized for the last decade while similar programs have been held in Utah for only two years.

Fruit growers made consistent choices for clothing and equipment on the basis of pesticide toxicity. This implies that behavior is changed through education which will be especially important when comfortable protective clothing is available.
FACTORS INFLUENCING THE DAILY SELECTION OF CLOTHING BY OFFICE WORKERS:

IMPLICATIONS FOR ENERGY CONSERVATION

Nancy L. Markee - University of Nevada, Reno NV 89557

In response to both increases in energy prices and concerns about the future availability of energy resources, many individuals have found themselves dealing with the issue of energy use with increasing frequency. A common approach to energy conservation has been to manipulate thermostat settings, raising them during the summer and lowering them during the winter. This has frequently been done at the expense of occupant comfort.

Clothing is a variable that has often been overlooked in terms of the possible role it can play in increasing thermal comfort while still conserving energy. There is, at least theoretically, considerable modification possible with respect to the clothing we wear, and changes can be made on an individual basis as the need arises. In reality, however, there may be numerous factors that prevent individuals from dressing in thermally suitable clothing. The purpose of this study was to determine:

1) what factors have the most influence on the daily selection of clothing worn by office workers; and
2) what factors, if any, are preventing individuals from dressing in thermally suitable clothing.

As part of a larger research project on thermal comfort, 172 individuals (83 males and 89 females) were surveyed while in their working environment and asked to comment on factors influencing their choice of clothing. Subjects ranged in age from 20 to 69 years, the mean being 44 years, and occupied a wide variety of occupational categories. Data collection was repeated four times on a seasonal basis using the same subjects. Descriptive statistics and analysis of variance were used to analyze the data.

Comfort, anticipated outdoor environmental conditions, anticipated indoor office temperature, and appropriateness for one's job or position were found to have the greatest influence on choice of clothing worn to work. It is interesting to note that while the majority of each respondent's time was spent inside within his/her office, outdoor environmental conditions played a more important role with respect to clothing selection when compared with anticipated indoor office temperature. If an individual is going to encounter temperature extremes, either hot or cold, it most likely will occur while one is outside the building (e.g., traveling to and from work, during lunch hour or breaks, etc.). Even though the length of exposure can be of a relatively short duration, people apparently dress for the extremes. This points out the need for flexibility with respect to clothing being worn so that layers can be added or removed as necessary to compensate for changes in temperature. Outdoor environmental conditions were felt to have a greater influence on clothing selection during transitional seasons (fall and spring) as compared to summer and winter.

Assuming no restrictions or limitations on the choice of clothing, subjects responded affirmatively 29% of the time when asked if they could have dressed in clothing that would have provided a greater degree of thermal comfort. Although dress codes were not reported as being extremely influential with respect to clothing selection, they were listed as the major factor, along with inappropriateness of clothing for the job or position, that prevented individuals from dressing more comfortably with respect to the thermal environment. If energy conservation through thermostat adjustment is to be successful, dress codes, whether written or implied, must be lenient enough to allow employees to effectively adjust their clothing.

It may be that by increasing the awareness of the connection between comfort, clothing, and energy conservation, the range of acceptable air temperatures in buildings can be further expanded, resulting in increased energy savings.
Body Cathexis and Self Image Courses

LaJean R. Lawson, Oregon State University, Corvallis, OR 97331
Elaine L. Pedersen and Nancy L. Markee, University of Nevada-Reno, Reno, NV 89557

Body cathexis has been defined as "the degree of feeling of satisfaction or dissatisfaction with the various parts or process of the body" (Secord & Jourard, 1953, 343). Joesting (1981) found that respondents who participated in regular physical activity had a higher body cathexis score than those who did not. The influence of self image clothing courses compared with exercise courses on body cathexis has not been investigated. The purpose of this study was to investigate the relationship of enrollment in two types of self image courses on body cathexis.

The subjects were students enrolled in an aerobic dance class (N=24) and a professional image and dress class (N=14). A multidisciplinary concepts of clothing course (N=35) and a business management course (N=35) were used as controls. The students completed a body cathexis instrument at the beginning and completion of the semester. A short version of the body cathexis scale developed by Secord and Jourard (1953) was used. Each body cathexis score was an average of the total response by each subject.

The differences between groups on the initial body cathexis score was tested using one-way analysis of variance. There was no significant difference. It appears that satisfaction or dissatisfaction with one's body may not influence enrollment in specific types of self image or improvement courses.

T-tests were performed to test change between the pre- and post-test body cathexis scores for the entire group and for each class. For the group there was a significant decrease in the body cathexis mean (p<.001). There was a significant decrease in the body cathexis mean for the multidisciplinary concepts of clothing student group (p<.01) and the professional image and dress student group (p<.05). For the aerobics and business management student groups there were no significant changes. It appears that the discussion of clothing whether related specifically to clothing and image management or in general is influential on an individual's awareness and satisfaction with their body.

One-way analysis of variance was used to test change between pre- and post-test body cathexis scores among the groups. When a strong indicator of difference emerged at the .10 level the LSD procedure was used to identify pair-wise differences in group means. A significant difference was found between the aerobic class (X changes = .0087) and the professional image and dress class (X changes = -.2798).

Enrollment in the professional image and dress class may have been a contributing factor in decreasing an individual's body cathexis. While covering such topics as nonverbal communication through dress and impression management, students in the class also completed individual color and figure analyses. Greater awareness of one's figure may initially result in more self evaluation and criticism. However, this may be deceptive. The body cathexis measurement used is generally interpreted as related to the unclothed body and the professional image and dress class is related to improving the clothed appearance. This points to the need for an instrument which measures satisfaction with the clothed appearance and continued testing.

Reference


Analysis of High School Textiles and Clothing Curriculum Content

Annette A. Ward, New Mexico State University
Lavonne Matern, New Mexico State University

In order for textiles and clothing to be maintained as a viable part of secondary home economics programs, there is continual need for teachers to update their curriculum. The State Department of Education (SDE), Vocational-Technical and Adult Education Division, funded a study to analyze the curriculum content of secondary textiles and clothing classes. The second objective of the study was to design, conduct, and evaluate a workshop for home economics teachers in textiles and clothing during summer 1986.

An instrument was developed to determine the curriculum content of secondary textiles and clothing classes. Competencies developed by the SDE were used to design Likert-type statements to measure the degree of emphasis that home economics teachers reported they placed on specific concepts.

A total of 160 high school home economics teachers from throughout the state were solicited by letter during December 1985 requesting their participation in this study. Of the 48 teachers who consented to respond to the instrument 33 completed the instrument. The 33 teachers who responded to the instrument rated the 35 items according to the degree of emphasis they placed on each concept in their class lessons. The rating scale with its respective numeric equivalent was intense emphasis (4), thorough emphasis (3), moderate emphasis (2), minimum emphasis (1) and no emphasis/concept not applicable (0).

Results obtained through the analysis of the clothing and textiles instrument, and a review of related literature formed the basis for developing the one-credit hour summer workshop.

In order to assess the effects of the workshop, participants responded to the clothing instrument at the end of the one-week class. Participants were asked to rate the emphasis that should be placed on the concepts. Contrast was made between home economics teachers who completed the instrument during winter 1985 and those persons who participated in the workshop during summer 1986.

The major research finding from surveying the classroom teachers was that construction concepts generally received the greatest emphasis as compared to the rest of the items. Three non-construction items; integration of math concepts in appropriate lesson plans, integration of reading concepts in appropriate lesson plans, and application of the principles of design to personality, body type, activities, and style in clothing selection, fell within the higher ratings with the construction concepts. It is suspected the three items attained such emphasis as they applied to clothing construction, and more specifically their relationship to activities associated with selection and utilizing commercial patterns.

Results from workshop participants as to what should be included in a clothing and textile class at the high school level were somewhat different. Workshop participants indicated that basic skills, reading, math, and writing should be given the most emphasis in textiles and clothing classes. In addition, the construction items received variable ratings regarding whether they should be emphasized in clothing and textiles. These results imply that workshop participants, after a week of intensive training, may recognize the importance of integrating the basics in their classes while diminishing major emphasis in clothing construction.

As the workshop progressed, the teachers became aware that basics could be integrated into their clothing curricula as noted by their evaluation of the workshop. The teachers were encouraged to expand their perceptions of clothing and textiles by completing classroom exercises to further integrate reading, math, and writing concepts with clothing and textiles, including construction. Teachers were shown ways to integrate reading, math, and writing skills with consumer, psychosociological, anthropological and physical aspects of clothing and textiles as well.
International Fashion Marketing/Apparel Design Self Supporting Programs

Pattern for the 1990's

Rosalie R. King  Department of Home Economics/Center for Apparel Design/Fashion Marketing
Western Washington University  Bellingham, Washington 98225

Jacqueline Sund  Center for Apparel Design and Fashion Marketing
Western Washington University  Seattle, Washington 98101

The administration of Western Washington University recognized the need to provide for the citizens of the state of Washington a timely degree program in International Fashion Marketing and Apparel Design which directly ties to the unique position of the region in the world economy. This program would strongly support the American Fashion Industry which is both international and the largest in the world.

Thus Fall 1983 the challenge was given. Recognition was given that Northwest companies need personnel with broadly based educations which combine the abilities to analyze, knowledge of human factors, excellence in design of all classes of soft goods, understanding of all categories of materials and components, plus knowledge in market analysis, marketing theory and production management. An assessment of both the needs for the program and the existing programs in the Northwest was undertaken.

Because the Seattle area has become a focal point for active sportswear manufacture Seattle was pinpointed as the most advantageous site as well as serving site bound students, a new concern of the State's Council of Post Secondary Education Board. The Seattle metropolitan location would be an ideal site because of its proximity to the apparel operations and museums. Personnel with key positions in the industry were contacted as the primary curricula goals were formulated.

Attention and effort was then given to preparation of two curricula patterns. The two patterns were reviewed by representative persons both inside and outside the university. Budget projections were formulated and agreed upon. The establishment of the two degree programs on the Seattle campus became reality by faculty and university curriculum committee vote during Spring and Summer of 1984. The degree programs were also passed by the Washington State Higher Education Coordinating Board.

The new programs began Fall 1983 with measurable success from the beginning. That the citizens of the Northwest were being served was measured in student population growth and from enrollment of 35 the first year (even though only one year was offered) to an enrollment of 85 the second year when both the junior and senior years were functioning. Year three experienced 110 students and year four found the maximum enrollment of 120 reached, this number was based on the projected ability of the community to absorb 60 graduates per year. The number of students transferring from other institutions was higher than anticipated, students taking second degree options was larger than expected.

Western Washington University became the institution named to receive the Blanche Payne Scholarship. A specialized library has been formed through generous donations. Success of the students has been evident by the high employment both within the geographic area and within the field. Students are being admitted to graduate school as well.

Conclusions: A self supporting program does add another dimension academic professionals rarely consider. The program has paid for itself since year two with a complete payback of all start-up costs anticipated at the end of year five. Self supporting programs can be highly successful in new areas of study if these programs are planned in minute detail and realistically based. Students, faculty, the institution and the region all benefit from this more daring method of financing higher education. Care must be taken, however, to insure credibility within the institution. All teaching personnel must meet the same requirements for appointment, retention, and research responsibilities as the regularly appointed on-campus faculty.

The sponsoring campus must name an on-campus department chair with rank and authority for the necessary monitoring, analysis and evaluation of the programs. Self supporting programs are like miniature universities as all functions—admittance, registration, class scheduling, curriculum planning, program orientation and promotion are funded from the tuition of that program but follow the college guidelines.

Self supporting higher education offers an alternative method of financing new programs, these can be both exciting and highly successful.
Basic to the learning of any skill-related course is the premise of repetition - at least enough repetition to become familiar with the equipment and method. This type of learning is often boring, especially to upper level undergraduates, who find it difficult to be motivated by repetitive exercises.

To provide a more meaningful approach to experiencing the skill of operating an industrial sewing machine, a manufacturing simulation project was developed for a class of nine apparel production students. Objectives for the production course with laboratory included: 1) to become more knowledgeable in the area of product development, production, marketing, and distribution of a sewn product, 2) to have "hands-on" experience with assembly line procedures, and 3) to be exposed to the capabilities and limitations of industrial production equipment.

In collaboration with a small locally owned specialty shop in a newly renovated section of the downtown area, students from the apparel production class mass-produced an obi style belt for remuneration. The style was reproduced from a belt that sold extremely well and was constructed of striped silk imported from India. The belt featured multiple rows of topstitching, print on one side and solid color on the other, making the belt reversible.

In February, the owners of the shop were consulted regarding the colors of their spring-summer merchandise on order. Solid colors in rose, periwinkle, celery, lilac, light peach, turquoise, and bright pink composed the color story. Because of their popularity for summer, floral prints were chosen. Eight one yard cotton blend floral print samples were selected for their color compatibility. Students constructed prototypes of pleasing face and backing combinations. The owners of the shop selected three of the prototypes that coordinated well with their anticipated merchandise and ordered one dozen of each print.

The class of nine students was divided into three simulated plants each responsible for the assembly line process of producing one print. The entire manufacturing process from writing specification sheets to distribution was assigned to each group to determine the best procedure. Single needle lockstitch machines were used. The belts were mass-produced, inspected and delivered to the shop toward the end of March just as the new spring-summer merchandise was arriving. Within ten days the owners requested a reorder of two dozen more, one dozen each of the two best sellers.

The subsequent assignment for the reordered belts was for the entire class to function as one plant. The same processes of marker making through distribution, including quality control, were assigned. Belts were completed, inspected, and delivered in April. The first part of May the shop requested more belts. With final exam week approaching, it was not possible to supply the reorder.

Both students and the shop owners were very pleased with their collaborative efforts. Students not only gained more skill less painfully, but were able to have a "hands-on" experience simulating a small production operation. In evaluating the project, one student said, "I feel this assignment was a good learning project, for we actually experienced what a product goes through from beginning to end. Practical application is always the best learning tool."

The shop owners were pleased because they were carrying a distinctive locally produced accessory that coordinated with their spring-summer merchandise; the belts displayed well. Monetarily, they made the same profit on the students' belts as they did on the imported ones.

The custom-made calligraphed sign over the display of students' belts in the shop summed it all up -- "MADE IN THE USA -- BY CSU STUDENTS."
Three primary needs regarding clothing construction curricula were identified for the local community, for the community college, and for the individuals they serve: 1) Different segments of the community served by the college expressed unique requirements for clothing and textiles classes offered at the community college. 2) Recruitment, enrollment, and retention of students in clothing construction classes is essential for the survival of the clothing and textiles program and department at the community college. 3) Individuals ask for, demand, and use quality, theory-based instruction in clothing construction.

Recent surveys were received from more than 300 home sewers residing in the San Francisco Bay Area. Of these, approximately 100 were from individuals who identified themselves as beginners or non-sewers. The greatest problem identified by respondents in both groups was ill-fitting clothing in both ready-to-wear and individually constructed garments. The second problem faced by them was a lack of time for purchasing fabrics and supplies, learning to sew, and sewing.

During the past several years, enrollment in clothing construction classes has declined. Continuous activities designed to attract, enroll, and retain new and continuing students in clothing construction classes are imperative.

Local retailers are interested in recruiting new customers, as well as new employees. They strive to inform their customers about educational opportunities available for them. There is a critical shortage of qualified dressmakers, alterationists, and tailors who can provide quality sewing services. Individuals with special needs require the ability to sew or the services of a qualified individual to make or adapt functional and attractive clothing for them.

To meet the stated needs of individuals in the sewing community, and to explore ways of recruiting both new and returning students, two classes were offered over two weekends each, during spring 1987. Both classes met on Friday night, all day Saturday, and Sunday afternoon. The first class, PERSONALIZING DRESS FORMS FOR INDIVIDUALS, incorporated graphic somatometry and extensive body measurements as the basis for adapting a dress form to fit each student.

The second class, FITTING AND ALTERATIONS USING DRESS FORMS, was offered one month following the first class. It taught students how to use dress forms for draping, pattern alterations, and garment fitting.

Each class was presented as a two semester unit lecture/demonstration course. Thirty-two hours of instruction were given.

Prior to the first class, each student purchased a rigid dress form two sizes smaller than her body. Detailed measurements and somatographs were taken and used as a basis for figure analysis. Dress forms were then padded, covered, and marked for use in garment construction.

Prior to the second class, each student purchased checked gingham fabric, a commercial pattern, fashion fabric for construction of the pattern, and selected a ready-to-wear garment that required alterations. Demonstrations on the use of the dress form for draping a basic fitting shell, altering patterns, fitting garments during construction, and altering ready-to-wear garments were presented.

The classes were intensive learning experiences. Extensive work outside of the classroom was required by the students and the instructor. Numerous questions and problems arose which required additional instructor assistance and laboratory time.

Student response and evaluations of the two classes were very positive. Weekend classes in a concentrated format were deemed very positively by them. The lecture/demonstration and problem solving modes of teaching were felt to be effective in these classes. The experimental classes were considered successful.
According to fashion diffusion theory, several types of consumer change agents initiate and propagate fashion innovations. These change agents are classified as fashion innovators and fashion opinion leaders. Fashion innovators are those consumers who initiate or are the first to use an innovative fashion. Fashion opinion leaders are those consumers that influence others in the acceptance of fashion innovations. Although fashion innovators and opinion leaders serve two distinct functions in the fashion diffusion process, past research shows that there is a strong positive correlation between fashion innovativeness and fashion opinion leadership. In addition, similar demographic and dispositional profiles emerge for fashion innovators and fashion opinion leaders. Both fashion innovators and opinion leaders tend to be self-confident and outgoing. They expose themselves to fashion related media and are interested in and involved with fashion and the purchasing of fashion. The question this study addressed was whether this purchasing involvement was specific to fashion, or if it was a more general characteristic. It was predicted that their purchasing involvement was indeed fashion-specific and that they would be less involved with the consumer purchase decision process, in general, than would individuals who were not innovators or opinion leaders.

124 undergraduate females completed a fashion innovativeness and opinion leadership scale (Hirschman & Adcock, 1978) and a general purchasing involvement scale (Slama & Tashchian, 1985). Based upon the score distribution of the fashion innovativeness and opinion leadership scale, 23 women were classified as low and 38 as high in fashion innovativeness; and 23 women were classified as low and 20 as high in opinion leadership. Differences between the fashion innovativeness and opinion leadership groups were measured by analysis of variance of their scores on each of the four factors. Results indicated that the subjects in this study who scored high in fashion innovativeness or high in opinion leadership were more interested in shopping than subjects scoring low in fashion innovativeness (p < .01) or opinion leadership (p < .01). However, no differences were found between subjects scoring high and low in fashion innovativeness or high and low in opinion leadership in their interest in saving money, in reading consumer publications, or in making quality purchases. Fashion change agents are often stereotyped as being frivolous consumers. While they may be more involved in fashion purchase decisions than other consumers, they are not necessarily less involved than other consumers in general purchase decisions.

References:
Clothing is a basic human need generally satisfied by an indigenous population through the functional and aesthetic manipulation of available resources. Also, it is a manifestation of personal and cultural identities. During 19th and 20th century colonialism, European and American missionary societies sent thousands of individuals to convert native people in non-Western cultures. Missionaries had strong convictions regarding acceptable behavior, decorum, and personal appearance which reflected their own religion, Western value systems, and resources. Differences between missionaries and natives required change to occur among natives before converts were deemed acceptable to the Church.

The purpose of this project was to determine: 1) if Christian missionaries during 19th and 20th century colonialism influenced the dress patterns of the natives they sought to convert, and 2) what motivated these changes.

Relevant sources, including books written by missionaries, missionary and church histories, and appropriate references, were searched for descriptive information on native dress patterns among cultural groups in Africa, Asia, and Polynesia. Citations which reflected change or modification in native dress were placed in one of six categories: 1) clothing, 2) hair, 3) adornment, 4) body markings, 5) ceremonies, and 6) production. Where possible, the motivating factor for change in each category was determined.

Changes in native dress patterns seemed to be most evident in those cultures, i.e. African and Polynesian, where clothing was minimal and adornment and body markings more prevalent. China had fewer changes since dress patterns already were more modest than European fashions. Six motivators for changing dress patterns were identified: 1) morality, 2) spiritual, 3) enlightenment, 4) identification, 5) commerce, and 6) civilizing. Morality corresponded with modesty and sexual allurement. Spiritual was associated with idolatry, e.g. tattooing. Enlightenment was a motivator for changing social customs stipulating body mutilation, e.g. foot binding and circumcision, or led to the use of better clothing and hygiene to improve health. Identification was reflected in the native's wearing of appropriate clothing, i.e. European styles, which indicated he was Christian. In some missions, a criterion for baptism was donning European-styled clothing. Commerce was associated with increasing native wants which eventually became needs for European-styled clothes, trade cloth, and related textile items such as blankets and shoes. Finally, civilizing was linked to higher standards of living and the status and prestige that came from wearing European clothing styles and living in an European manner.

Native dress patterns did change as a result of missionary intervention during 19th and 20th century colonialism. In general, changes in dress patterns reflected Western value systems, i.e. enlightenment, identification, commerce, and civilizing, more than Bible interpretations, i.e. morality and spiritual. These findings may aid in the understanding of contemporary Western influences on changing indigenous dress patterns in the Third World. Further research might determine differences in the degree of change in native dress patterns by the various missionary societies. The literature indicates that some missionaries were more zealous in this area than others. Also, the literature indicated that cultures where prestige and social status within a group was important, i.e. African cultures, were more willing to adopt new clothing patterns. Further research is warranted in this area, particularly since a similar pattern is apparent in contemporary non-Western cultures where Western styles and name-brands are increasingly sought as symbols of status.
The objectives of this study were to provide a conceptual framework for impulse buying of retail apparel, identify possible predictor variables, and compare three different samples on five impulse buying dimensions, other shopping behaviors, and demographic characteristics. The research employed Stern's definitions of the components of the "Impulse Buying Mix": 1) pure impulse buying, 2) reminder impulse buying, 3) fashion-oriented impulse buying (This category, which Stern called "suggestion impulse buying", was revised and renamed by the researchers based on the characteristics of apparel goods.), and 4) planned impulse buying. In addition to the above four impulse buying dimensions, a fifth type of buying behavior, planned buying, was measured in this study.

The three samples in this study were composed of 324 female consumers, including students majoring in textiles and clothing (TC: N=94); students in other fields (Non-TC: N=165); and non-student consumers (N=65). The data were generated by a self-administered questionnaire that included a 15-item scale to measure each of the four types of impulse buying, and planned buying. Good internal consistency of the impulsivity scales was shown by Cronbach Alphas, which ranged from .70 to .86. The questionnaire also measured fifteen shopping behavior and five demographic variables.

Each person's most salient buying style was computed by picking the highest Z-score among the five scales. More (46%) non-student consumers were "planned buyers", while students (both TC and non-TC) tended to be "impulse buyers." Among those who were not "planned buyers", TC students were most likely (32%) to be "fashion-oriented impulse buyers", while non-TC students (27%) tended to be "planned impulse buyers", and non-student consumers were most likely (38%) to be "reminder impulse buyers." One-way ANOVAs showed that there were a number of significant differences between the three samples on other shopping behaviors, and demographic characteristics. TC students were:

a. most likely to buy apparel products often,
b. tend to be influenced by ads, and
c. tend to spend the most time and effort in purchasing apparel products.

Non-TC students were:

a. more likely to be influenced by product price than its quality,
b. not likely to be influenced by salespeople, and
c. least likely to spend time and effort in purchasing apparel products.

Non-student consumers were:

a. least likely to buy apparel products often,
b. most likely to be influenced by salespeople, and
c. tended to shop alone than with someone.

Multiple regression analyses with stepwise entry revealed that each of the five impulse buying and overall impulsiveness dimensions could be predicted from other shopping behaviors and the demographic characteristics (e.g., frequency of apparel product purchases, influence of magazine ads, influence of salespeople, importance of brand names, marital status, and job status). These variables were found to be best at predicting planned buying and fashion-oriented impulse buying. Regarding the three different samples, these variables were best in predicting for the non-TC student sample, while they were not as likely to be strong predictors for the non-student consumer sample.

The findings of this study provide an empirical and theoretical background for impulse buying, identify how specific variables influence it, and show the differences between the three consumer groups on their shopping behaviors and demographic characteristics. This information should help retailers develop marketing strategies corresponding to different types of market segments. For future research, other potential variables, such as consumers' life styles and their impulsivity, which could have an impact on impulse buying, should be considered.
COLOR PREFERENCES FOR VALUE AND INTENSITY VARIATIONS

Charlene Lind

Brigham Young University, Provo, Utah 84602

The purpose of this research was a) to explore the differences between value and intensity preferences for clothing and non-clothing colors, b) to identify whether patterns of value and intensity preferences differ for liked and disliked hues and c) to investigate whether value and intensity preferences were associated with self-concept traits.

Data were collected from two groups of men and women, 121 adults contacted at a shopping mall and 138 college students recruited from a variety of academic disciplines. Munsell color standards of consistent value and intensity variations for each of the ten Munsell hues served as color stimuli. A Macbeth Examinolite provided controlled illumination on a light grey matboard (Munsell N 8/) viewing background. Subjects rank ordered the ten hues and six tones of the most and least preferred hues.

Results indicate definite patterns of intensity preferences, but no consistent pattern of value preferences. Brighter intensities were dominant for favorite hues but duller forms were more approved for disliked hues. The same pattern of preferences was evident for non-clothing color preferences and for clothing color preferences (indicated for an item of clothing such as a sweater). Person correlations showed moderate association of value and intensity preferences with selected self-concept traits.

Results varied for both sex and age. Men liked bright tones more and dull tones less than did women. Women liked light and medium tones more and dark tones less than did men. This pattern was evident for both liked and disliked hues but was stronger for general color preferences than for clothing color preferences. Subjects under age 30 liked dark values more and light values less than did those over 30. Level of education and previous training in color use or theory were not significant.

Implications for designers, apparel manufacturers and retailers include: when using less popular hues such as green and orange, dark tones will be better received by customers. When using popular hues such as blues and reds, brighter tones will sell better.
SITUATIONAL VARIATIONS IN CLOTHING COLOR PREFERENCES: RITUAL AND NONRITUAL CHOICES

Margaret Rucker, Alice Peters, Yong-Ju Kim, and Katara Sims
University of California, Davis, California 95616

There has been a growing recognition that consumer preferences do not operate in a vacuum; rather, they are influenced by the context or situations in which they are elicited. One major situational dichotomy that is relevant to clothing selection is the distinction between ritual and everyday uses. Although both types of selections are similar in that they are influenced by beliefs and values extant in a particular group at a particular time, selections for ritual occasions tend to be limited by more narrow and rigidly defined norms of appropriateness. However, these limitations on ritual apparel vary by both type of ritual and kind of apparel. For example, graduation attire is defined more precisely than that for weddings or funerals and outer garments are generally more restricted than the less visible inner garments.

Trade reports of a revival in the trousseau market raise questions about how preferences for "bridal" items might differ from preferences for everyday items. The present study was designed to test for such differences with respect to color choices for nightgowns. Although little literature on wedding etiquette specifically limits trousseau color choices, it was hypothesized that the special nature of the event and generalization of restrictions on colors for the wedding gown could serve to: (1) depress color preference ratings for trousseau items and (2) alter the order of preferred colors from choices for everyday wear.

Subjects were 83 female university students who volunteered to participate in the study. Forty colors were selected for evaluation from the ChromaRama® color wheel cross-referenced with the Pantone® professional color system. Squares of each color were rated on a seven-point scale ranging from like very much to dislike very much. The colors were rated once as to preference for trousseau nightgowns and again as to liking for general-use nightgowns.

An analysis of variance indicated there were significant main effects for type of occasion as well as the color attributes of hue and value. As predicted, ratings were more negative when the situation was defined as a wedding. With respect to the color differences, the reds, violets and blues were preferred over the greens, yellows and oranges, and the tints were rated more positively than the pure hues and shades. Although the rank order of the colors was similar for both situations, there were a few major exceptions. For example, white was ranked third for wedding trousseaus compared to tenth for general use, suggesting some generalization of appropriateness norms from outer wear to inner wear.

In conclusion, it appears that defining the use situation as a ritual, in this case a wedding, has a significant effect on level of preference although not on the overall order of preference. Implications for the clothing market are that the ability to meet customer needs can be improved by considering situational as well as personal variables in defining target markets. For example, in this case where the number of acceptable colors for bridal sleepwear was relatively limited, retailers might best satisfy the market by offering fewer colors but more options along other dimensions such as price and style.

1 ChromaRama® products are manufactured by Prestype, Inc., 194 Veterans Blvd., Carlstadt, NJ 07072 and Pantone® products are manufactured by Pantone, 55 Knickerbocker Road, Moonachie, NJ 07074.
Influence of Lifestyle and Evaluative Criteria of Apparel on Information Search: Employed and Nonemployed Women

Soyeon Shim - Colorado State University
Mary F. Drake - The University of Tennessee

The purpose of the study was to investigate the influence of lifestyle and evaluative criteria of apparel on information search in apparel purchasing decisions among female consumers. More specifically, objectives were: 1) to identify what evaluative criteria and information sources are utilized by employed women in purchasing employment apparel and by non-employed women in purchasing social apparel; 2) to identify the relationships among evaluative criteria, lifestyle and information search patterns for employment apparel among employed women and social apparel among nonemployed women.

The sample included females, ages 25-44, across various occupation categories. Data were collected via a self-administered 10-page questionnaire mailed during July of 1985. Forty-seven percent of the national sample returned useable questionnaires (n=1410). Of these, 73 percent were employed women (n=1034) and 27 percent were nonemployed women (n=476).

The five most salient evaluative criteria used by employed women in selecting employment apparel and by nonemployed women in selecting social occasion apparel were identified. Four criteria (good fit, suitability to individual, appropriateness for occasion, and quality of construction) were included by both employed and nonemployed, while "comfort" was included only by employed and "beautiful/attractive" was included only in nonemployed. This suggests that "comfort" and "beautiful/attractive" evaluative criteria may be determining factors for employment apparel and social apparel, respectively.

The relative importance of information sources for both employed and nonemployed women was also investigated. The most frequent information search activities for both nonemployed and employed women were "looking around the store", "looking at displays of clothing in retail stores", "reading women's magazines", and "reading fashion magazines." These suggest that an emphasis on attractive window and in-store displays and advertising in the fashion and women's magazines are worthwhile promotional efforts for the stores catering to either employed women or nonemployed women.

Factor analysis was performed on 21 information search activities within each of the two groups of respondents, employed and nonemployed. Five different information search patterns (Print-oriented, Audio-visual oriented, Store intensive, Professional advice, and Pal advice) were identified among employed women and four different information search patterns (Mass-media, Business-oriented, Store-intensive, and Pal advice) among nonemployed women.

Further analysis using multiple regression found relationships among evaluative criteria, lifestyle, and information search patterns for: 1) employment apparel of employed women; and 2) social apparel of nonemployed women. Also, these relationships for employed women selecting apparel for work differed from those for nonemployed women selecting social apparel. Based on the result of multiple regression, search profiles for both employed women and nonemployed women were developed to describe the female consumer information search pattern segments in terms of evaluative criteria of apparel and lifestyle. Lifestyle factors explained information search patterns better than evaluative criteria. Therefore, the Engel, Kollat, and Blackwell (EKB) High Involvement Model of Consumer Behavior, which was used as a conceptual framework, would more accurately represent these findings if the relationship between lifestyle and search stage were direct.

The major implications are in three distinct areas: 1) knowledge of female consumers' information sources and evaluative criteria of apparel and lifestyle; 2) lifestyle analysis as an approach to study female apparel consumers; and 3) marketing strategy development.

Reference
CHILDREN'S APPEARANCE AS A FACILITATOR IN PERSON PERCEPTION TYPOLOGY

M. Sue Stanley, California State University, Long Beach, CA
Donna H. Branson, Oklahoma State University

Because a person's clothing is most frequently a personal choice, appearance as a form of nonverbal communication can be a clue to the personality, expected behavior, values and interests of the wearer. The purpose of this study was to determine the impact of children's clothing on the child's perception and behavioral expectations of peers and the impact of clothing on the teacher's perception and behavioral expectations of the child.

A 2X2 within subjects design was used in which the independent variables were stimulus sex (boy and girl) and stimulus fashion (initiator and acceptor). Dependent variables consisted of social (liking, leadership, friendliness and teasing) and personal (neatness, cheating, kindness, selfishness, talking, bravery, happiness, forgetfulness, niceness and intelligence) behavioral expectations. Using a four-point visual scale, subjects were asked to determine the social and personal attributes of four sketches representing the independent variables.

The sample consisted of 93 fourth grade teachers and 173 fourth grade children from four school districts in a midwestern state. Teacher questionnaires were distributed and collected through the Elementary Curriculum Coordinator's office at each participating school district in the spring of 1986. Children questionnaires were administered by the researcher in the spring of 1986.

Cronbach's alpha was .85 for the children sample and .84 for the teacher sample, reflecting a high degree of internal consistency. Data analysis consisted of 2-way and 3-way analysis of variance with a significance level of p.<.05.

Boys rated the male figures more favorably; girls rated the initiator figures more favorably. Female teachers rated the male acceptor figure more favorably. No significant main effects or interactions were found for male teachers. Several trends were evident: 1) the fashion stimulus appeared to be a significant factor in the boys' and girls' ratings of the male initiator; 2) female teachers viewed the male acceptor more favorable than did the children; 3) children viewed the male initiator more favorable than did the female teachers; 4) female and male respondents perceived the female initiator differently; 5) the rating of stimulus figures by respondents divided along sex lines with female respondents perceiving female stimuli more favorably; 6) boys relied more heavily on social variables and stimulus sex to determine behavioral expectations than did girls, men and women.

Implications of this study pertain to parents, educators, apparel producers and retailers. Parental interactions impact on the child's self perceptions, perceptions of others and others' perceptions of them. Teacher interactions impact on the socialization of the child and on behaviors based on role expectations. Producer and retailer interactions impact on the consumer behavior and apparel selection behavior of young clothing consumers.
As retailers continue to develop private labels in an attempt to develop and maintain a clear retail image, maintenance of product quality levels becomes important. Generally retailers rely on the reputation and quality guarantee of national brands. As chains expand nationally into the territory of regional stores, thus increasing competition, it is imperative they differentiate themselves in this over-stored retail environment. Many feel a quality private label can garner a reputation equivalent to a national brand, create store-loyal customers, and differentiate the store from others. The private label will become synonymous with the store’s reputation and quality level. Some large retailers either conduct their own product testing or contract this task to testing labs. The purpose of this paper was to identify, for one major retailer, instances where fabric and garment testing results fell below the store’s minimum standards. As a result, this analysis indicated the countries and specific vendors with the fewest and the most quality problems.

Piece goods and garment test results from a contract testing laboratory were analyzed. These tests using ASTM and AATCC standards included 445 samples in piece good form and 1330 garments. Piece goods were evaluated for color loss in wash, crocking, light, and perspiration tests. Garments were evaluated for shrinkage, seam strength, appearance, and accuracy of fiber content on label. Where test results fell below store standards, but the product line was maintained, the percentage was recorded for three major divisions: Men’s & Boys’, Children’s, and Sportswear & RTW.

Failure occurred the most due to colorfastness to light, especially in Children’s and Sportswear/RTW, followed by wash, crocking and perspiration. For garment problems, Children’s had the largest percentage of problems, followed by Men’s & Boys’ and Sportswear/RTW. Specifically, shrinkage was the biggest problem, especially with the Children’s division, followed by incorrect fiber identified on label, overall appearance, and seam strength.

The largest percentage of problems occurred in India, followed by Hong Kong, Taiwan, Singapore, Japan, Philippines, and Korea. In Men’s and Boys’, Taiwan, Hong Kong, and Korea had the largest percentage of problems. In Children’s, Taiwan and Korea had the worst problems with colorfastness to light. Shrinkage was a considerable problem in Hong Kong and Philippines. In Sportswear/RTW, colorfastness to light, wash, and crocking was a major problem with garments from India with from 31-53% falling below standards. Hong Kong and Korea had similar problems.

In analyzing quality control problems in apparel manufacturing, Rabolt, et al. (1986) indicated similar results in regard to countries with the largest number of problems which included India, followed by Hong Kong, Taiwan, and Korea.

Reference
Thermal Comfort, Thermal Sensation and Skin Wetness of Protective Clothing During Pesticide Application

Vera B. Keeble, Utah State University, Logan, Utah 84322-2910

Protective clothing shields the body from exposure to pesticides but that which is currently available is often hot and uncomfortable. Many agricultural workers have decided to risk exposure to pesticides rather than suffer heat stress or endure other problems associated with the use of protective clothing.

The purpose of this study was to compare growers' perceptions of thermal comfort, thermal sensation, skin wetness and physical response to the test conditions while wearing protective clothing in three fabrications. Volunteer test subjects evaluated protective garments in three fabrications (Gore-Tex, Saranex laminated Tyvek and an experimental composite structure) produced from the same design. During July and August, 1986, each subject wore each protective garment and his usual clothing while mixing and spraying Guthion in fruit orchards. Subjects completed the 9-point ASHRAE thermal comfort and thermal sensation scales and a 9-point scale measuring skin wetness, developed by the researcher. Growers' skin temperature, heart rate, activity level and environmental conditions were measured. Garments were randomized in a modified Latin Square and each subject wore each garment for approximately two hours. Data were analyzed using Multiple Analysis of Variance with thermal comfort, thermal sensation and skin wetness as dependent variables.

Garments were significantly different for thermal comfort and skin wetness, \( p = .097 \) and \( p = .083 \), respectively, \( df = 3, 180 \) when tested by the 17 male fruit growers. No significant differences were identified for thermal sensation because weather conditions were mild. Garment differences were identified by least Significant Difference \( (p = .05) \). Tyvek was the most uncomfortable. There were no differences between the experimental composite structure and Gore-Tex, and work clothing was significantly more comfortable than all tested garments. Work clothing was significantly drier than the three protective garments. There was a significant \( (p = .000, df = 2, 180) \) decrease in thermal comfort, and increase in thermal sensation and skin wetness for all garments the longer they were worn. Weighted skin temperature was a significant covariate with thermal comfort \( (p = .019, df = 2, 180) \) but not with thermal sensation and skin wetness.

Although all garments were more uncomfortable, hotter and wetter the longer they were worn, there were differences in the three protective test garments and work clothing used as a control. Work clothing was the most comfortable and driest and Saranex laminated Tyvek was most uncomfortable. The experimental composite structure and Gore-Tex were similar in ratings for all three dependent variables.

The experimental composite structure performs well in comparison with work clothing and Gore-Tex for comfort and skin wetness. Regular work clothing and Gore-Tex possess disadvantages which limit their use. A study of the composite structure under more stressful environmental conditions would determine if it is appropriate for protective clothing.
EFFECT OF SATISFACTION AND FIT PROBLEMS WITH CAREER DRESS ON CAREER WOMEN'S WILLINGNESS TO TRADE STYLING OPTIONS, TIME, AND MONEY FOR MORE SIZING OPTIONS IN CAREER DRESS

Janith S. Wright and Sally K. Francis
Oregon State University, Corvallis, Oregon 97331

The objectives of the study were: to investigate career women's satisfaction with current career dress; to determine willingness of career women to trade styling options, time, and money for more sizing choices in career dress; to determine the effect of satisfaction on willingness to trade styling options, time, and money; to investigate fit problems with career dress; to determine the relationship between satisfaction and experience with fit problems; to determine the relationship between fit problems and willingness to trade styling options, time, and money; and to investigate career women's actions to solve fit problems that they have experienced with career dress. A survey method was used to collect data. Questionnaires were completed by career women present at professional association meetings in western Oregon during the winter of 1986. The sample used in the study consisted of 218 women working in professional or managerial occupations. They were middle-aged, college educated, of above average family income, married, and full time workers.

The data included general satisfaction with career clothing, satisfaction with a suit-type jacket worn to work, frequency of fit problems, actions taken to solve fit problems, willingness to trade styling options for more sizing choices, willingness to spend more time and money to get more sizing choices, and demographic characteristics. Descriptive statistics, chi square, correlation coefficients and analysis of variance were used to analyze the data.

As hypothesized, respondents who were satisfied with career clothing were also satisfied with a specific jacket. The respondents were very satisfied with their career clothing and with their own jacket. The hypothesis that willingness to make trade-offs for more sizing options is a negative function of general satisfaction with career dress, was partially accepted. Level of satisfaction with career dress had a significant effect on willingness to spend more time and money to get more sizing options. The study did not support the hypothesis that satisfaction with career dress had an effect on willingness to trade styling options for sizing options. However, over 90 percent of the subjects were willing to accept fewer styling options to get more sizing options. They were willing to spend some more time to get more sizing options, and they were willing to spend $20.99 or less to get more sizing options. The hypothesis that level of satisfaction is an inverse function of experience with fit problems was accepted. The data revealed that every respondent had experienced fit problems when shopping for ready-to-wear career clothing. As the frequency of fit problems increased, the level of satisfaction decreased. Finally, the hypothesis that willingness to accept fewer styles, spend more shopping/travel time, and spend more money for more sizing options is a positive function of career women's experience with fit problems was accepted.

A surprising number of respondents altered their own garments, wore poorly fitting garments, sewed their own career clothing, and paid to have ready-to-wear altered. They also have shopped in alternative departments, hired garments custom made and have refused to purchase as responses to fit problems with ready-to-wear career clothing.
Numerous attempts have been made over the years to provide employment for the Native American people. Many have involved projects for employing primarily the male Indian population and have taken them off the reservation for their workplace.

A project was designed two and a half years ago to employ women on the Navajo Indian reservation. With funding from various sources, including tribal money, the plan involved setting up an apparel manufacturing plant on the reservation in Fort Defiance, Arizona, where the unemployment had been 30% for several years.

The physical facility had been an old wool processing factory and warehouse. It was renovated and equipped as a sewing plant.

The product was a line of women’s wear using Navajo style clothing and Navajo-oriented designs as its source of inspiration. The look was very contemporary using color-coordinated separates to create a striking ensemble. The traditional geometric patchwork designs, Navajo cowboy ribbon shirts, and the three-tiered flounced skirts worn by Navajo women were evident in contemporary form. The color story was in two major groups: 1) Southwest Indian jewelry colors of coral, turquoise, mother-of-pearl, and black onyx and 2) Desert tones of sand, cinnamon, navy, and gold. The label was Dine’hen, a Navajo word meaning “the people who walk the earth.”

This presenter became involved in the project when requested to supply the first week of the two week training program to the fifteen women that had been interviewed, screened, and selected. They were to be the first power sewing operators opening the manufacturing plant in April. This training took place in February and was followed by a second group of fifteen women trained in April.

This week of training was conducted at the Navajo Nation Training Center in Window Rock, Arizona. It was intended to give the women some educational background in the area of textiles and clothing and to give them a brief orientation to the apparel industry. More specifically, it covered the following topics:

- Clothing: A Cross-cultural Study
- The Raw Materials of Fashion and Textiles
- The Historical Development and Influences of Fashion
- The Components of the Apparel Industry: Design, Production, and Distribution

Instructional emphasis was placed on the importance of quality control and recognizing the significance of how each operator fit into the assembly line organizational scheme. Taking pride in being a part of such a structure was stressed so each employee would feel a commitment to not only coming to work but also doing their best work.

Overall observations and impressions of the project were that: 1) The Navajo women were extremely pleased to have a job. 2) Producing a product that promoted their native American heritage was very satisfying to them. 3) They were very pleased to have the opportunity to further their learning in the areas of textiles and apparel production.
A different approach to the Historic Textiles course was developed in order to strengthen the stated course objective "to develop an appreciation for, and understanding of, historic textiles." Understanding what is read about the many hand processes involved in the making of cloth in earlier days requires a lot of imagination. Seeing the process of spinning and weaving certainly aids in learning about the time and skill needed for this task. However, an even more realistic knowledge of these skills and the materials is developed when a student can actually do the procedure, rather than just watch a demonstration or read about the procedure. With this fact in mind, a teaching unit reviewing the concepts of fiber to yarn to finished cloth was developed which incorporated several class periods of hands-on experiments.

Historic dyes such as madder, cochineal, indigo and logwood were studied and several of these dyestuffs were purchased for use in a lab session to dye wool yarn. (Natural dyers for sale are listed in catalogs from: Rumplestiltskin 1021 R Street Sacramento, CA 95814 Mannings PO Box 687 East Berlin, PA 17316 Straw into Gold 3006 San Pablo Avenue Berkeley, CA 94702)

In addition to learning the actual colors achieved by historic dyes, students were requested to bring a local dyestuff. Lichen, berries, walnut hulls and onion skins were soon simmering to impart delicate colors to the wool.

An inexpensive drop spindle kit (from Scot Products Co., PO Box 279, Middleville, MI 49333) and scoured wool fleece (from a local yarn and weaving shop) was purchased for each of the students. Two sets of wool carders in the department allowed students to card the wool fiber into rolags during half hour periods scheduled outside of class. One class period was devoted to a local spinner demonstrating both drop spinning and use of a Saxony/castle spinning wheel. The drop spindle was then used by each student to spin the wool rolags into yarn. Though various qualities of yarn were achieved, from fine to thick and nubby, each student learned of the dexterity and time needed for this task. Carding and spinning of some cotton fibers were then attempted, with the acknowledgement that even more skill was needed for this fiber.

Weaving was the next process investigated. After a study of the various forms of looms, each student constructed a simple frame loom. Warp yarn was purchased (for strength) and wrapped around the frame, while the yarn previously handspun was used for the filling. Students studied the techniques of slit, dove-tail and interlock tapestry weaving and incorporated two of these techniques to achieve a woven-in pattern in the small 6" by 8" fabric piece created.

As the rest of the historic textiles information from many countries and time periods was studied, students commented about the value of the earlier unit in helping them understand the skill needed to produce the beautiful fabrics being discussed. "Art appreciation at its best," one student was heard to say. Although most of the students' weavings were not works of art, they certainly were works incorporating deepened appreciation for historic fabrics as art!
Junior and senior high school home economics teachers were provided an opportunity to have hands-on experience during a workshop to use and evaluate software designed for clothing and textiles instruction. Teacher evaluations and a bibliography of software available for use in clothing and textiles classes are available from the State Department of Vocational-Technical Education and the VIPS unit.

Software was located by reviewing periodicals and catalogs. No effort was made to review or evaluate the effectiveness of software before purchasing in order that teachers could work with software of varying quality levels.

The teachers evaluated the clothing and textiles software for content accuracy, ease of use, application to the clothing and textiles curriculum, and perceived appeal to students. Check sheets with evaluative criteria were used to facilitate evaluation while the teacher used the software. Opportunities to include additional comments were provided.

A wide variance of software quality was noted. Teachers tended to agree on their ratings. "Know Your Pattern", "Techniques for Sewing Series", and "Sewing Potpourri 1, 2, and 3" received the highest quality ratings from the teachers. "Endless Wardrobe Combinations" received the lowest rating.

Teachers indicated that because most classrooms have only one computer, the software would probably be used to provide drill and an alternate form of presentation to students who had missed class. However, the teachers did express a desire to use the software in other teaching situations if a greater number of computers were available to them and their students.

Implications for university clothing and textiles faculty are evident. Home economics teachers desire to use software, but will not sacrifice content accuracy for novelty. Clothing and textile faculty might explore working with computer pro-

grammers or investigate the possibilities for using authoring software to develop clothing and textiles software.