ACPTC Proceedings
National Meeting

1986

Edited by

Ruth H. Marshall

Association of College Professors
of
Textiles and Clothing, Inc.
CONTENTS

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

Program. ................................................................................. 2

Presentations

Implications for Textiles and Clothing
Marilyn Horn ................................................................. 11

Futures Report: Promoting Dialogue for Growth
Susan B. Kaiser. ............................................................ 17

The Culture of Clothing: A Unifying Metatheory for Inquiry in
Clothing and Textiles
Jean A. Hamilton ............................................................ 19

Meaningful Human Actions Concerning Clothing: Methodology for
an Alternative Perspective
Gloria M. Williams .......................................................... 21

Dissemination of Textiles and Clothing Knowledge: A Marketing Approach
E. A. Rhodes ................................................................. 29

Perspectives of Focused Missions: Panel Discussion
Leslie L. Davis ................................................................. 34

A Process Model for Theoretical Development of Textiles and
Apparel Marketing
Rita C. Kean and Hilda Mayer Buckley ......................... 35

A Reaction to Dissemination of Clothing and Textiles Knowledge:
A Marketing Approach
Patricia T. Huddleston .................................................... 36

A Future that Increases the Value of the Past
Sarah J. Weeks .............................................................. 37

Future Directions: Processes for Change
Penny Damlo ................................................................. 38

How Cotton Meets Future Market Demands with Quick Response
Glenn P. Morton ............................................................. 41

The Role of the Computer in the Future Apparel Industry
Mary Carter ................................................................. 45

Curriculum/Career Interest Groups

Merchandising Curriculum Session
Carol Anne Dickson, Patricia L. Gifford and Antigone Kotsiopulos. 48
Textile Science Curriculum/Career Interest Group
Carol Warfield and Kay Obendorf

Apparel Design Curriculum/Career Interest Group
Joann Boles, Rita Purdy and Sue Watkins

Abstracts of Fiber Arts Presentations

The 3rd ACPTC National Juried Exhibition of Fiber Art and Wearable Art
Mary Ruth Smith

Recent Work in Fiber Art
Robert Hillestad

Sculpture for Movement
Wendy R. Weiss

Abstracts of Research Reports

Session I: Physical/Chemical

Microscopical Analysis of Residual Natural Soils on Cotton/Polyester Fabrics Laundered with a Variety of Detergents
S. Kay Obendorf & Joan J. Webb

The Coverage of Neps in Direct-Dyed Cotton Fabrics
Lenore Cheek, Li-Hua Hsu and Anne Wilcock

Effects of Repeated Laundering with Fabric Softener on Fabric Comfort Properties
Rinn M. Cloud, Mary Lynn Zimpfer and Steven M. Buco

Home & Commercial Laundering of Pesticide Contaminated Clothing
Jana Lamplot, Joan Laughlin and Roger E. Gold

Insulation Characteristics of Bedding Systems
Patricia J. Zbikowski and Elizabeth A. McCullough

The Effectiveness of Ultraviolet Filtering Sleeves in Reducing Fading of Natural Dyes
Patricia Cox Crews

Colorimetry as a Tool in Conservation of Textiles
A.R. de Torres, N.B. Fair and N.J. Howard

An Evaluation of Antioxidants for the Conservation of Museum Textiles
Kimberly Asche and Patricia Cox Crews

Photographic Techniques for the Assessment of Damaged Historic Textiles
Sarah Cowan, Laurel Wilson and Howard Wilson
Session II: Social Psychological

Appropriate Clothing Across Various Situations
Sharron Lennon .................................................. 63

Perceived Appropriateness of Attire for Female Managers in Business
Lucille M. Terry ..................................................... 64

Cluster Analysis of Women's Business Suits
Mary Lynn Damhorst, Molly Eckman and Shari Stout .......................... 65

Theories of Dress: Evolutionary Myths and Miasma
Mary Ellen Roach-Higgins ........................................ 66

Subsession: Dress as a Perceptual Cue

The Relationship between Teacher's Dress and Student Perceptions of Teacher Characteristics
Sara Butler and Kathy Roesel ........................................ 67

Effects of Dress on Perceptions of Intelligence, Behavior & Academic Achievements of High School Students
Elizabeth A. Williams and Dorothy U. Behling ................................ 68

The Effect of Sex, Sex-Related Clothing, & Occupational Sex-Linkage on Perceptions of Occupational Success
Leslie L. Davis ........................................................ 69

Reinforcement of Masculine-Feminine Personality Traits Through the Classification, Use & Ownership of Selected Apparel Items
Linda A. Snyder ...................................................... 70

Discussant for Subsession: Dress as a Perceptual Cue
Lois Dickey .......................................................... 71

Session III: Apparel Design/Manufacturing

Subsession: Functional Design

Evaluation of Protective Clothing Systems for Structural Fire Fighting
Janice Huck and Elizabeth A. McCullough ........................................ 72

Development of Protective Clothing for Lawn Specialists
Ann C. Slocum, Lois Shern and Sharleen Gay .................................... 73

Design for a Fast Food Restaurant Uniform
Jane E. Workman ..................................................... 74

Discussant for Subsession, Functional Design
Jacquelyn DeJonge ..................................................... 75

Clothing Design for Mastectomees
Esther Meacham, Charles Kleibacker, Norma D. Pitts and Nancy A. Rudd 76
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Theoretical Framework for Describing Body Variation</td>
<td>77</td>
</tr>
<tr>
<td>Relative to Pattern Shape</td>
<td></td>
</tr>
<tr>
<td>Edith Gazzuolo</td>
<td></td>
</tr>
<tr>
<td>&quot;Graphic Somatometry&quot; for Research &amp; Teaching: Garment Selection and</td>
<td>78</td>
</tr>
<tr>
<td>Engineering, Apparel Planning, Preventive Health Care</td>
<td></td>
</tr>
<tr>
<td>Helen I. Douty</td>
<td></td>
</tr>
<tr>
<td>Maturation Changes vs. Government Sizing Standards for Women</td>
<td>79</td>
</tr>
<tr>
<td>Eleanor M. Woodson and Patricia Horridge</td>
<td></td>
</tr>
<tr>
<td>Quality Control in Overseas Apparel Manufacturing</td>
<td>80</td>
</tr>
<tr>
<td>Nancy J. Rabolt, Katrina Bothwell and Mary Barry</td>
<td></td>
</tr>
<tr>
<td>Session IV: Textile &amp; Apparel Marketing</td>
<td></td>
</tr>
<tr>
<td>Secondhand-Clothing Purchasers &amp; Consignors in Consignment Stores</td>
<td>81</td>
</tr>
<tr>
<td>Pheobe Mack Morrow and Marjorie J.T. Norton</td>
<td></td>
</tr>
<tr>
<td>The Effect of Product-Specific Factors and Experience on Retail</td>
<td>82</td>
</tr>
<tr>
<td>Buying Decisions: An Extension</td>
<td></td>
</tr>
<tr>
<td>Janet Wagner and Richard Ettenson</td>
<td></td>
</tr>
<tr>
<td>High School Students' Perceptions of Selected Educational Options &amp;</td>
<td>83</td>
</tr>
<tr>
<td>Careers</td>
<td></td>
</tr>
<tr>
<td>Margaret Rucker, Janet Dessayer and Kelly Rennick</td>
<td></td>
</tr>
<tr>
<td>Career Development in Retailing: Educational Issues</td>
<td>84</td>
</tr>
<tr>
<td>Grace I. Kunz</td>
<td></td>
</tr>
<tr>
<td>Employment Status and Job Satisfaction Among Selected Graduates of a</td>
<td>85</td>
</tr>
<tr>
<td>University Program in Fashion Merchandising</td>
<td></td>
</tr>
<tr>
<td>Lona J. Robertson and Carol E. Avery</td>
<td></td>
</tr>
<tr>
<td>Subsession: Country of Origin</td>
<td></td>
</tr>
<tr>
<td>The Price of Women's Blazers Related to Brand, Country of Origin,</td>
<td>86</td>
</tr>
<tr>
<td>Store Type &amp; Store Location</td>
<td></td>
</tr>
<tr>
<td>Pamela S. Norum and Lee Ann Clark</td>
<td></td>
</tr>
<tr>
<td>Canadian Consumer Attitudes Toward the Quality of Canadian, U.S.</td>
<td>87</td>
</tr>
<tr>
<td>and Foreign-Made Apparel &amp; Footwear</td>
<td></td>
</tr>
<tr>
<td>Marjorie Wall and Louise A. Heslop</td>
<td></td>
</tr>
<tr>
<td>Consumers' Perception of Quality &amp; Price Given the Information</td>
<td>88</td>
</tr>
<tr>
<td>Cues of Country of Origin, Store Image &amp; the Buy American Campaign</td>
<td></td>
</tr>
<tr>
<td>Bonnie Davis, Sue Ann Kern and Brenda Sternquist</td>
<td></td>
</tr>
<tr>
<td>Importance of Country-of-Origin at Point of Purchase in Women's</td>
<td>89</td>
</tr>
<tr>
<td>Decisions to Purchase Sweaters</td>
<td></td>
</tr>
<tr>
<td>Kay Gipson and Sally K. Francis</td>
<td></td>
</tr>
<tr>
<td>Discussant for Subsession, Reflections on the Country of Origin</td>
<td>90</td>
</tr>
<tr>
<td>Question</td>
<td></td>
</tr>
<tr>
<td>Kitty G. Dickerson</td>
<td></td>
</tr>
</tbody>
</table>
Session V: Cultural/Historical

Ethnohistory: A Method for Studying the Cultural Aspects of Textiles & Clothing
Rachel K. Pannabecker ........................................... 91

Dress as a Symbolic Reflection of Social Reality:
A Cross-Cultural Perspective
James W. Hamilton and Jean A. Hamilton ..................... 92

A Partially Mineralized Fabric from Etowah as Indicator of Cultural Processes
Lucy Roy Sibley, Virginia S. Wimberley and Kathryn A. Jakes ........ 93

A Case for the Cycle of Fashion: 1938-1985
Susan T. Baxter and Marie M. Carver ......................... 94

Brides in Mourning: An Inquiry into the Use of Popular Literature to Explain Behavior at the Intersection of Two Social Rituals: 1880-1910
Louise Wehrle and Jo B. Paoletti .................................. 95

Construction Techniques in Women's Outerwear, 1870-1899
Jane Farrell-Beck .................................................. 96

Apparel Maintenance in Missouri: 1850-1860 & 1900-1910
Joann Gregory Ritter and Betty Feather ....................... 97

Clothing The American Woman for Sport & Physical Education, 1860 to 1940: Public and Private
Patricia Campbell Warner ........................................ 98

The Role of Women in Domestic Textile Production as Determined by Nineteenth Century Estate Records & Wills in Selected Counties in the Central Piedmont of North Carolina
Laurel E. Wilson and Lavina M. Franck ......................... 99

Early Franchises
Clarita Anderson and Steven M. Spivak ........................... 100

Session VI: The Textiles & Apparel Consumer

Older Adults Fiber & Apparel Preferences for Cold Weather
Lydia L. Roper and Samina A. Khan ............................... 101

A Typology of Information Search Pattern: Apparel Selection of Employed Women
Soyeon Shim and Mary Frances Drake ............................ 102

Consumers' Attitudes & Practices Toward the Purchase of Indoor Sportswear for Warmth
Elaine L. Pedersen and Nan Lenhart ............................. 103

The Influence of Female Consumers' Demographics on Lifestyle & Evaluative Criteria of Apparel
Nancy L. Cassill and Mary Frances Drake ....................... 104
Predicting Consumer Response to Fashion Apparel
Marilyn DeLong and Bettie Minshall .................................. 105

Profiling the Quality Oriented Apparel Consumer: Demographic, Lifestyle & Apparel Value Perspectives
Michelle A. Morganosky .................................................. 106

Fashion Opinion Leadership, Self-Monitoring & Apparel Advertising
Sharron J. Lennon, Ann Fairhurst and Leslie Davis .......................... 107

Clothing Preferences & Shopping Behavior of Male Homosexual & Heterosexual College Students
Louann A. Snezek and Nancy Ann Rudd .................................. 108

Consumer Values & Their Relationship to Dollar Values Placed on Aesthetic & Utilitarian Qualities in Clothing
Nancy Jo Kollmorgen and Donna H. Branson .................................. 109

Consumer Patronage of Discount Stores for Apparel & Socioeconomic Product Risk
Teresa A. Summers, Mary Beth Dawes and Patricia Wozniak ................. 110

Abstracts of research poster session

Sweating, Comfort, and Manual Dexterity Performance as Influenced by Chemical-Protective Glove Liners
Donna H. Branson, Carolyn Hoener, Lynda Abusamra and Sandy Rice .................................. 111

Evaluation of the Solar Optical Properties of Interior Window Treatments: Integrating Sphere Measurements
Marie N. Carver .............................................................. 112

Dutch Costume in Paintings by Dutch Artists: A Study of Women's Clothing and Art from 1600 to 1650
Dana L. Chapman .............................................................. 113

Clothing as Packaging: Effects of Child's Appearance & Sex on Compliance
Cheryl Alred Colaw and M. Sue Stanley .................................. 114

The Influence of Advertising on Beliefs & Attitudes Toward 'Made-in-U.S.A'
Sara U. Douglas and Cynthia A. Boeckman .................................. 115

Acquisition & Provision of Clothing Services
Marilyn R. Duke and Janis M. Voege ........................................ 116

Consumer Involvement: A Comparison of Measurement Techniques
Ann E. Fairhurst, Linda Good and James Gentry .................................. 117

TV Influence on Eleventh Grade Low-Income Black Girl's Clothing
Vermell Mack-Keeles and Judith Cardona Forney .................................. 118

Traditional Women's Dress in Contemporary Saudi Arabia
Judith C. Forney and Nancy J. Rabolt ........................................ 119
Fabric-Caused Changes in Human Skin, Skin Water Content & Water Loss
K.L. Hatch, D. Wilson, H.I. Maibach and H.H. Prato. ............... 120

Imported Versus Domestic Apparel: Are Attitudes and Buying Behavior Related?
Susan B. Hester. .................................................. 121

Dress as a Symbol of Roman Catholic Priests' Role
Cynthia R. Jasper. .................................................. 122

The Effects of Dress, Cosmetics, Assault Type and Sex of Subject on Attributions to a Victim
LaCinda Lewis and Kim Johnson. ................................. 123

Sex Typing in Dress: A Developmental Approach
Susan B. Kaiser. .................................................. 124

Use & Manufacture of Prehistoric Textiles as Evidenced in Mississippian Period Fabric Impressed Pottery
Jenna Tedrick Kuttruff ........................................... 125

Colors Represented in Pre-Columbian Peruvian Textiles
Susan Voso Lab .................................................. 126

An Analysis of Factors Influencing Retail Buyers' Perceptions of Imported Apparel
Marianne Mahoney, Bonnie Davis, Shiela Tolbert and Brenda Sternquist. 127

Susan O. Michelman and John D. Michelman .................... 128

Clothing Costs of Women who Earn Income At-Home versus Away from Home
Joyce Smith, Kathryn Stafford, Joan Gritzmacher and Joyce Koonce . 129

Trends in Aggregate Clothing Expenditures in the U.S., 1929-1984
Geitel Winakor .................................................. 130

Abstracts of Innovative Teaching Reports

Apparel Production Technology: Bringing the Future into the Classroom: A Slide Presentation
Patricia A. Huddleston and B.A. Oliver .......................... 131

Group Process and the Process of Design
Edith Berlow Gazzuolo. ........................................ 132

Computerized Individual Pant Fit
Eleanor M. Woodson ............................................ 133

Textile Science & Clothing Construction: The Interrelationships
Sara Kadosph and Ruth Marshall ............................... 134
A Textile Testing Center: Basis for Decision Making
Mary Cotton, Mary Warnock and Jerry Kinnaird .......................... 135

Research as a Foundation for Teaching: Clothing Designs for
Mastectomees
Nancy Ann Rudd, Norma D. Pitts and Esther Meacham .................. 136

Use of Fashion Music Videos as an Innovative Teaching Tool
Mary Askim .......................................................... 137

"Quick Response" to the Needs of the U.S. Apparel Industry
Susan L. Davis ....................................................... 138

A Method for Evaluating Body Proportions
Carol J. Salusso-Deonier and Karen Lilevjen LaBat ....................... 139

Market Experience Without Risk: Student Participation at Regional
Markets for Undergraduate Credit
Teresa A. Summers ..................................................... 140

Classroom Application of the Perfect Information Frontier to
Price-Quality Product Evaluations
Pamela S. Norum ....................................................... 141

Lifestage Market Research Project
Jane M. Lamb .......................................................... 142

Image Message for Visual Media Productions
Marilyn Burns and Tana Stufflebean ....................................... 143

Using Film Clips to Enliven the Study of Historic Dress
Anita Racine .................................................................. 144

Apparel Careers Taught Through Videotaped Interviews
Sharron J. Lennon ................................................................ 145

Ethical Issues Related to Field Placements
P. Ashinger ..................................................................... 146

After Hours Education: Current Topics on a Weekend
Holly Bastow-Shoop and Helen Lunde ........................................ 147

The Consumer Segment Promotional Plan
Nancy L. Cassill .................................................................. 148

Using Theater to Communicate the Culture of Textiles
Susan B. Hester ............................................................. 149
ACPTC OFFICERS AND COMMITTEE CHAIRPERSONS

OFFICERS, 1985-1986

Marilyn R. DeLong, President
University of Minnesota

Shirley E. Friend, President-elect
North Dakota State University

Jane M. Lamb, Secretary
University of Delaware

Ardis M. Rewerts, Treasurer
University of Texas

Joann F. Boles, Counselor
Virginia Poly & State University

COUNCIL MEMBERS

Patricia Horridge, CR Representative
Texas Tech University

Joan Laughlin, CR Representative
University of Nebraska

Jacquelyn DeJonge, CR President
University of Tennessee

Sharon K. Obendorf, ER Representative
Cornell University

Janice Yeager, ER Representative
West Virginia University

Jo B. Paoletti, ER President
University of Maryland

Susan B. Kaiser, WR Representative
University of California

Charlene Lind, WR Representative
Brigham Young University

Merry Jo Dallas, WR President
Colorado State University

NATIONAL MEETING COMMITTEES

Program
Patricia Horridge, Co-chair
Texas Tech University

Carolyn Callis, Co-chair
University of Alabama

Local Arrangements
Jerelyn Gooden, Chair
Texas Southern University

Registration
Ann DuPont, Chair
University of Texas

Research Reports
Hilda Buckley, Chair
University of Illinois

Innovative Teaching Reports
Eleanor Woodson, Chair
Texas Tech University

Hospitality
Laura Jolly, Chair
Oklahoma State University

Publicity
Beverly Rhoades, Chair
Extension Specialist, Houston

Evaluation
Grovalynn Sisler, Chair
Oklahoma State University

Resource Exhibit
LaRue C. Manford, Chair
Southwest Texas State University

Fiber Art/Wearable Art
Mary Ruth Smith, Chair
University of Georgia

Proceedings
Ruth Marshall, Chair
Iowa State University

Job Exchange
Mattie Bea Medford, Co-chair
Sam Houston State University

LeBland McAdams, Co-chair
Lamar University
Wednesday, October 22

8:00 am - 12:00 pm  Preconference National 1986 Officers Board Meeting
10:00 am - 12:30 pm  Registration
12:30 pm - 5:00 pm  Tours
   A. NASA "NASA's Approach to Clothing & Equipment
      Design Applied to Civilian and Functional Wear"
      Matthew Radnofsky
      "21st Century: Wardrobe for Space"
      Jim Barnett
1:00 pm - 5:00 pm  B. Bayou Bend/City
5:00 pm - 7:00 pm  Registration
6:30 pm - 7:00 pm  Reception
7:00 pm - 7:45 pm  "Sesquicentennial Celebration of Fashion in Texas"
                   Commentator: Jerelyn Gooden, Texas Southern Univ.
8:00 pm - 9:30 pm  Curriculum/Career Interest Groups
   A. Merchandising
      Coordinators: Patricia Gifford, Miami University
                    Antigone Kotsiopulos, Colorado State University
                    Carol Dickson, University of Hawaii
   B. Apparel Design
      Coordinators: Joann Boles & Rita Purdy, Virginia Polytechnic Institute and State University
                    Susan Watkins, Cornell University
   C. Textile Science
      Coordinators: Kay Obendorf, Cornell University
                   Carol Warfield, Auburn University

Thursday, October 23

7:30 am - 12:00 pm  Registration
9:00 am - 10:45 am  General Session I
   Presiding, Marilyn DeLong, National President & Jacquelyn DeJonge, Central Region President
   "Welcome" Councilmember Eleanor Tinsley, City of Houston
   "Change in the 80s and Beyond" Heidi Toffler, Futurist
   "Implications for Textiles & Clothing" Marilyn Horn, Professor Emeritus, University of Nevada
10:45 am - 11:00 am  Refreshment Break
10:45 am - 11:45 am  Resource Exhibit
10:45 am - 11:45 am  Poster Session
   Coordinator, Janet Wagner, University of Maryland
   "Effect of Glove Liners on Sweating, Comfort & Performance on Psychomotor Tasks" Donna Branson,
     Oklahoma State University; Lynda Abusamra, Natick Research; Carolyn Hoener, Oklahoma State University;
     Sandy Rice, Natick Research
"Evaluation of the Solar Optical Properties of Interior Window Treatments: Integrating Sphere Measurements" Marie Carver, Rutgers, St. University of New Jersey

"Dutch Costume in Paintings by Dutch Artists: A Study of Women's Clothing and Art from 1600 to 1650" Dana Chapman, University of Akron

"Clothing as Packaging: Effects of Child's Appearance on Compliance" Cheryl Colaw, Oklahoma State University & Sue Stanley, California State University, Long Beach

"The Influence of Advertising on Beliefs & Attitudes Toward 'Made-in-U.S.A'" Sara Douglas & Cynthia Boeckman, University of Illinois-Urbana


"Consumer Involvement: A Comparison of Measurement Techniques" Ann Fairhurst, Indiana University; Linda Good & James Gentry, Oklahoma State University

"TV Influence on Eleventh Grade Low-Income Black Girl's Clothing" Vermell Mack-Keeles, Oakland School District & Judith Forney, San Francisco State Univ.

"Traditional Women's Dress in Contemporary Saudi Arabia" Judith Forney, San Francisco State Univ.

"Fabric-Caused Changes in Human Skin, Skin Water Content, & Water Loss" K.L. Hatch, D. Wilson & H.I. Maibach, University of Arizona & H.H. Prato & M.A. Morris, University of California-Davis

"Imported Versus Domestic Apparel: Are Attitudes and Buying Behavior Related?" Susan Hester, Cornell University

"Dress as a Symbol of Roman Catholic Priests' Role" Cynthia Jasper, University of Wisconsin-Madison

"The Effects of Dress, Cosmetics & Outcome Severity on Perceptions of an Assault Victim" LaCinda Lewis, Arizona State University & Kim Johnson, North Texas State University

"Sex Typing in Dress: A Developmental Approach" Susan B. Kaiser, University of California-Davis

"Use & Manufacture of Prehistoric Textiles as Evidenced in Mississippian Period Fabric Impressed Pottery" Jenna Kuttruff, Ohio State University

"Colors Represented in Pre-Columbian Peruvian Textiles" Susan Lab, University of Alabama

"An Analysis of Factors Influencing Retail Buyers' Perceptions of Imported Apparel" Marianne Mahoney, Bonnie Davis, Shiela Tolbert & Brenda Sternquist, Michigan State University


"Clothing Costs of Women who Earn Income At-Home versus Away from Home" Joyce Smith, Kathryn Stafford, Joan Gritzmascher & Joyce Koonce, Ohio State University
"Trends in Aggregate Clothing Expenditures in the U.S.,
1929-1983" Geitel Winakor, Iowa State University

12:00 pm - 1:30 pm
Luncheon
Presiding: Susan Kaiser, Chair, Futures Committee

1:45 pm - 4:45 pm
Resource Exhibit

1:45 pm - 5:00 pm
General Session II
Presiding: Susan Kaiser, Chair, Futures Committee
Position Papers:
"The Culture of Clothing: A Unifying Metatheory for
Clothing & Textiles" Jean Hamilton, University of
Missouri
"Meaningful Human Actions Concerning Clothing:
Methodology for an Alternative Perspective"
Gloria Williams, University of Minnesota
"Dissemination of Textiles & Clothing: A Marketing
Approach" Elizabeth Rhodes, Eastern Michigan Univ.

3:30 pm - 3:45 pm
Refreshment Break

3:30 pm - 5:30 pm
Registration

6:00 pm - 7:30 pm
Alumni Group Meetings

7:30 pm - 8:30 pm
Fiber Art/Wearable Art Show
Commentator: Mary Ruth Smith, University of Georgia

8:30 pm - 9:30 pm
ACPTC Ad Hoc Committee Meetings
Organizational Restructuring: Carol Warfield,
Auburn University
Research: Lois Dickey, Ohio State University
New Members/Stakeholders: Elizabeth Rhodes, Eastern
Michigan University
Advisory Council: Kitty Dickerson, University of
Missouri
Subject Matter Clarification: Gloria Williams,
University of Minnesota
Public Policy: Nadine Hackler, University of Florida
Global Perspectives: Judith Forney & Nancy Rabolt,
San Francisco State University
Teaching Resources: Charlene Lind, Brigham Young
University

Friday, October 24
7:30 am - 12:00 pm
Registration
Breakfast/Special Interest Groups

7:30 am - 9:00 am
Research Reporting Session I--Physical/Chemical
Presiding: Joan Laughlin, University of Nebraska
"Microscopical Analysis of Residual Natural Soils on
Cotton/Polyester Fabrics Laundered with a Variety
of Detergents" Kay Obendorf & Joan Webb, Cornell
University
"The Coverage of Neps in Direct-Dyed Cotton Fabrics"
Lenore Cheek & Li-Hua Hsu, Louisiana State University & Anne Wilcock, University of Guelph
"Effects of Repeated Laundering with Fabric Softener on Fabric Comfort Properties" Rinn Cloud, Mary Lynn Zimpfer & Steven Buco, Louisiana State Univ.
"Home & Commercial Laundering of Pesticide Contaminated Clothing" Jana Lamplot, Joan Laughlin & Roger Gold, University of Nebraska
"Insulation Characteristics of Bedding Systems"
Patricia Zbikowski, University of Vermont & Elizabeth McCullough, Kansas State University
"The Effectiveness of Ultraviolet Filtering Sleeves in Reducing Fading of Natural Dyes" Patricia Crews, University of Nebraska
"Colorimetry as a Tool in Conservation of Textiles"
Amparo de Torres & Nancy Fair, University of Missouri & Nancy Howard, Philadelphia College of Textiles & Science
"An Evaluation of Antioxidants for the Conservation of Museum Textiles" Kimberly Asche & Patricia Crews, University of Nebraska
"Photographic Techniques for the Assessment of Damaged Historic Textiles" Sarah Cowan, University of North Carolina, Greensboro; Laurel Wilson & Howard Wilson, University of Missouri

Research Reports Session 2--Social Psychological
Presiding: Hilda Buckley, University of Illinois
"Appropriate Clothing Across Various Situations"
Sharron Lennon, Indiana University
"Perceived Appropriateness of Attire for Female Managers in Business" Lucille Terry, University of Akron
"Cluster Analysis of Women's Business Suits" Mary Lynn Damhorst, Molly Eckman & Shari Stout, Iowa State University
"Theories of Dress: Evolutionary Myths and Miasma"
Mary Ellen Roach-Higgins, Universities of Wisconsin & Minnesota

Subsession: Dress as a Perceptual Cue
"The Influence of Dress on Students' Perception of Teacher Characteristics" Sara Butler, Miami Univ. & Kathy Roesel, Kentucky Cooperative Extension Service
"Effects of Dress on Perceptions of Intelligence, Behavior & Academic Achievements of High School Students" Elizabeth Williams & Dorothy Behling, Bowling Green State University
"The Effect of Sex, Sex-Related Clothing, & Occupational Sex-Linkage on Perceptions of Occupational Success" Leslie Davis, Oregon State University
"Reinforcement of Masculine-Feminine Personality Traits Through the Classification, Use & Ownership of Selected Apparel Items" Linda Snyder, Queens Col
Discussant for Subsession: Lois Dickey, Ohio State University

9:30 am - 11:45 am Research Reports Session 3--Apparel Design/Manufacturing Presiding: Susan Kaiser
Subsession: "Functional Design"
"Evaluation of Protective Clothing Systems for Structural Fire Fighting" Janice Huck & Elizabeth McCullough, Kansas State University
"Design for a Fast Food Restaurant Uniform" Jane Workman, North Texas State University
Discussant for Subsession, Jacquelyn DeJonge, University of Tennessee
"Clothing Design for Mastectomees" Nancy Rudd, Esther Meacham, Ohio State University & Norma Pitts, Ohio Cooperative Extension Service
"A Theoretical Framework for Describing Body Variations Relative to Pattern Shape" Edith Gazzuolo, Minneapolis College of Art & Design
"Maturation Changes vs. Government Sizing Standards for Women" Eleanor Woodson & Patricia Horridge, Texas Tech University
"Quality Control in Overseas Apparel Manufacturing" Nancy Rabolt & Katrina Bothwell, San Francisco State University & Mary Barry, Auburn University

9:30 am - 11:45 am Innovative Teaching Reports Session I Presiding: Myra Timmons
"Apparel Production Technology: Bringing the Future into the Classroom" Patricia Huddleston & Barbara Oliver, University of Tennessee
"Group Process and the Process of Design" Edith Gazzuolo, Minneapolis College of Art & Design
"Computerized Individual Pant Fit" Eleanor Woodson, Texas Tech University
"A Textile Testing Center: Basis for Decision Making" Mary Cotton, Mary Warnock & Jerry Kinnaird, University of Arkansas
"Development of a Methodology for the Evaluation of Body Proportion" Karen LaBat, University of Minnesota & Carol Salusso-Deonier, Iowa State University
"Use of Fashion Music Videos as an Innovative Teaching Tool" Mary Askim, University of North Dakota
"Quick Response' to the Needs of the U.S. Apparel Industry" Susan Davis, University of Rhode Island
"Research as a Foundation for Teaching: Clothing Designs for Mastectomees" Nancy Rudd, Norma Pitts & Esther Meacham, Ohio State University

12:00 pm - 2:30 pm Luncheon
Presiding: Marilyn DeLong, ACPTC President
National Business Meeting

3:00 pm - 5:30 pm Research Reports Session 4--Textile & Apparel Marketing
Presiding: Janet Wagner
"Secondhand-Clothing Purchasers & Consignors in Consignment Stores" Pheobe Norman, Old Globe Theatre, San Diego & Marjorie Norton, Virginia Polytechnic & State University
"The Effect of Product-Specific Factors and Experience on Retail Buying Decisions: An Extension" Janet Wagner & Richard Ettenson, University of Maryland
"High School Students' Perceptions of Selected Educational Options & Careers" Margaret Rucker, Janet Dessayer & Kelly Rennick, University of California
"Career Development in Retailing: Educational Issues" Grace Kunz, Iowa State University
"Employment Status and Job Satisfaction Among Selected Graduates of a University Program in Fashion Merchandising" Lona Robertson, Webber College & Carol Avery, Florida State University

Subsession: "Country of Origin"
"The Price of Women's Blazers Related to Brand, Country of Origin, Store Type & Store Location" Pamela Norum & Lee Ann Clark, University of Missouri
"Canadian Consumer Attitudes Toward the Quality of Canadian, U.S. and Foreign-Made Apparel & Footwear" Marjorie Wall, University of Guelph & Louise Heslop, Carleton University
"Consumers' Perception of Quality & Price Given the Information Cues of Country of Origin, Store Image, & the Buy American Campaign" Bonnie Davis, Sue Ann Kern & Brenda Sternquist, Michigan State University
"Importance of Country-of-Origin at Point of Purchase in Women's Decisions to Purchase Sweaters" Kay Gipson & Sally Francis, Oregon State University
"Discussant for Subsession: Kitty Dickerson, University of Missouri

3:00 pm - 5:30 pm Research Reports Session 5--Cultural/Historical
Presiding: Cynthia R. Jasper
"Ethnohistory: A Method for Studying the Cultural Aspects of Textiles & Clothing" Rachel Pannabecker, McPherson College
"Dress as a Symbolic Reflection of Social Reality: A Cross-Cultural Perspective" James Hamilton & Jean Hamilton, University of Missouri
"A Partially Mineralized Fabric from Etowah as Indicator of Cultural Processes" Virginia Wimberley & Lucy Sibley, Ohio State University & Kathryn Jakes, University of Georgia
"A Case for the Cycle of Fashion: 1938-1985" Susan Baxter & Marie Carver, Rutgers-State University of New Jersey

"Brides in Mourning: An Inquiry into the Use of Popular Literature to Explain Behavior at the Intersection of Two Social Rituals: 1880-1910" Louise Wehrle & Jo Paolotti, University of Maryland

"Construction Techniques in Women's Outerwear, 1870-1899" Jane Farrell-Beck, Iowa State University

"Apparel Maintenance in Missouri: 1850-1860 & 1900-1910" Joann Ritter, Columbia College & Betty Feather, University of Missouri

"The American Woman's Clothing for Sport & Physical Education: Public & Private, 1860 to 1940" Patricia Warner, University of Minnesota

"The Role of Women in Domestic Textile Production as Determined by 19th Century Estate Records & Wills in Selected Counties in the Central Piedmont of North Carolina" Laurel Wilson, University of Missouri & Lavina Franck, University of North Carolina

"Early Franchises" Clarita Anderson & Steven Spivak, University of Maryland

3:00 pm - 5:30 pm

Research Reports Session 6--The Textiles & Apparel Consumer

Presiding: Rita C. Kean

"Older Adults Fiber & Apparel Preferences for Cold Weather" Lydia Roper, University of Alabama & Samina Khan, Texas Tech University

"A Typology of Information Search Pattern: Apparel Selection of Employed Women" Soyeon Shim & Mary Frances Drake, University of Tennessee

"Consumers' Attitudes & Practices Toward the Purchase of Indoor Sportswear for Warmth" Elaine Pedersen & Nan Lenhart, University of Nevada

"The Influence of Female Consumers' Demographics on Lifestyle & Evaluative Criteria of Apparel" Nancy Cassill, North Texas State University

"Predicting Consumer Response to Fashion Apparel" Marilyn DeLong & Bettie Minshall, University of Minnesota

"Profiling the Quality Oriented Apparel Consumer: Demographic, Lifestyle & Apparel Value Perspectives" Michelle Morgosny, University of Illinois


"Clothing Preferences & Shopping Behavior of Male Homosexual & Heterosexual College Students" Louann Snezek, Nancy Rudd & Mary Lapitsky, Ohio State Univ.

"Consumer Values & Their Relationship to Dollar Values Placed on Aesthetic & Utilitarian Qualities in Clothing" Nancy Jo Kollmorgen & Donna Branson, Oklahoma State University
"Consumer Patronage of Discount Stores for Apparel & Socioeconomic Product Risk" Teresa Summers, Mary Beth Dawes & Patricia Wozniak, Louisiana State University

3:00 pm - 5:30 pm Innovative Teaching Reports Session 2
Presiding: Ann V. Beard

"Market Experience Without Risk: Student Participation at Regional Markets for Undergraduate Credit" Teresa Summers, Louisiana State University
"Apparel Careers Taught Through Videotaped Interviews" Sharron Lennon, Indiana University
"Lifestage Market Research Project" Jane Lamb, University of Delaware
"Image Message for Visual Media Productions" Marilyn Burns & Tana Stufflebean, Oklahoma State University
"Using Film Clips to Enliven the Study of Historic Dress" Anita Racine, Cornell University
"Classroom Application of the Perfect Information Frontier to Price-Quality Product Evaluations" Pamela Norum, University of Missouri
"Ethical Issues Related to Field Placements" Phyllis Ashinger, Wayne State University
"After Hours Education: Current Topics on a Weekend" Holly Bastow-Shoop & Helen Lunde, North Dakota State University
"The Consumer Segment Promotional Plan" Nancy Cassill, North Texas State University
"Using Theater to Communicate the Culture of Textiles" Susan Hester, Cornell University

3:00 pm - 5:30 pm Post Conference National 1987 Officers Meeting
7:00 pm - 9:30 pm Banquet
Presiding: Marilyn DeLong
"ACPTC: Portrait of a Profession"
Marilyn DeLong, National President
Jacquelyn DeJonge, CR President
Merry Jo Dallas, WR President
Nora MacDonald, ER President-Elect

Saturday, October 25

7:00 am - 8:30 am CR Board Meeting
WR Board Meeting
ER Board Meeting
8:00 am - 10:00 am Registration
9:00 am - 10:00 am CR Business Meeting
WR Business Meeting
ER Business Meeting
10:15 am - 12:00 pm General Session III
Presiding: Merry Jo Dallas, WR President & Nora MacDonald, ER President-Elect
"How Cotton Meets Future Market Demands with Quick Response" Glenn P. Morton, Director, Product & Process Research, Cotton Incorporated
"The Role of Computers in the Apparel Industry of the Future" Mary Carter, Sales Representative, Gerber Camsco, Inc.

11:15 am - 11:30 am Refreshment Break
12:00 pm - 12:30 pm Concluding Session
Presiding: Shirley Friend, President-Elect

1:30 pm - 4:30 pm Post Conference Workshops
"Grantsmanship" Coordinator: Carolyn Callis, University of Alabama & Boris Frank Associates, Madison, WI
"Theoretical Development" Coordinator: Sandra Hutton, ACPTC Executive Director & Presenter: Richard Nagasawa, Arizona State University
"International Perspectives" Coordinator: Kitty Dickerson, University of Missouri; Presenters: Mary Barry, Auburn University; Kitty Dickerson, University of Missouri; Mary Littrell, Iowa State University

3:00 pm - 3:15 pm Refreshment Break
Implications for Textiles and Clothing

Marilyn J. Horn
University of Nevada, Reno

My assignment is to summarize the implications of the major projections for the future, specifically for the field of textiles and clothing. Everyone of you is fully capable of making your own interpretation of these scenarios; but the one thing that I might be able to contribute to this quest for divining our future direction, is some historical perspective of our past and present positions as they affect any potential change or action we might take in the future.

One of the most compelling reasons for studying the history of any discipline or profession is that it enables us to detect certain trends in the pattern of its development, which in turn, provides important clues as to what we may expect in the future. It also helps us to analyze current conditions more accurately; often what is perceived as "the latest trend" is actually a movement that has passed its peak in the normal progression of events. Another reason is to assess the progress we've made toward certain goals, and how successful we've been in implementing constructive and positive change.

The first national meeting of college teachers of textiles and clothing was held in Madison, Wisconsin, in 1959, and at that first meeting, speakers discussed the problems people were facing in a changing society, and the group considered what instructional programs in textiles and clothing might be like in the ensuing ten years. The fact is that we were discussing many of the same problems, and making some of the same recommendations 27 years ago that we are discussing and recommending today. There is considerable discrepancy between talking about something, and actually implementing the change that facilitates the doing of it. Why is it that we have been relatively ineffective in taking action that is consistent with our discussions?

Doing Better What We Already Do

One reason, I think, is that we are very conscientious about trying to do better what we are already doing. We come to meetings like this, for example, because we want all the latest information. We tend to focus on that which has immediate application to our current responsibilities, and screen out the things that are less relevant. As that process is repeated, we become locked into the existing curricular pattern.

Passive Listening ≠ Changed Behavior

Another reason that change comes about so slowly as a result of these conferences is that we spend most of our time in passive listening. We are conditioned to the traditional format of "listening to speakers" who can "provide us with information." Researchers have been telling us for years that the lecture method is the least effective pedagogical technique, yet it continues to be the major format for almost all of our classes and programs. Passive listening rarely results in changed behavior.

Formal Planning by a Few ≠ Changed Behavior

This is compounded by the fact that we really believe the quickest way to get something done is to turn it over to a committee. Formal groups like future development committees, and long-range
strategic planning committees have been notoriously unsuccessful in implementing change. The field of textiles and clothing is represented by all of us, and all of us need to be involved in anticipating the consequences of following certain actions or practices. This is not something that committees can do for us; it is something that all of must see, and do, and understand ourselves through our own abilities to comprehend and to reason.

Slaves to Numbers and Dollars

Another thing that gives us trouble is that we have become slaves to the fashion of quantification. If you can't count it, forget it. Unfortunately, university systems are geared to basing budget allocations on the old FTE concept: a program is not considered successful unless there are more students enrolled than last year, and conversely, if it has a big enrollment, it must be a great program. We also gear our research objectives to sources of funding. The only criterion we know how to use is one which translates into numbers and dollars.

Shift Toward Increased Ethical Commitments

I grant you, we cannot ignore the facts of life; we have to address the present realities of current staffing, sources of funds, etc., but we cannot let it box in our thinking for the future. How would we or could we operate if we didn't have these kinds of restrictions? Can we imagine a world in which competitiveness for individual economic success would be replaced by a greater ethical commitment and concern for the common good? We are currently in an era in which tremendous emphasis is placed on the development of independent entrepreneurial capabilities. The standard measures of "success" are high salaries and a materialistic array of consumer goods. The high value that we place on individual careerism is often in conflict with the mission of home economics per se, so we often find it difficult to identify with home economics. In short, we have put the good of the individual ahead of the good of the family, and ahead of the common good of society as a whole.

In his last book, THE CRITICAL PATH, Buckminster Fuller described himself as a "spontaneous failure" at making a living, but he said that once he recognized that nature did not require any of its members to "earn a living," he decided that instead of working for his own economic advantage, he would work for the betterment of humanity. He never tried to "promote" or "sell" any of his ideas or products, but he found that the larger number of people for whom he worked, the more effective he became.

Today, our conception of a "job" or a professional career tends to be limited to working for some agency or employer, and receiving a salary. The Tofflers have suggested the possibility of an economic system that will encourage unpaid work in the home as part of a non-exchange economy (Toffler 1983). They have stated further that our common images of work are obsolete; that the concept of "job" is a product of the industrial revolution, an anachronism in a third wave society. So perhaps we will have to rethink our orientation to the whole work ethic, and begin to look at activities that are productive but not necessarily paid for.

In such a system, one can envision a world of work that is less competitive and more compatible with private life. Vocational choices could be made more in terms of intrinsic satisfactions and a concern for the common good, and individuals might find deeper meaning in life through service to others, rather than through the isolated cultivation of the self. Already, a growing number of people in California, America's number one bellwether state, are seeking jobs with "psychic income"—not money, but freedom to pursue hobbies, community projects, parenting and child care—and they are willing to accept compensation in the form of exchange privileges or services (Kelley 1985).

Such a transformation in the work ethic would have a profound impact on the way in which we organize curricula in textiles and clothing. Right now we have been operating, and continue to operate, as if textiles and clothing were a collection of vocational opportunities. Look at what we call our majors (e.g., fashion merchandising, apparel design, etc.), and look at the topics that have dominated our programs (e.g., "Careers of the Future," "Preparing Students for the Job Market," "Competencies Needed for Success in the Business World.") We're not as concerned about the knowledge base as we are about turning skills and information into money-making careers.

Discipline vs. Profession

You have already read the special report of the ACPTC Futures Committee in the September 1985 issue of the NEWSLETTER
(Kaiser 1985), and the subsequent update in the September 1986 issue. Throughout the report, textiles and clothing is defined as "a unique discipline." It says, "Textiles and clothing should be considered an emergent discipline in its own right, rather than strictly as an applied field" -- that textiles and clothing is a field of knowledge with its own theoretical base. Few of us would challenge those statements, but let's consider what we mean by a "discipline."

A discipline is a field of study -- a structured body of subject matter of knowledge. It refers to knowledge, theory, facts, and skills that relate to a specific field of study. A profession, on the other hand, is a group of people--trained persons who use knowledge and translate it into action to achieve a given end. It is the profession that carries out a mission; it provides a necessary service to society and has an ethical, responsible, altruistic concern for public welfare (a humanistic commitment in the performance of a service). First of all, I'm not sure that all the careers for which we currently train are professions in the true sense of the word, and second, a discipline (i.e., knowledge in and of itself) does not have a mission. Therefore, we are mixing oranges and apples when it comes to most of our curriculum design.

If we follow the line of disciplinariness, we would define our various "sub-disciplines" differently. There are social aspects of clothing, and psychological aspects of clothing, physical concepts, and ecological aspects; and there are economic aspects (which certainly includes retailing operations), and aesthetic aspects; but retailing and designing apparel are activities, not disciplines. We tend to be highly vocational in our orientation, viewing textiles and clothing solely in terms of careers for our graduates, rather than as a "discipline in its own right."

We have not resolved this inconsistency in the field of home economics as a whole. At the same time that we see our specialized vocational orientations leading us further and further away from the concerns of home and family, we also see a tremendous upheaval in the administrative organization of units in our colleges and universities. We see dietetics moved into medical science, child development transferred to psychology, family studies to sociology, and we wonder what they will do with textiles and clothing. In spite of the fact that nationally (in Home Economics), we have the largest number of majors, textiles and clothing in some institutions has been phased out completely.

**Future Perspectives**

Again, we need a time perspective to understand what is happening. In the early decades of the 20th century, college curricula in home economics focused on the preparation of secondary teachers, which then constituted the largest enrollment of majors. By mid-century, we observed the growing trend toward undergraduate majors in specialized fields, and home economics began to see their connections with the family through consumer products and the consumption of goods and services. By the decade of the 1970s, enrollment in general home economics and home economics education programs had declined dramatically, while the numbers of students in specialized majors steadily increased.

In the 1960s, food and nutrition, and child and family majors were the most popular, and by the mid-70s, textiles and clothing had the highest growth rate. Some people think that the upward trend toward increased specialization will continue in linear fashion, but those of us who are familiar with the cyclical nature of social phenomena, know that all trends tend to peak out at some point in time. Enrollments in child development peaked in 1975, and in food and nutrition in 1980. Overall, undergraduate enrollment in the major areas of study in home economics at the college level has declined in the last decade. It has only been at the graduate level that enrollment has continued to increase, and dramatically so at the doctoral level. The number of doctorates awarded in home economics between 1973 and 1983, for example, increased 77 percent. Also in that decade, the number of men awarded doctoral degrees in home economics more than doubled (Harper 1986).

This suggests that two very significant trends have already been set in motion: one is that major programs in home economics in the future will continue to shift toward higher professional levels; and the second, is that a greater number of those professionals will be male.

Certainly these two trends are consistent with a number of other phenomena. More and more women are pursuing graduate work, and although many women are entering traditionally male fields, the idea of extending the period of formal education is totally compatible with the ever-
Implications for Clothing and Textiles

increasing life span. And even though today, many entry-level positions require only a baccalaureate degree, few of the truly learned professions admit practitioners at that level of competence.

With regard to the trend toward increased specialization, the Tofflers have predicted more and more occupational specialties—so many, in fact, that there is no way that university programs will be able to meet the highly specialized requirements for the technical tasks of the marketplace. Business itself will assume a greater role in that aspect of the educational process, and will provide its own training for employees (Maeroff 1985). What will be needed instead in the formal educational process, will be the development of skills in handling abstractions, the ability to transfer ideas from one field to another, the ability to synthesize and to discern patterns and interrelationships (Toffler 1983). These kinds of skills, they say, will be far more important than accumulating mountains of information.

Perhaps the most important observation that could be made about the professionalization of home economics is the recognition that the everyday problems with which families need help are indeed extremely complex and interrelated. They require much more than simple technological solutions, and they cannot be neatly compartmentalized within the arbitrary boundaries of our current specializations. The professional home economist of the future will need considerable maturity, a depth of knowledge, and experience which cannot possibly be achieved within the limits of a four-year undergraduate program. So I see the possibility of building an integrative perspective at the graduate level that will draw knowledge from many disciplines, and focus on the practical problems of everyday life. In that case, some of the current undergraduate programs would no longer be relevant as preservice education for that kind of a profession, and could appropriately be discontinued or transferred to other units.

Relation of Textiles and Clothing to Home Economics

One of my long-standing concerns has been how we see ourselves in relation to home economics. The ACPTC membership represents a broad scope of personal interests. If we see our "mission" as professional service to homes and families, or if we see our goal as creating vocational jobs for women outside the home, our curriculum patterns will develop quite differently. I can see all of the various "sub-disciplines" of textiles and clothing as highly relevant to family decision making (the economic, the ecological, the social, the psychological, the aesthetic, the physical). Knowledge in all these areas is necessary for making rational judgments in solving the practical problems of everyday life. But as we embrace the values of an industrialized culture, we have become ashamed to be identified with the everyday problems of home and family.

We need to reread that 1985 report from the Futures Committee (Kaiser 1985), because it talks about textiles and clothing as "universal human needs," and an integrative product knowledge," and the need to clarify "the holistic nature of the field—in order to overcome fragmentation into the various sub-disciplines," and the need to "identify and underscore the interrelationships among them." Where, then, do we put all those ideas together if it is not in the individual decisions that we made in daily life, which—in the collective sense—accounts for all consumer behavior?

I suggest that the greatest potential for textiles and clothing at the undergraduate level, lies not in the development of highly specialized majors, but in the development of general education programs for both male and female students. Some schools have already initiated such programs, and they have been highly successful, but like many disciplines on college campuses, we have been so preoccupied with vocational outlets for our graduates that we have failed to recognize the tremendous contribution we can make to the personal enrichment of the human species. In many ways, we have sacrificed the intellectual content of our discipline by the dissipation of our energies on the development of technical skills.

Golden Opportunities

Clothing and textiles is one of the most universal, relevant, appealing, personal, concrete, visual areas of subject matter in the academic community. When it comes to reaching young people in terms of their current personal interests, we have the edge over everything except hot rods and rock music. When you talk about developing the kinds of human skills that will be needed in the future, i.e., perceiving patterns and relationships, transferring ideas of higher levels of abstraction, making critical decisions and ethical
opportunities than the medium of clothing and textiles. That's a rather sweeping statement, so let's look at just one specific example:

Transferring Ideas from One Field to Another

For many students, the study of the history of dress is merely a matter of memorizing period names, styles and dates; but for me, it was a very concrete beginning toward the understanding of the universal, rhythmic, cyclical patterns in human values and behavior. I say "concrete" because clothing styles can be classified, categorized, dated, measured, observed, counted and recorded; the beginning and end of a fashion cycle can be determined fairly accurately. At first, one's perspective may be limited to fashion per se, but gradually it expands to the relationship between clothing and shifts in other social phenomena. In the 1950s, for example, the man in the gray flannel suit became the label for a whole syndrome of traditional, conservative, conforming characteristics. Then the long-haired, unkept, deliberately eccentric look of the 60s and 70s symbolized the winds of change in all social values. And now in the 1980s, the circle has turned, and once again, especially for young people entering the business world, neat, respectable and conservative styles are in.

However, it must have been several years after I took that first course in historic costume that I read about an economist who identified a significant relationship between the ups and downs of the national economy and the length of women's skirts. I could see the relation between clothing choices and other social values—but the stock market??? Oh, come now! It wasn't until I was able to understand the whole concept of cyclical change that I could see how totally independent spheres of activity could be coincidentally related. But once you are able to grasp that concept of inexorable change, you never again look at the world in quite the same way.

After the baby boom between 1946 and 1964, the institution of marriage gradually lost its social status, and divorce, simultaneously, lost its stigma. In 1976, sociologists were predicting that by 1995, there would be few, if any, American families left (Walton 1976). But the swinging singles of the 70s have turned into the family figures of the 80s. The family concept has permeated the political scene, we have family shows on TV, family vans and station wagons, family-sized packages in the supermarket, and family medicine and health care.

Today we're still terribly concerned about promiscuity, teenage pregnancies, and the number of abortions. But the statistics on sexual behavior from the National Center for Health show that the incidence of premarital teenage intercourse has been declining since 1982, and the number of abortions began leveling off in 1981. PLAYBOY magazine is currently losing $50 million a year (Maynard 1986). Most of us see the problem of drug abuse as a horrifying new and unprecedented development, but back in the 1890s, over a million pounds of opium were smuggled into the United States. That was followed by a sweeping crackdown on drugs, but cocaine and heroin came back with a vengeance in the 1920s (Parachini 1986). Historically, the records show that there is an abuse cycle about every 30 years.

We can discern cyclical patterns in political philosophy, in oil prices, and in other economic boom-bust scenarios. Even our ethical standards swing from periods of obscenity to periods of rigid censorship. Just as soon as a sufficient number of people get fed up with widespread immorality, a sense of public decency reasserts itself. Civilizations, too, go through similar cyclical processes of inception, growth, and decline. The Tofflers have mastered the principle: whether you're talking about the first wave agrarian society, second wave industrialization, or the third wave synthesis, it's all a matter of assessing the magnitude of phenomena against some kind of time frame. Nothing works better than history in helping to anticipate the future.

As teachers, I think we have done an excellent job of borrowing principles from other disciplines and applying them to textiles and clothing. We require students to take a course in chemistry, for example, before the beginning course in textiles. How many students have told you that if they had taken the textiles first, they would have gotten a better grade in chemistry? We have such marvelous opportunities to help students engage in an inductive process of reasoning (as well as the deductive), to see analogies and applications to other fields; to extrapolate the principles learned concretely through textiles and clothing to broader and broader
Implications for Clothing and Textiles

abstractions, and help them transfer ideas from one field to another. That is not a process which takes place automatically.

Clothing as a Vehicle for the Development of Skills in Abstract Reasoning

That's just one example. Think of all the opportunities we have to help students perceive relationships (clothing is hitched to everything else in the universe); to develop skills in critical thinking. Imagine what we can do with the issues involved in the international trading of raw fiber, finished textiles and constructed apparel—the whole question of the U.S. import/export balance, government protection of American industry, the costs to the taxpayer. We need to develop and refine a teaching/research paradigm that will engage the student in critical analysis of these kinds of complex, diverse issues, and to work toward constructive solutions. If they can learn to handle those kinds of problems, they will be well prepared to handle the future. We have the medium with the message. Clothing makes a difference in our lives, in society, and in the world in which we live.

References


In accordance with the purpose of ACPTC—"to provide opportunities for educational, scientific, and creative exchange among scholars of textiles and clothing"—the following papers articulate and frame the authors' positions on theoretical development, research methodology, and knowledge dissemination, respectively. In response to these papers are alternative perspectives followed by a challenge for the future by Penny Damlo. Therefore, an active dialogue is initiated by the positions presented herein. There are some vital linkages between this formal approach to dialogue and the informal, regional and subregional futures discussions in which so many ACPTC members have participated in the last three years.

Two major lines of dialogue have been initiated in these informal, grassroots discussions. First, we have begun to reconsider and to recast some of the "most creatively intellectual aspects of our subject matter" (Horn, 1984, p. 5) so as to advance our knowledge base and its theoretical underpinnings. Second, we have engaged in what we might call "collective introspection," that is, a focus on understanding ourselves. Through the process of a dialectic, involving active and reactive dialogue, many of the beneath-the-surface assumptions or presuppositions guiding our ways of thinking, teaching, and conducting research have been brought to light. In short, it has become clear that we need to understand the qualities of textiles and clothing scholars that contribute to the ideas that are developed, the research topics that are studied, and the means through which knowledge is disseminated. Such qualities might include area of specialization, philosophical tradition espoused, and even personal qualities like "other-directedness" (Belck, 1984), gender and ethnicity, to name a few.

The first paper by Jean Hamilton addresses the issue of diverse specializations contributing to the body of knowledge in textiles and clothing. Jean's paper proposes a unifying metatheoretical model for integrating components and mechanisms comprising the "culture of clothing." This model regards the boundaries of individual perspectives as "thresholds, not as the ultimate horizons, of knowledge" (MacCannell and MacCannell, 1982, p. 1). To the extent that new knowledge arises and new aspects of reality are disclosed through dialogue representing divergent approaches (DeGré, 1985, p. 97), we should all be challenged to consider Jean's ideas and to explore where and how our own perspectives fit into her framework.

The second paper, by Gloria Williams, delves beneath the surface of our research endeavors and addresses how and why we focus our research questions. She identifies three research methodologies that can contribute to a focus on "meaningful human actions," while also directly addressing the need to frame some of the presuppositions that are part of the tradition and history of textiles and clothing as a field of knowledge.

The third paper by Elizabeth Rhodes focuses upon how textiles and clothing scholars disseminate knowledge and information. A marketing approach is used in this paper to explore means for understanding ourselves and the information we disseminate. Elizabeth considers the importance of believing in the "product"—our knowledge base, as a
requisite for attracting and meeting the needs of new and traditional audiences. The following papers and ensuing dialogue will help us to continue critical discourse on the uniqueness of our subject matter and on the presuppositions guiding our thinking, research, and teaching. A combination of formal and informal modes of discourse can enable us to understand and to articulate the social and philosophical bases for theoretical development, the advancement of our knowledge base through research, and the dissemination of this knowledge base.

References

The Culture of Clothing: A Unifying Metatheory for Inquiry in Clothing and Textiles

Jean A. Hamilton - University of Missouri-Columbia

The "culture of clothing" is proposed as a unifying metatheory for the academic discipline of clothing and textiles. Wagner (1984) defines metatheory (paradigm) as an orienting strategy which, among other things, makes assertions about subject matter, the nature of reality, and the goals of inquiry in subject matter. In contrast to unit theory, which focuses on narrow, testable, empirical issues, metatheory directs the approach to the study of a phenomenon; it does not tell what is true or false about that phenomenon.

The "culture of clothing" is a culturally based model and borrows from social anthropological theory (Tylor, 1871; White, 1969; Hamilton, 1985; Harris, 1983). The term clothing as used here is interchangeable with dress, defined by Roach and Musa (1980) as "the total arrangement of all outwardly detectable modifications of a person's body and all material objects added to it" (p. 68). This metatheory is intended as a descriptive paradigm in which new and existing psychological, sociological, economic, scientific, and other theories of importance to clothing and textiles operate. It may be stated as follows:

The culture of clothing consists of three primary and distinctive but interrelated components: technology (material culture), social structure (behavior), and ideology (beliefs, attitudes, values). Each of these components is acted upon by various mechanisms through which humans organize themselves to solve problems, mechanisms which cross-cut the components of culture. These mechanisms include: economic organization, political organization, social organization, socialization, religious organization, arts and aesthetics, and communication. This metatheory, therefore, may be represented as follows:

<table>
<thead>
<tr>
<th>Ideology</th>
<th>Economic Organization</th>
<th>Political Organization</th>
<th>Social Organization</th>
<th>Socialization</th>
<th>Ideological Organization</th>
<th>Arts and Aesthetics</th>
<th>Communications</th>
</tr>
</thead>
</table>

In the application of the three components of culture described above to economic organization, for example, one can make inquiry into: 1) the technology (the material artifacts used in the production, distribution and consumption of clothing), 2) the social structure (the ways in which humans organize themselves or behave in order to accomplish the production, distribution and consumption of clothing), or 3) the ideology (the values, attitudes, and beliefs held) in the production, distribution, and consumption of clothing items. Further, one may analyze relationships between various components, e.g., the relationship between clothing consumption (behavior) and clothing attitudes, etc. Or, one might explore the relationship between a component of the culture of clothing such as textile technology and some other more macro cultural phenomenon or attribute, e.g., population density, level or type of economic development or pressures, environment, aesthetic values, etc. The foregoing serves merely as an example of the kinds of inquiry suggested by this metatheory.

The interaction of the components of culture with the mechanisms of culture comprise a dynamic, interacting system with several critical characteristics. 1) It is all-encompassing with reference to a self-contained cultural system; yet
it assumes a dynamic, rather than a sta-
tic, nature, whether or not change is in-
ternally or externally motivated. 2) It is
unbounded by time and space, encourag-
ing less culture- and class-bound as-
sumptions and generalizations regarding
dress as a pan-human phenomenon. 3)
While the unit of analysis proposed by
the model is the cultural system, it rec-
ognizes that it is individuals, not cul-
tural systems, an analytical construct,
that behave and that are observed.
Hence, object-relations theory and psy-
choanalytic explanations or security
needs may appropriately be used in order
to illuminate the observance of some clo-
thing behavior, but the metatheory as-
serts that the particular expression of
those needs is always circumscribed and
bounded by the particular range of cul-
tural options available.
This metatheory's usefulness to clo-
thing and textiles is in conceiving those
concerns germane to both scholarly and
applied work in the discipline and in
illuminating the relationships that exist
between these concerns as well as the re-
relationships that exist between dress and
the larger cultural system in which dress
operates. This paradigm is of particular
value in clothing and textiles in the fol-
lowing ways: 1) The model is useful to
both the practitioner as well as to the
academic. For example, the practitioner
may account for the apparent failed les-
son of cleanliness (behavioral resis-
tance) by looking at technology (availa-
bility of laundromats, water, etc.),
ideology (sub-cultural differences in the
values and meanings attached to cleanli-
ness) or other behavioral (social struc-
tural) explanations (availability of help
with household chores, etc.) 2) As is
often the case in discussions of theory
in CIT, this paradigm does not negate the
significance of textile science, aesthe-
tics, or production by focusing almost
exclusively on contemporary social or
psychological theory. 3) The paradigm
may suggest new areas of inquiry tradi-
tionally unexamined by clothing and tex-
tiles as appropriate or even critical to
rounding out the discipline if our intel-
lectual objective is a holistic under-
standing of dress as a pan-human pheno-
menon. 4) The paradigm invites analysis of
change and alteration since the parts of
the paradigm are dynamic and are inte-
grated with, and therefore, respond to,
each other. This provides for a broader
and more reliable likelihood of explana-
tion and predictability. 5) The unifying
character of this paradigm provides a
clearer sense of the symbiotic relation-
ship we have to each other's specializa-
tions within the interdisciplinary field
of clothing and textiles as well as our
relationships to other disciplines.

The concept of culture in business:
Popular fad or useful paradigm. In-
vited seminar presentation to the
Danish Management Confederation,
Ebeltoft, Denmark.


perspectives on the history of western
dress. New York: NutriGuides, Inc.

(1st American ed. from the 2nd English

Publications.

White, L. A. (1969). The science of
culture. New York: Farrar, Straus &
Giroux.
MEANINGFUL HUMAN ACTIONS CONCERNING CLOTHING:

METHODOLOGY FOR AN ALTERNATIVE PERSPECTIVE

Gloria M. Williams

University of Minnesota

Within a climate of introspection and critical self-examination of the intellectual foundations currently occurring in different fields of study, it seems only natural that similar activities would be found among the membership of the Association of College Professors of Textiles and Clothing (ACPTC). The Futures Committee of the Association directed attention to three significant areas of concern for the field (Future activities..., ACPTC Newsletter, 1985). Somewhat differently stated, they are: (1) the need to define or reconceptualize the field of study from which a knowledge base would emerge giving direction to theoretical and/or paradigmatic development, (2) the need to integrate research and its varying methods with the knowledge base and to continually examine the logic of the methodology in light of the purposes of the field, and (3) the need to articulate more clearly the role of the professional within the educational and research community as well as with those we seek to understand and serve in wider community and more global settings.

With these needs and fervor in mind, the purposes for this paper were developed. The first of these is to examine meaningful human actions concerning clothing (and other textile items) as a viable conception in the field of textiles and clothing. And secondly, alternative modes of inquiry relevant to creating and advancing knowledge within this perspective will be examined. An exploration of this conception has significance in that the concept of human action may be shown to have historical connections with home economics and vital linkages with the humanistic disciplines. To consider alternative methodologies essential to knowledge about the human experience with respect to textiles and clothing reflects current debates about the significance of different modes of inquiry and their relationship to professional action.

A retrospective view of clothing and textiles as an area of study in home economics provides continuing evidence of the efforts of educators, researchers and administrators to clarify issues connected with defining the subject matter and research orientations and directions. These early contributors, like those of today, worked alone, in seminars, workshops and symposia as well as through professional organizations (Joseph, 1982; National Goals..., 1970). An early statement of philosophy and objectives in home economics (Home Economics: New Directions, 1959) provides the field and its specialized areas of study, including textiles and clothing, with a professional and practical orientation. Sources of knowledge for the field are from research in home economics as well as research from the natural, social and humanistic disciplines. Such knowledge is to be integrated and used "to improve the lives of families and individuals" (p. 680).

Professional home economists, including those whose specialized interests are in clothing and textiles as part of the everyday life of individuals and families, provide service to help strengthen family life.

As textile and clothing specialists have begun to examine their area of study as a profession in its own right, independent of the field of home economics, many issues associated with attaining maturity in a field of study have arisen. For example, in her review of the futures movement in the ACPTC, Horn (1984) indicates that "fragmented specialization" has occurred in the field due to the diversity
Meaningful Human Actions Concerning Clothing

of interests of its professionals. The result is limited interaction in terms of a meaningful and integrated system of knowledge. In addition, the lack of a clearly defined purpose, clarity of focus in our subject matter and the lack of understanding by others of what we do, creates problems for the field.

A different context for a similar problem has been expressed by Pedersen (1984) in regard to the lack of articulation between and among specialized subject matter areas in home economics. The inability to communicate among specialists coupled with the lack of understanding and support of the concept of home economics has led to the demise of these academic units and the disappearance of textiles and clothing as a viable area of study. Part of the problem Horn (1984) attributes to "an inability to articulate a strong sense of purpose and a relationship to a larger and significant integrated system" (p. 4). Restructuring, renaming and redefining the mission of former home economics units has led to vocational emphases in curriculum and preparation of graduates for technical careers in industry and business and loss of a humanistic orientation.

These and other problems identified by textile and clothing specialists indicate that a crisis exists in textiles and clothing in higher education. This field of study is not alone in its concerns, however. A crisis of confidence in professional education and action led Schön (1983) to develop an epistemology of practice which he says has major implications for "the professional's role in society, his autonomy and authority in relation to his clients...and the visions of social progress and well-being which may be used to justify professional activity" (p. 287). Recognition of a crisis in home economics led Brown and Paolucci (1979) to undertake the tasks of defining a field of study.

A CONCEPTUALIZATION

Two questions arose as I reflected on the tasks and intent underlying the title of this paper. What does it mean to have a perspective? and, what perspective exists in the field for which this conceptualization might be considered an alternate?

Having a Perspective

To have a perspective is to critically reflect upon a subject and analyze it in terms of patterns of relationship within a particular viewpoint. It requires developing a conception which takes into account what educators and researchers seek to do (and have done) in textiles and clothing as a field of study. Both the historical and current activities and circumstances must be considered as meaning, coherence, and direction are sought for the field.

Developing a perspective and clarifying its methodology is not unlike the tasks which Brown and Paolucci set for themselves in Home Economics - A Definition (1979). Their conception of home economics as a practical science rests on two assumptions. The first is that home economics is a profession, therefore exists to provide responsible service or a set of services in a limited area of benefit to society, consistent with its mission or defined social purpose. Any specializations (varied emphasis in knowledge) in home economics and further subdivisions may be considered to be value-free, because it must critically formulate its mission and create knowledge which interrelates both theoretical and practical knowledge. Having a concern with professional practice means that a perspective must consider what those who practice the profession do or should do.

The second assumption, its nature as a field of study, focuses on the body of knowledge appropriate to the profession - its nature, significant concepts and appropriate conceptual frameworks - and its modes of inquiry. The knowledge created is based on methods which are the means for validation of that knowledge. The mission of the field must be taken into account in determining the relevancy of knowledge along with an adequate conceptualization of the relation between theory and practice.

Alternative Perspectives

Varied conceptualizations are evident in the textile and clothing field. For example, the human ecosystem model developed by Bubolz, Siecher and Sontag (1979) provides a perspective within which knowledge may be created and organized (Petersen, 1984; Sontag, 1985-86). Kaiser (1985) also presents a point of view for consideration. Space does not permit an exploration of the concepts, theories, and methodology of either of the above, nor the presentation of additional paradigms. An overview of past and current research and written materials in the field pro-
vides evidence of an alternative conception having its roots in home economics.

**Meaningful Human Actions Concerning Clothing**

Prior to presenting another conceptualization as a viable option for consideration, several assumptions need to be made explicit. First, textile and clothing educators and scientists have had a humanistic orientation to their study throughout history. Generally, their interests have been oriented to some aspect of human life and/or selected human social organizations/institutions. Evidence may be found in written materials, though seemingly remote (Sibley and Jakes, 1982) and which set forth certain themes in the literature (Joseph, 1984; Rosencranz, 1984). Secondly, textiles and clothing as a field of study is professional in nature. Not only have persons always considered it as such, but its linkage to home economics as an area of specialization reflects the particular concern for the well being of families and individuals. Practitioners are expected to have a personal service orientation, which Brown (1980) says, seeks to bring about change in the interests of the people served and the larger society of which those people are a part. A personal service orientation may be contrasted with non-personal service orientation in that the focus of the professional is on the technology or engineering of the textile/clothing product.

In addition to knowledge of techniques and skills which enable a practitioner to provide personal service to individuals and families, an understanding of the relation of textiles and clothing to humans capable of thought and action as individuals or in social groups/organizations is essential. I will propose a concept of meaningful human actions with respect to textiles, especially clothing, as a way of understanding the basis on which knowledge develops and professional service rests. Thus action has a double significance for us - a concern for the actions of those we seek to serve and for our actions as professionals.

Human actions may be defined as bits of behavior, a complete description of which requires several elements. The first of these is an account of what is occurring - the manifest behavior or the observable sequence of steps in the activity. Next are the personal motives, intentions, and reasons - the subjective experiences accompanying the act or activity. Combining both the act and the subjective experience is to view thought and action as part of a whole action.

Although differently viewed by Brodbeck (1969) and von Cranach (1982), the description may also include the moral, legal or conventional rules associated with the act or activity. These standards or rules are the shared meanings of the social organizations - the family, the cultural community, or the nation state - to which the individual belongs. Actions so described are referred to as meaningful human actions. Individuals engaging in these actions are capable of critical reflection and evaluation of them. They can thus transform their own behavior and effect change in the social environment in which they exist.

Part of the interests of textile and clothing educators and researchers has been with human actions, that is, what individuals do or are expected to do with the items. For example, designing, selecting, constructing and caring for clothing are bits of behavior which textile and clothing specialists in home economics should study (Home Economics: New Directions, 1959). One segment of Horn's early texts (1968; 1975) is devoted to activities associated with acquiring, storing, using, and maintaining clothing. Other authors have continued to employ these terms to identify bits of behavior concerning clothing or to account for what people do with respect to clothing and sometimes textiles (Williams, 1981). Although generally associated with consumer behavior or the consumption process, any one of these behaviors may be taken as a unit of human and everyday action. Each may be further analyzed for the sequence of activities involved. For example, the acts of dressing and of undressing and the steps in between mark the beginning and end of the everyday action of the use or wearing of clothing.

The second element which should be included in the description of human actions - the subjective experiences - are generally found in the literature in association with the use of clothing. As Horn says, "clothes may be used to achieve certain goals" (1968, p. 18). The reasons why people wear (and/or use) clothing have been stated many times and may be found in many sources (Kaiser, 1985; Kefgen and Touchie-Specht, 1986; Horn, 1968). Included among these reasons are the use of clothing (1) as a means of attraction and/or aesthetic expression, (2) to gain recognition, social approval, or a sense of belonging, and (3) as a means of survival in alien climates or environments. These speculations, which may or may not be indicators of usage grounded in science, at least set the stage for beginning understanding and explanation.
Meaningful Human Actions Concerning Clothing

about clothing use as a meaningful human action.

As attention focuses on these actions in the socio-cultural context, the variety of social organizations which comprise the social order of a society become important. According to Brown (1980) these "organizations are created and controlled through human action, and therefore are subject to re-creation or modification by humans..." (p. 46). The family, political and economic organizations, religious and educational institutions are among those units concerned with collective actions to further the interests of their members as a collective. Each, however, engages in systems of action which Brown (1980) briefly describes. In order to create certain objects and conditions to meet selected ends or goals, first, the organization engages in purposive-rational action. Further, each is comprised of individuals who interact in "the development of shared meanings, consensus about values, of processes of social and political relations" (p. 46). Interaction is brought about through language and communication (symbolic interaction) within and among these organizations. Therefore, communicative action or practical discourse is an important part of the system of action of organizations and of society. Thus, meaningful human actions concerning clothing, especially its use in particular institutions, are the result of communicative interaction of members of the unit about the goals, meanings and values and the means to attain these values.

A third system of action within the family - that of emancipative action - is described by Brown (1979). In this action, critical consciousness and the means to judge social, economic and political goals is developed. For a field of study whose mission (not clearly stated in the literature) is to focus on "the well-being of individuals and families" with respect to meaningful human actions concerning clothing and textiles, knowledge created should include:

1) an understanding of meaningful human actions concerning clothing
   (a) in terms of personal life and development,
   (b) in terms of family living

2) an understanding of cohesive systems of action in other social organizations, structures or societies which have consequences not only for those associated with the institutions, but for non-associated individual and family actions concerning clothing.

This knowledge will be basic to the kind of service textile and clothing practitioners may provide. With respect to that provided for individuals, Horn gives us direction (1975). She says, "The enlightened individual can make clothing decisions that will satisfy personal needs, communicate an image to others, and contribute to the best interests of the group, all at the same time" (p.7). As professionals then, our concern will be to help individuals help themselves. With respect to families, understanding the systems of action within them and the significance of the family as a context for developing meaningful human actions concerning clothing and textiles, the mission of home economics as stated by Brown and Paolucci may serve us well: "The mission of home economics is to enable families, both as individual units and generally as a social institution, to build and maintain systems of action which lead (1) to maturing in individual self-formation and (2) to enlightened, cooperative participation in the critique and formulation of social goals and means for accomplishing them" (1979, p. 23).

Further conceptualization seems necessary with respect to a mission statement. Given the above statements, the role of textile and clothing professionals becomes educative for both individuals and families and in the preparation of practitioners. There is, however, another role which professionals must take into account. The tasks include the creation and validation of knowledge through the development of or adaptation of modes of inquiry suitable to the purpose and mission of a professional field of study.

ALTERNATIVE METHODOLOGIES

Methodology, as defined by Kaplan, means "the study - the description, the
Among the methods which Polkinghorne (1983) and ethnographic studies. According to method and not the methods themselves" (Polkinghorne, p. 4). Although reference may be made to specific techniques or procedures used by scientists or as a synonym for epistemology, methodology is usually distinguished from method. Among the methods which Polkinghorne (1983) says that scientists use are experiments, surveys, case studies, and experiential and ethnographic studies. According to Kaplan (1964), methods take into account mid-range techniques and principles which many sciences have in common. Included are "such procedures as forming concepts and hypotheses, making observations and measurements, performing experiments, building models and theories, providing explanations, and making predictions" (p. 23). To Kaplan, methodological studies are to help us understand the process of scientific inquiry, not necessarily the products. "The aim of methodology, then, is to describe and analyze these methods, throwing light on their limitations and resources, clarifying their presuppositions and consequences, relating their potentialities to the twilight zone at the frontiers of knowledge" (p. 23).

With the views of methodology and method provided by Polkinghorne (1983) Kaplan, (1964) the kinds of questions which clothing and textile scientists ask as they seek to create knowledge about human actions, problems, processes and situations concerning clothing may be explored. Human problems and practices are complex. People act through linguistic, social and/or cultural meanings. Within the last decade, more finely developed tools and a wider variety of method have become available for human inquiry. These techniques and procedures are primarily incorporated into two methodological approaches currently in use in the social sciences. Each has its roots in different philosophical traditions. Prior to a brief discussion of these metascientific approaches, limited attention will be given to the predominant orientation in scientific inquiry in textiles and clothing.

The Positivistic Approach

A review of research literature a little over the past two decades concerning textiles and clothing and human behavior reveals the dominance of a methodological orientation based on a natural science model. Its roots may be found in the philosophical orientation of logical positivism. From this perspective, an understanding of the nature and growth of knowledge in the natural sciences was applied to the social and related sciences. Knowledge from this orientation is described as objective, value-free and empirically testable. It proceeds from particular observations or sensory experience. Its facts, given further inquiry, become empirical or law-like generalizations. These more general statements are then used to explain additional facts. Its general laws are then integrated into coherent theoretical systems. Not only is knowledge created in this way explanatory, but also predictive. As Bredo and Feinberg (1982) say about this mode of inquiry, "The emphasis was on increased logical and methodological rigor, on greater mathematical sophistication and better experimental or correlational control" (p. 3).

Theory building in this view proceeds initially through the clarification of theoretical constructs and their relations to each other. Empirical generalizations are then formalized and theoretical construction is underway. Clarification of the relationships between the development of theory and scientific methods is essential. Many clothing scientists have worked toward conceptual clarification and theoretical construction from this methodological viewpoint.

Theory developed through this mode of inquiry is thought by many scholars to have limitations in practice (Bernstein, 1978; Carr and Kemmis, 1981; Pay, 1975). Theoretical knowledge does not provide for understanding the context or setting for practical human problems and, therefore, can provide no solutions to these problems. Many clothing scientists have worked toward conceptual clarification and theoretical construction from this methodological viewpoint.

The Interpretive Mode

To focus on a human subject or human life or to comprehend the human world is to take a hermeneutic approach or engage in the methods of interpretive science - phenomenology, life history and ethnography, for example. This methodological approach is the most salient for colating knowledge about the collective context for meaningful human actions concerning clothing/textiles. Daly (1984) provides a general description of the nature of interpretive science and how it proceeds. She assesses its use by textile and clothing scientists through a critical examination of selected ethnographic studies.
Meaningful Human Actions Concerning Clothing

Explanations of individual actions are found in the reasons given for a particular act. The wearing of clothing considered as an action, for example, includes the aims or goals of the wearer. The verbal utterances of the actor contain his meanings. Since the clothes-wearing action occurs in a social context, governed by rules and social practices, individual action is further explained by examining it in accordance with the criteria for determining whether or not the specific action is appropriately performed. Fay (1975) provides a clearer view of the occurrence of explanation and its different levels in a description of interpretive social science. He says, An interpretive social science is one which attempts to uncover the sense of a given action, practice or constitutive meaning; it does this by discovering the intentions and desires of particular actors, by uncovering the set of rules which give point to these sets of rules or practices, and by elaborating the basic conceptual scheme which orders experience in ways that the practices, actors, and experiences which the social scientist observes are made intelligible, by seeing how they fit into a whole structure which defines the nature and purpose of human life (p. 79).

Interpretive accounts seek to inform the individual and extend his or her understandings of himself and of others. It reveals what actors and others do when they act or speak. It creates the possibility of dialogue and communication with others and the ability to coordinate one's actions with others. It creates consciousness and insight into alternative ways of viewing one's world. As Carr and Kemmis say, "the only aim is enlightenment, and through enlightenment, rationality in a critical, moral and reflective sense" (1983, p. 93). This mode of inquiry is essential in the consideration of symbolic interaction as the second system of action in the family and in other social organizations and settings. Knowledge gained from this orientation is useful and may be translated by actors into their social life.

The Critical Mode

The roots of this mode of inquiry are found in German philosophy, emanating from a community of scholars usually referred to as the Frankfurt School. Their concern has been "to articulate a view of theory that has the central task of emancipating people from the positivist 'domination of thought' through their own understandings and actions" (Carr and Kemmis, p. 128).

Critical theory is the term used to designate this theoretical orientation. Theory, from this perspective, may be characterized in several ways. First, it attempts to evaluate and synthesize the contributions of scientists from both the positivistic and interpretive orientations. It accepts the interpretive understandings of individuals being observed, as well as the meanings implicit in their social structures.

Secondly, a critical theory recognizes that many of the things which people do are caused by conditions in society or in their social order over which they have no control. Also what people do to each other in interactive contexts may be unconsciously done. A critical science, then, will "seek to uncover those systems of social relationships which determine the actions of individuals and the unanticipated...consequences of these actions" (Fay, p. 94). Quasi-causal and functional laws of social action in specific social contexts will need to be developed in order to help explain those aspects of the social order which support or frustrate the attainment of individual or collective goals.

The third feature of critical theory is its explicit interconnection with practice - the interrelated areas of knowledge and action. "Its knowledge claims," according to Fay, must be tied to "the satisfaction of human purposes and desires" (1975, p. 95). For this purpose, knowledge must be accounted for in the perspective of social change. In other words, knowledge is placed in the context of historical and societal evolution that highlights the potential for responsive or emancipatory interests of people. Bredo and Feinberg (1982) indicate that at least three contexts must be dealt with - the individual context, the collective context and the social evolutionary context - and the interrelationships between these hermeneutical levels. Three types of knowledge are needed for each level. These are consistent with individual, collective and societal actions. Fay (1975) provides a clear description of the role of critical science in the development of theory interrelated with practice. He says:

A critical social science is one which attempts to account for the sufferings and felt needs of the actors in a social group by seeing them as the result of certain structural conflicts in the social order, and it seeks to explain these conflicts...by giving a historical account in quasi-causal
terms of the latent contradictions between the sorts of needs, wants, and purposes which the social order gives rise to and the sorts of (inadequate) satisfactions which it provides (p. 96).

The practical intent of critical theory is accomplished in several ways: (1) through ideology-critique, (2) by demonstrating to actors (or the suffering people) that they can rid themselves of their own dissatisfaction, and (3) theoretical elaboration of the ways in which social conditions or structures may change. Comstock (1982) describes a critical science approach.

Critical theories thus take on an educative role. The intent is "to enlighten the social actors so that, come what may, they see themselves and their social situation in a new way, they themselves may decide to alter the condition which they find repressive" (Fay, p. 103). In other words, the educative role of critical theory seeks to help people (enable families) to increase their capacity to make informed and rational choices - to effect change themselves.

Knowledge gained from critical theory may also be implemented by the person (professional) who assumes the expert role. It alters a mode of activity by which the expert can intervene and change the social processes or conditions which are detrimental to the individual (Schön, 1983; Agyris et al, 1985). Critical theory is rooted in the concrete, practical problems of everyday life.

SUMMARY AND CONCLUSIONS

An alternative perspective - meaningful human actions concerning clothing - has been presented. It is not a full-blown model; it is in its beginning stages of conceptualization. It does, however, seem to provide a way of focusing on research questions. To focus on the idea of human and collective action of social organizations (the family and other social forms in life) and of society does permit the historical roots of clothing and textiles as a specialized area in home economics along with linkages to the human science disciplines to become clearer.

Actions concerning clothing are elements of importance emanating from the views and research activities of textile and clothing professionals. These actions are accounts of what people do with clothing and textiles. The methods of the interpretive sciences have been found to be the most significant in creating knowledge about these actions. It is apparent that knowledge products created through the positivistic approach are also important. Both are essential to the formulation of critical theory and science. At this point, theoretical and practical knowledge merge to assist the practitioner in helping people change themselves or effecting change in certain social and political conditions which negate the attainment of human goals and satisfactions.

BIBLIOGRAPHY


Futures activities: Update and action plans (1985). ACPTC Newsletter, 8(2), 4-6.

Meaningful Human Actions Concerning Clothing

Dissemination of Textiles and Clothing Knowledge:

A Marketing Approach

E.A. Rhodes

Human, Environmental and Consumer Resources, Eastern Michigan University

Dissemination, according to Webster, is the "process of scattering far and wide." Dissemination is exactly what universities are all about! Through their traditional missions of research, teaching and service, knowledge is generated and shared with others who go forth to share again and like ripples from a stone in the pond, knowledge is disseminated - or scattered far and wide.

If the knowledge to be disseminated is textiles and clothing knowledge, how best is this done? A marketing plan approach can be useful in helping analyze the situation. The essence of marketing is exchange - trading value for value - for purpose of satisfying human wants. A marketing plan has four essential components: product, price, promotion and channels of distribution. This paper will explore all four of these in relation to the dissemination of textiles and clothing knowledge.

The first essential ingredient for the plan is the product itself. The marketer must have not only a clear vision of what the product is but she also must "believe" in that product. To believe in the product the marketer must in her "heart of hearts" find that product to be relevant and needed by the consumers in society. She must understand the product's strengths and weaknesses in comparison with competitor's products which meet similar needs...its competitive edge. Only when this is clearly established can the rest of the plan be set into action.

What are the products Textiles and Clothing has to offer? Nationally 3,236 B.S., 99 M.S. and 32 Ph.D. degrees were granted last year in Textiles and Clothing. What did these products of the universities have to offer to society? This group was predominantly white female. Most of them at the undergraduate level were fashion merchandising majors. A smaller proportion carried labels of fashion design, apparel production textile science, or perhaps general T & C with an emphasis on historic or social/psychological factors.

How relevant are these products to society? Will they be needed in the society 2100? A quick survey recalls that much retailing of fashion goods is present in America's consumption oriented society. Many females are in the entry level positions, but management seems to be more male dominated. The formal education of the people who are employed as well as those who have excelled in their employment is frequently from a diversity of fields: liberal arts...business...Textiles Clothing. Those persons trained in textiles and clothing through schools of home economics are often not very verbal about their roots, and to an employer, a customer, or a potential student for the field, they cannot be distinguished from the competition's product. If they are distinguished as a person, it is difficult to credit the root discipline which prepared them because it is often an unknown.
Dissemination of Textiles and Clothing Knowledge: A Marketing Approach

Why is this the case? Some possible answers lie in an exploration of the quality of student, faculty and curriculum for Textiles and Clothing. Several universities show the academic GPA of merchandising majors frequently averages lower than any other major in the college ...some national statistics on this would be insightful. Does merchandising attract a student of low academic ability? A look at faculty vitae frequently reveals that a large percentage of faculty teaching merchandising majors have not been involved in merchandising. The curricula in merchandising are so varied from one institution to the next that it becomes hard to generalize. Many college catalogs still reflect a general T & C program in lieu of a true merchandising curriculum. Others have strong merchandising oriented courses. Do these curricula differences make any difference in the quality of the graduate’s performance in a merchandising role? Do preparation and training make a difference in the number of graduates who enter, continue in and even excel in merchandising careers?

Certainly Textiles and Clothing graduates have insights into product knowledge. This has been the claim to excellence for the professional trained in T & C. Does this product knowledge produce a student who is employed more readily than the competitor’s student? Does the student with product knowledge have an on-the-job edge which makes her a more valuable employee? Does she climb the success ladder faster because of her product knowledge background?

Can faculty be found to plan, implement and teach merchandising? A look at the graduate school programs in the nation show that while merchandising is the leader in undergraduate enrollments, this is not true for graduate school. Graduate students are focusing on general Textiles and Clothing with an emphasis in research on one specific aspect. The undergraduate Merchandising program does not...indeed cannot...feed the graduate programs. Furthermore, the graduate programs are not supplying the merchandising faculty needed for the undergraduate or the graduate programs. Many of these faculty must then be brought from other disciplines in order to meet academic needs.

The discussion to this point has focused predominately on merchandising but similar comments might apply to the other areas. How many “name” designers in this nation or abroad can trace their roots to a textiles and clothing background? How many costume curators of museum collections have textiles and clothing training? How many textile scientists who have invented, modified or worked with the many new fibers in the market since W.W.II are textiles and clothing trained? How many of all of these have come from a diversity of backgrounds to make their contributions to society?

Let me now slip into first person and ask how many of you are alarmed at what I say and would like to refute it and tell me about the positive, innovative curricula, faculty and students you have? How many would venture to give me a well documented list of where 50% of your graduates from the last five years have entered occupations and made substantial differences in society because of their textiles and clothing training? How many of you believe 100% in your product you are manufacturing? What is this product you believe in? What is its competitive edge? How is it unique from the competitor’s products?

I propose to you that our product can be qualitative as well as quantitative. The uniqueness we have to offer is in our integrative ability. The discipline of Textiles and Clothing grew up as an applications area of many root disciplines. We are now maturing into a profession which has developed a unique skill of being able to choose from a variety of disciplines parts relevant to the problem at hand and integrate the parts so that synergistically the whole becomes more valued than the sum. In a future which predicts more and more knowledge explosion and human vs technology problems, surely we can design for ourselves a product which is “cutting edge.” I believe that. I also believe ACPTC can and must give guidance at a national level to help coordinate (but not stifle) the definition and development of this product I describe. Once we can clearly define what the uniqueness of our product is, then we can market that uniqueness with pride and it will sell!

Channels of Distribution

Channels are sequential linkages through which products flow from originator to consumer. Channel management involves coordination of vertical and horizontal relationships. Vertical
Rhodes

relationships involve different levels in the channel - the faculty, administration, students, employers. Horizontal relationships involve interaction among a variety of people at the same level.

Typical channels for distributing T & C knowledge have been through the formal classroom and the service areas of the universities. Information has typically originated with the educator and within the framework set forth by administration, has flowed toward the student and from the student into the employment setting. Through advisory boards (and, in deed, through employed students) the information cycle is completed back to the educator and administrator. These channels still are very much in place and effective. However, some changes have occurred in the constituents who use them.

Today's classroom student is averaging an older age and many are involved in other aspects of life so they are not full-time students. The challenge to attract and retain this type student is to make programs effective and relevant... for the mature student scrutinizes more carefully the value added for effort and money expended. The traditional service component of the Extension programs still services the community. The knowledge expected from their constituencies has evolved from home sewing to save money and clothe the family to sewing for profit or for exploration of creative expression. They also want information on the many consumer aspects involved in the purchasing and maintenance of T & C items.

Beyond these traditional channels lie many opportunities to attract new audiences. Textiles and clothing trained individuals have many skills which can be packaged and marketed to business/industry/government or private individuals in a consulting basis. Who knows better than a T & C professional the areas of wardrobe planning/figure/color analysis? Who is better prepared to assist business/government/industry with both the consumer and the technical product development aspects of apparel, fabric and fiber? Much of the training which can be offered by T & C professionals could be useful as part of a package of information for other professionals in related areas. The ability of T & C professionals to integrate will be useful in this task. Professionals, while addressing issues of training majors in the field, should not overlook other audiences who want information to integrate and enhance their own field of knowledge. For example, a course in historic conservation/restoration techniques can be very useful to persons involved in The State Parks Service because dealing with vintage textiles is one of the aspects of their jobs.

One of the traditional and obvious channels oftentimes overlooked or even scoffed by current T & C professionals is that of information dissemination to private individuals for the purpose of personal enrichment and improvement of quality of life. Many individuals in society are rediscovering the exploration of their own self-expression through creative needle arts. Training professionals who can teach the general population how to express themselves artistically and functionally through the exploration of textile arts...whether this be bobbin lace...couture sewing and design...weaving....

The challenge of the future for T & C professionals is to explore a variety of channels for distribution. Realize that clothing and textiles are basic to the needs of individuals, corporations and governments in the U.S. culture. How can the T & C professional take the product and enter these channels? The first step is to identify the T & C product which the professional has that is of value to someone and then makes a direct case to the person in the channel where the information can be best utilized.

Price

Price is an indication of the terms under which an exchange can occur. Price is related not only to cost but also to the expectations of benefits. The economist's view of physical supply and demand as related to price is inadequate to cover the actual totality of the pricing decision framework.

More often than not Textiles and Clothing professionals have failed to value the service they can offer sufficiently. While T & C professionals have given away programs on wardrobe planning to which few came, wardrobe consultants have charged exorbitant fees to capacity audiences. Textiles and clothing professionals must realize that pricing in the U.S. society is very much related to
perceived value. "It must be good because it costs so much"...or, "It can't be any good at that cheap price."

Many factors can affect price for the consumers of T & C information. Frequently, state legislators or local boards of regents set fees for students. As professionals involved in the delivery system of the information we cannot change these fees, but we can affect the price of the class. Scheduling in block times or evening courses frequently makes transportation time, time off from employment and baby sitter costs considerably less for the mature or commuting student. Alternative delivery systems and places for delivery can become very critical. Programs can be so developed that the value added through the classroom involvement and interaction far exceeds the costs. The involvement of industry guests, field trips, interchanges with ivory tower and real world, are frequently in this category.

The one critical point here is that when the consumer perceives that the value added is worth the cost, then the price is never too great. Disseminators of information must be certain of the quality and believe in the added value of their product...then, it will sell and the original consumer will be the best recruiter for the next sale.

Promotion

Promotion is persuasive communication about an organization and its products. A promotional message is the symbolization of product features in terms of the customer desires. The communicator deliberately plans the message so as to affect the mental sets and behavior of the receiver.

One of the best promotional tools for programs in Textiles and Clothing is satisfied graduates...students who are successful and attribute their successes to the training received in T & C. Every program has it's stars, but where are the bulk of the majors five years after graduation? What percentage remain in a T & C related field? What advice do these majors have for continuation of the programs? Limited data exist for a variety of schools, but good national statistics are not available.

Another excellent promotional tool is to have major employers say how valuable the training in T & C is for their purposes. This is the old name-dropping technique. While schools have various "names" involved in their advisory boards, perhaps a useful tool would be a nationally produced brochure pointing out the merits of T & C products, endorsed by major consumers of the products. Would major textiles firms, retailers or other repeated consumers of T & C products make strong quotable statements of this nature? A logo...a slogan...a jingle...a brochure...a united approach which identifies clearly the product, its potential for value added and its competitive edge. Taking every opportunity to unitedly promote the generic product - textiles and clothing graduates...is a worthwhile goal for ACPTC.

Dissemination...teaching and service...getting the research and the knowledge base from Textiles and Clothing to the public is complex. T & C professionals must pursue actively a market approach to dissemination to be successful in the environment of the 21st century. Definition of product...pricing in relation to value added...diversity of channels of distribution to meet the complexity of audiences...promotion that stems from a true belief in the product and its value...all these must be addressed as a part of the dissemination process.

Every institution cannot...indeed should not...excell in manufacturing all products in the T & C product line. Every institution, however, must be supportive of the concept of value added from the entire product line. Institutions must support each other such that the generic product line is viewed positively throughout the culture. The role ACPTC can play in this is to coordinate the identification of generic products and help facilitate the universal appreciation for the value these products can add to society.

In conclusion, the product Textiles and Clothing has to disseminate must be clearly defined and have some national consistency. The major competitive edge this profession has for its products is the ability to integrate T & C product knowledge with input from a variety of disciplinary sources to address problem solving. This integrative ability to work with business/industry/consumer is unique and valuable to the 21st century. The
value added to the problem solving situation makes the price of the Textiles and Clothing person well worth the cost.

The channels of distribution for Textiles and Clothing information must be as complex, varied and dynamic as the profession itself. Society needs T & C information to flow through channels to reach the worlds of technology, merchandising, business, industry, art, design as well as the interpersonal. The profession must acknowledge all channels as having a value to add and support the efforts of universities as they address preparations in a variety of ways.

Promotion is best done when the product is top quality...the channels of distribution are well defined...and the price is in relation to the value added and benefit received. ACPTC can...and should...assist in defining the marketing plan of product, price, channels and promotion at a generic level and, by so doing, provide guidelines for dissemination plans, implementation and evaluation nationwide. Direction is needed...who better than ACPTC to provide it?

"I don't know who you are.
I don't know your company.
I don't know your company's product.
I don't know what your company stands for.
I don't know your company's record.
I don't know your company's reputation.
Now, what is it you wanted to sell me?"
The three focused missions of ACPTC Futures activities (theoretical development, research, and information/knowledge dissemination) can take on numerous perspectives emphasizing one or more of the specialized areas within the field of clothing and textiles. For example, theoretical development may be directed specifically toward apparel marketing or toward textile science; information/knowledge dissemination may take on an historical perspective or a public relations perspective. The following abstracts address diverse perspectives within the realm of clothing and textiles, each directed toward one of the three focused missions of ACPTC futures.
Increasing enrollment in specializations within Textiles and Clothing makes it paramount that conceptualization of how those specializations fit into the Textiles and Clothing discipline be identified and articulated. It is imperative that a comprehensive, interdisciplinary framework be built from which significant research problems can be resolved.

Hamilton has provided a base through her metatheory: Culture of Clothing. The intent of this paper is to articulate a theoretical framework for the Textiles and Apparel Marketing specialization in Textiles and Clothing, using Hamilton's metatheory as a basis. A simple process model, alternative metatheory, and application to demonstrate the use of both is presented (this abstract presents only the process model).

The process model based upon Hamilton's metatheory considers the existence of a universal metatheory which provides structure for the organization and development of knowledge and theoretical constructs in specific root disciplines, e.g., Economics. From the interaction between the root disciplines and the universal metatheory, an applied discipline such as Home Economics emerges, which in turn, has its own concentrated body of knowledge and metatheory. Home Economics is the parent discipline of Textiles and Clothing. Hamilton's metatheory offers a structure for organizing relations and constructs in the Textiles and Clothing field. This process is applicable to the various specializations within the field, e.g., Textiles and Apparel Marketing.

Marketing, like Home Economics, is also an applied discipline from which Textiles and Apparel Marketing is rooted. The convergence of the principles from both Textiles and Clothing, and Marketing produces the Textiles and Apparel Marketing specialization. The essence of the relationship between Textiles and Apparel Marketing, and Marketing is the Marketing Mix, of which product, price, promotion and place are the components. In reference to the Marketing Mix, our greatest expertise, and contribution as clothing and textiles professionals lies in the product category.

Philosophically, textiles and apparel marketing research differs from marketing research in that the primary emphasis in apparel marketing research focuses on what the consumer values in relation to the product, as opposed to marketing research which is concerned with enhancing and manipulating the Marketing Mix variables to meet consumer demand. In laying foundation for a theory base supporting research in Textiles and Apparel Marketing, we must constantly ask the basic question, what does the consumer value in relation to the product? In order to answer the question, empirically tested constructs can be plugged back into each of Hamilton's mechanisms for solving problems.
A REACTION TO DISSEMINATION OF CLOTHING AND TEXTILES

KNOWLEDGE: A MARKETING APPROACH

PATRICIA T. HUDDESTON

UNIVERSITY OF TENNESSEE, KNOXVILLE

Defining a marketing plan is an excellent way to change the inward focus of ACPTC to an outward focus. In order to operationalize this goal, it is necessary to conceptualize our product offerings in a broader sense than simply "students with skills to offer". The product we have to offer is knowledge about clothing and textiles. This product takes many forms and is offered through many different channels.

Any marketing plan must include a strategy to promote the product offerings. Rhodes suggests that a "united approach which clearly identifies the product, its potential for value added and its competitive edge" is needed. I suggest that the way to accomplish this goal is for ACPTC to design and implement a public information campaign. A public information campaign is a series of promotional messages, in the public interest, disseminated through the mass media. Its goal is to provide a service to the receivers of the message by creating awareness of our products and their benefits.

Developing this campaign creates an excellent opportunity to control the quality of information presented, how it is presented, and the audience to which it is directed. This is preferable to the more passive promotional channels suggested by Rhodes (using satisfied graduates and major employers). Relying on these two sources to promote our products provides no control over the quantity or quality of information disseminated. A public information campaign allows such control and demonstrates a commitment to proactive planning by permitting us to design our own future. The image we project in the campaign is of our own choosing.

Communication theory provides a theoretical framework for the design, implementation and evaluation of such a campaign. McGuire's (1981) communication/persuasion matrix is a particularly relevant model. This model illustrates how a person operates in a persuasive communication situation and what variables are available to be manipulated to influence his/her response to a particular message. In this model, the communication process is divided into input and output variables. The input variables are the components that can be manipulated by ACPTC to create a message. The output variables refer to the responses to the message that we wish to elicit from the receiver. For example, if ACPTC decided to inform potential employers of the vast product knowledge of graduates in clothing and textiles, input variables would be: source- ACPTC, message- "graduates in clothing textiles have product knowledge to offer", channel- retail trade publications, receiver- personnel directors. Each of the input variables would be carefully selected to convey the desired message. The output variable in this case would be a change in attitude of potential employers toward clothing and textiles graduates.

No marketing plan is complete without a comprehensive promotion plan. Using a public information campaign and the communication/persuasion matrix is a way to achieve that goal.

REFERENCE
A Future That Increases The Value of The Past

Sarah J. Weeks
The University of Tennessee

The survival of the United States apparel industry is threatened. Textile and apparel educators are examining this and other external factors that affect the future relevance of our programs, curricula, and research. As our thoughts and energies are focused on the future, historic textiles and apparel are often overlooked as important components of tomorrow's college programs. In reality, the impact and implications of the present conditions in U.S. textile and apparel manufacturing, other futuristic trends, and Hamilton's culture of clothing metatheory provide opportunities to heighten the value, the study, and the preservation of historic textiles and apparel.

In his book Megatrends (1984), Naisbett states ten forces that are reshaping and redefining the world as we know it. Four of these trends have a direct impact on the future contributions of historic textiles and apparel: national economy to world economy, industrial society to information society, centralization to decentralization, and forced technology to high tech/high touch.

The trend towards a global economy has resulted in a continuing decline in the demand for American manufactured apparel products. It represents the end of an era which must be fully understood in order to serve as the foundation for future growth. Hamilton's culture of clothing metatheory supplies historians with a valuable theoretical framework in which to examine a variety of social and physical factors that have influenced the industry, its products, and its employees over time. Furthermore, the model incorporates the historic aspects of textiles and apparel within the general field of textiles and apparel.

The movement from an industrial society to an information society is providing researchers with new computer technology for accurate and rapid recording, organizing, and sharing of information which can reduce the amount of labor required for proper collection management and allow for full utilization of items. True interdisciplinary cooperation within and between institutions of higher education and cultural organizations is becoming possible, enhancing the potential to increase knowledge and accurate interpretation as well as decrease duplication of research and collection.

As the industrial era of American economics comes to a close so do the values of a centralized or mass society. We are realizing that the U.S. is a unique nation comprised of cultural, social, geographic, and political diversity. By focusing attention on the unique conditions of our cities, communities, or regions; historic textile and apparel research and collections have the potential to reflect a variety of changes within and across culture systems.

Reflecting a need for more tangible or high touch experiences in a highly technical society, museums are frequently showing historic textile and costume exhibits. Through interdisciplinary cooperation, textile and costume historians can help museums and other cultural institutions add new dimensions to their exhibits and in turn discover ideas for research or funding and provide students with important hands-on experiences and a more complete understanding of the stylistic, technological, and economic developments of textiles and apparel as well as society.

Future Directions: Processes for Change

Penny A. Damlo
Futures Consultant

When I was asked to present some brief thoughts at your 1986 National ACPTC meeting, I have to admit that I experienced both apprehension and delight. My delight stemmed from the three year relationship with various facets of ACPTC which has provided me with some insights and great pleasure in watching an organization of scholars tackle my favorite topic - the future. I wanted to be involved at this conference, which must be seen as a key 'cusp' in your endeavors to establish a futures focus for ACPTC, and to provide some possible suggestions as to how you could continue this process.

The apprehension arose when I received the copies of the afternoon presentations and the panelist's remarks, and I reread my charge letter asking that I "provide an integration of these ideas." There was also apprehension that since you are really on your way, there may be little need of my insights - what would I say that would be of genuine use for you. The delight won out, and I am delighted to be here in the midst of an organization who has faced the future squarely and has started to create and design the future for its own use; to see familiar faces, to greet acquaintances, and friends; and to muse on how far you have brought yourself in three years. And this lends the focus to my real mission: to remind you how far you've come, and now where the paths may lead next.

The afternoon presentations were astounding in their scholarship and insights. I was present in Georgia at the Futures Planning Retreat when the Mission Statement and the goals were hammered out. I understand the format, the language, the direction this session was intended to pursue, but that certainly didn't seem to help me pull the information together in any easily reportable fashion.

The eclectic nature of the material was overwhelming. They seem to defy summarization, except for their common goal. The afternoon presentations were all developed to build on the mission statement of the organization and to help focus attention in the key areas for future development. They did that remarkably well - they framed some research questions and other ideas that now lend themselves for further exploration and examination. The next step is to acknowledge there must be a follow up on the questions and ideas presented here, as well as pursuit of the spinoff ideas generated from this information. Who in this organization is going to undertake further exploration of your field using the concept of the unifying meta theory proposed by Jean Hamilton? Or the methodology suggested by Williams? Who will critique these concepts and further the research? If this follow up doesn't occur, how will the ideas presented be of any benefit for the organization, the field, or yourselves as professionals? Can the marketing suggestions of Elizabeth Rhodes for dissemination of knowledge be implemented? Is there agreement on the direction purpose here? Who would plan these steps and who would put them in action?

These papers have been presented as another step in the futuring process for ACPTC - they cannot be allowed to be heard, politely applauded and then left to the pages of the proceedings. Each of these presentations this afternoon must be seen as a potential path of action for the future of this organization. How will you pursue these futures? Can you
create a special conference where research conducted via Williams' methodology for alternative perspectives would be reported? Could there be a special call for papers and publication of research utilizing Hamilton's Metatheory? Can you create a task force centering on dissemination of information via Rhodes' marketing suggestions? Clearly some format for follow through must be established. The papers this afternoon demonstrated the future framework ACPTC has created for itself in its mission statement. You have begun to ask the questions, and now will have to try and create the answers — and through that in essence, create the future alternatives for your field, organization and selves.

These afternoon presentations have been a superb example of what happens when learned, articulate humans address the future seriously and systematically. What your organization has accomplished is the articulation and creation of its own future. The concentration of effort on the future that began three and four years ago has created a solid basis for today. Now the task is to keep inching along, fellow inch forms — the future is from scratch. Every research paper presented, every reaction, every class with students. Incremental creation means recognizing where you were three years ago, acknowledging where you are today, and planning where you will choose to be for the future. What are the next steps — where after this fine beginning, do you go?

There is a need to remember that futuring continues to be a feedback process; trends and shifts in today’s society forces a redefinition of your planned futures, and your planned futures can sometimes cause a change for your present actions. There must be a constant and continual 'scanning' of society for impact and changes that will have a major effect on the organization. You will undoubtedly have to consider, as all the rest of us are doing, the effects of living in an information society where the anticipated information economy has failed to merge, or maybe simply failed. Or to borrow a term from the Tofflers, consider a present and a future where the concept of a 'fractured future' has been extended far longer than previous experience would lead one to anticipate. The act of futuring continues, but for you not from scratch. You have the opportunity to enrich the foundations you have laid. ACPTC numbers among many other organizations, companies and individuals that after having started the futuring process, now needs to assess the succeeding steps. About six months ago a number of lines of information began to run parallel and are now starting to converge, at least in my mind, concerning what is needed to continue, maintain and enhance this futures focus. The creation of a specific mindset seems the critical answer, but what has slowly become apparent to me is that this mindset must clearly encompass the specific ideas/values of leadership, scholarship, communication, and believe it or not, passion. These items can be seen as either razzle dazzle, or else a fairly typical list. Let me see if I can't find a third, rather atypical fashion to use these ideas/values.

Scholarship and communication are clear cut ingredients, quickly understood as to their value and purpose. To maintain a futures focus there must be continual research, dialogue and discussion on the future and the ideas that are presented; this has been done at the forum today and I have encouraged you to continue that start and communicate further findings and ideas. The futures focus now enlarges from a mere consideration of "the future" as the topic to the consideration of theory, methodology, and did I mention topics themselves because they will create the alternative futures you have been viewing. If these topics are not pursued and the results not communicated openly and freely, and dialogue not encouraged, efforts to enhance the future will stall and will become stale.

Leadership becomes the crucial quality in enhancing scholarship and communication, and preventing a staleness in the pursuit of a futures focus or perspective. Leadership certainly is not a new topic, yet maybe it needs to be rediscovered, or redefined for our immediate futures. Retired Navy Admiral Grace Hopper and former Texas Congresswoman Barbara Jordan have been bringing this point home to me recently. Leadership as a concept, has disappeared lately in our society — management has taken over. Have you counted the number of management books on the market in the past ten years? Management speaks of organization, and control, and goals. Yet as Hopper points out, you can't manage a marine in combat; you lead him. And as Jordan says, you don't manage students learning; you lead, inspire and mentor them, if they are to achieve. You who have been some of the most successful in the educational process, do you remember the educators who managed you, or those who inspired you? Equally, you can't manage a futures focus, but you can and must lead an organization and
individuals to develop and sustain a regard for the future and their place within it. A person or an organization leads by example, by exhortation, by inspiration, and by commitment.

That inspiration and commitment is the passion necessary to propel a futures focus. Passion is a work seldom used in our society, outside television and the soap operas. We are somewhat uncomfortable about it, especially in scholarly surroundings, or about people who seem impassioned with something. Yet passion is what is needed here - an intense emotional excitement over the potentials of the future and the desire to create it. Peters and Waterman in their in Search of Excellence and succeeding works, highlight that change occurs in an organization or corporation where someone has been committed to that change and passionately defends and works for it. That type of inspirational commitment, that passion, empowers a leadership to forge a futures focus where scholarship and communication flow as easily and readily as breathing. It creates a situation where futuring is a natural extension of the organization and the professionals within. ACPTC must now fill that leadership role for its field, you as members must be the future focused leaders the organization must have.

The future is inevitable; the need for clearly formed alternative futures imperative. ACPTC has taken remarkable strides in generating a futures focus for this organization by clarifying its Mission Statement and articulating the initial alternative futures to be pursued. These first efforts must now be followed up on, and succeeding steps planned, and more information and alternatives for the organization, generated, adjudicated, and implemented. My message to you is clear: the future can and must continually be created and designed, especially by those who are willing to approach the future with an eye to leadership, scholarship, communication and passion. I believe you as individuals, and ACPTC as an organization, possess these qualities and capabilities. The ancient Chinese proverb says that the journey of a thousand miles begins with the single step - think how far you have already come. I wish you luck, enjoyment, and many happy futures.
"Crafted with Pride in U.S.A." and "Quick Response" are watchwords that prevail in today's market information reports. These concepts describe the revolution and re-direction processes taking place in the textile and apparel marketplace. In the interest of business survival, the textile industry is encouraging a patriotic attitude to be practiced by textile consumers. Patriotism continues to be a strong influence in our country, but dollar value is also a strong consideration of our consumers. Manufacturers have learned that their direct appeal to the consumer and lobbying efforts have created an enemy rather than a cherished ally in the retailer.

The retailer has been attracted to the import market because of the strong dollar, variety and quality of imported products and time of delivery. In order to make amends, and to become more competitive the fabric manufacturer has instituted a re-direction, a quick response approach to production. Quick response has marketing as well as production implications. A case history recently described in Southern Textile News involved a cooperative effort between Wal-Mart Stores, Seminole Manufacturing Company and Milliken & Company—retailer, apparel manufacturer, and textile firm. The marketed products comprised basic and seasonal slacks.

Some of the benefits reported by the participants were wider and more complete assortments available to customers, higher sales per square foot, lower end-of-season markdowns, higher inventory turns, and generally reduced costs for all participants. Greater consumer satisfaction was expressed in finding products that fit rather than empty shelves which previously had been the case 29 percent of the time. Similar partnership approaches to quick response have been reported by Milliken & Company who offers three yard dye samples in 24 hours. After customer approval, short production lots with a minimum of 1000 yards are provided using equipment dedicated to such market programs. In the past, a 5000 yard order was the minimum accepted by this company.

How does cotton fit into the quick response system of textile manufacturing and marketing? The rest of my presentation will involve discussions of new developments that have contributed to keeping cotton in the forefront in this age of advanced textile technology.

Fiber Quality and Selection

Presently, more than one hundred varieties of cotton are grown in this country. The reason for so many varieties has to do with the varied climatic conditions associated with the different growth regions. This number is being reduced with the development of new and advanced varieties, many of which are hybrids with more consistent fiber properties. A good example of this is California where only Acala varieties are grown. This cotton is in demand for products requiring fine yarns with high strength.

The producer puts his greatest emphasis on yield and grade of the ginned fiber. Since most ginners are also producers, they sometimes sacrifice fiber quality to get cleaner, whiter fiber; hence, a higher grade. Cotton Incorporated has developed new ginning and lint cleaning systems that will soon be commercialized and will satisfy price oriented
grade requirements as well as quality, i.e., undamaged fiber.

The current practice of reporting each bale's fiber properties in terms of micronaire, classer's length and grade, will be replaced by high volume instrument testing. This system not only includes micronaire, but measured length, strength, length uniformity, elongation and a value for the number of trash particles as well as color. Today's computer aided instrumentation makes it possible to produce such a thorough profile of fiber properties at the rate of 80-90 bales per hour per instrument assembly.

To complete the package of fiber selection, Cotton Incorporated developed a computerized cotton fiber management system. The engineered fiber selection system (EFS) is derived from a series of studies of individual mill production and relating key fiber properties to manufactured product. Software is developed to make it possible to have near precise control of quality of production by selection of specific bales of cotton for each production lot. The mill operator can segment his fiber inventory or he can purchase cotton with HVI data and be assured of highly efficient production.

I have already mentioned advanced fiber varieties derived from genetic research. This discussion will cover some of the work we are doing on advanced fiber variants derived from chemical treatment. In Greenville, South Carolina, we have a fiber processing facility designed for processing discount grade fiber for non-woven markets. This is a continuous operation of mechanical cleaning followed by passing the fiber in batt form through scour, bleach and drying stages before being baled ready for shipment. Cotton fiber cleaned in this manner is used in personal hygiene products, thus, it must be medically pure.

This technology has been licensed to a world scale manufacturer of scoured and bleached fiber. Following on that success, we are now making equipment changes that will allow us to produce spinnable scoured and bleached fiber. We expect this approach, coupled with the current emphasis on quick response, to provide new markets for cotton.

Some benefits to be derived from processed cotton fiber in production situations are as follows:

(1) Scoured and bleached cotton fiber is exempt from OSHA dust regulation.

(2) Prior to chemical treating, the fiber can be blended to provide specified fiber properties for given textile products.

(3) The bleached fiber would be satisfactory for normal bleached production or for a constant white base for dyeing purposes.

(4) A scoured and bleached product of this nature would be free of natural impurities such as seed and plant parts as well as foreign contaminants.

(5) Many styling effects can be achieved in yarn production such as blending bleached cotton with dyed fiber of cotton or synthetic content.

(6) Other advantages could be listed, but the most important is the cost advantage. It has been calculated that the premium for bleached yarn made from scoured and bleached fiber would be in the range of 25-35 cents per pound. This cost can be compared against a 45-50 cents per pound charge for a conventional bleached yarn product.

In terms of benefits and cost, the concept of scoured and bleached cotton fiber should be a major marketing success. However, a technological barrier has to be dealt with, and that is fiber spinnability. The thorough cleaning processes already mentioned are effective in removing all the natural waxes and lubricants from the fiber, thus it is no longer spinable. Reconstructing a natural phenomenon, as you might imagine, is practically impossible. Therefore, we are forced to use the approach of our synthetic fiber competitors and try to coat the treated fibers with a proper balance of lubricant, wax and antistat agents. We have been reasonably successful in this effort, but more work is needed to provide a wide range of scoured and bleached yarns.

To this point, I have spoken only of scoured and bleached cotton. For the time being, this will be our main fiber variant, but as we become more proficient in spin finishing, other variants will be investigated. One of those will be slack mercerized fiber. Some preliminary work has demonstrated that this product has a unique wool-like hand that should make it attractive for sweater use and in surface effect fabrics such as corduroy.
Other variants that may attract interest include cationic and dye-resist treatments. Cationic chemical treatment makes it possible to dye treated and untreated material in the same bath and get two different colors. Dye-resist treatment by way of crosslinking agents provides for styling effects such as heather looks in dyed products.

Another variant we have investigated on an experimental basis is flame retardant treated fiber. All of you are aware of the huge fleece knit market we are currently enjoying. You may not be aware that those knit products contain from 5 to 50% synthetic fiber—usually acrylic—for the purpose of passing the general apparel flammability test. We have demonstrated that by making the napped yarn of 50% FR treated cotton fiber, the final product will pass the flammability test.

These advanced fiber variants will become commercially available in the not too distant future. We have been forecasting regional processing centers into which seed cotton will flow for ginning and mechanical cleaning. Prior to chemical modification, large lots of fiber will be segregated by fiber properties for specified end-usage. Market engineered merges will be shipped directly to textile manufacturing plants in place of raw bales of cotton fiber.

**New Yarn Systems**

Ring spinning still dominates total yarn production in this country because of strength and the broad range of yarn counts that can be spun by this classical system. However, in the past fifteen years three significant and revolutionary spinning systems have been commercialized—rotor-open end, air vortex and friction. All of these advanced systems are more sensitive to fiber properties than is ring spinning, and as improved varieties dominate in fiber production so will the trends toward new spinning systems.

Rotor or open end spinning is the second most used system comprising 35 percent of total yarn production. Rotor spun yarns are most commonly produced in coarser counts more suited to heavy weight wovens and single knit constructions. One disadvantage of these yarns is strength property which is normally twenty percent lower than the ring spun equivalent. Stronger fiber varieties minimize this weakness of an otherwise highly uniform and useful yarn. Reductions in rotor diameter and increases in rotor speed will make it possible to produce this type yarn at the rate of 120 m/min, approximately four times the rate of ring spinning.

Air jet spinning of 100% cotton yarns was perfected by Murata, a Japanese textile machinery manufacturer through a cooperative effort with Cotton Incorporated. This unique system can produce yarns at rates up to 200 m/min in finer yarn counts. Yarn strength is again the main disadvantage. The uniformity of these yarns make them most useful for warp knit productions.

Friction spinning is just becoming a viable, commercial process. These yarns are more closely related to ring spun in yarn twist. Friction spun yarns are almost completely restricted to finer counts; i.e., 30s and higher. The potential is available for producing yarn at the rate of 600 m/min by this method. The current state of the art equipment can deliver yarn up to 320 meters per minute.

Other yarn systems such as core spun, wrap spun and even twistless spinning utilize cotton as the staple component. The importance of these technologies will be restricted to novel and industrial applications.

**Fabric Manufacturing**

Fashion forecasting has been a highly protected and profit related operation in home and apparel fabric manufacturing. The importance of planning ahead will not diminish appreciably, but the ability to respond to sudden changes in the marketplace will get greater consideration. Quick response in fabric manufacturing is aided by CAD/CAM, an acronym for "computer-aided design/computer-aided manufacture." Looms and knitting machines are being equipped with direct computer controls that provide for instantaneous changes in fabric construction.

Manufacturers of weaving machines are competing in the development of high speed machinery. Commercial loom speeds currently exceed 1000 picks per minute and it is expected that 1500 picks will be achieved by the turn of the century. Fly shuttle looms which constituted 85% of weaving machines in 1984, will become virtually obsolete as 90% of all looms will be shuttleless by the year 2000. Air jet and water jet looms are the most likely candidates to win the speed race in the years ahead.
Dyeing and Finishing

According to a recent report from a leading textile manufacturer, cotton usage increased 1.5% per year from 1970 to 1985. A corresponding increase in reactive dye usage amount to 3.9% with reactives will become more dominant for the next six years due to shorter production lots, quality control, savings in time, water, and energy.

Garment dyeing reached commercial scale in Europe in 1983. By 1984, some of those products had reached the U.S. The general opinion at that time was garment dyeing is just a fad or passing fancy. Rather than passing, it is a growing fancy and, according to a major dye manufacturer, the current production is one million units per week. Commercial dyeing of hosiery and underwear items has been with us a long time. This dyeing was done in paddle machines that required a large amount of water and a long dwell time.

Garment dyeing of a full range of apparel items got started in modified rotary drum, laundry equipment. Washex and Milnor were the first machine manufacturers to provide specific equipment in this country. Most of the machines are front-loading rotary drum types. They have very accurate temperature controls and a battery of liquid reservoirs that dispense with microprocessor control. The machines have variable speed control on the drums as well as reversing mechanisms. Centrifugal extraction is important in reducing time and the amount of water necessary for removing unfixed dyestuffs from the garments.

Garment dyeing is a quick response approach extremely well suited to cotton because of the relative ease of exhaust and reactive dyeing. Special chemical fixatives and extreme temperatures are not required. While reactive and direct dyestuffs are most commonly used, vats and indigos can be applied in this equipment by special techniques designed to minimize air oxidation of dyestuff.

Styling effects can be introduced to garment dyeing by constructing garments with combinations of fabrics utilizing both woven and knitted components in the same garment. Chemical means can be useful in getting styling results by way of mercerization or by using cationic treatments on fabric or yarn. Many more refinements must be considered when dyeing garments than can be dealt with here.

Ease of care is still as much in demand as ever for most apparel items. Some advances have been made in this regard as is apparent in the re-emergence of postcure, 100% cotton products. Cross-linking resins have been modified to minimize formaldehyde release. Catalyst systems have been refined to be less damaging to the fabric by becoming active at lower temperatures. Silicone and polyurethane additives have been included in the treatment to impart better abrasion resistance to the finished product.

Other advances that have been introduced for improved appearance include LINTRAK, a durable crease treatment for trousers, and vapor phase finishing for full garments. The LINTRAK, silicone resin application was developed by the International Wool Secretariat for woolen slacks, but it is equally effective on cotton products. The use of gaseous formaldehyde and sulfur dioxide for wash-wear treatment of garments was licensed by Cotton Incorporated to American Textile Processing Company who have made improvements in chemical application and machinery design conducive to treating all-cotton apparel. Both of these systems adapt readily to dyed garments.

Conclusion

Cotton textile products are keeping pace with quick response marketing demands. This is evident in that retail sales have risen from thirty-four percent in 1975 to forty-four percent in 1986. Research and development efforts have played a major role starting with improved fiber varieties to meet higher strength requirements imposed by advanced spinning systems. Selective ginning and selective fiber processing are ways of the future that will insure matching fiber to end use items. Added strength demands stemming from high speed looms have been accounted for. Short production lots and garment dyeing are quick response approaches that are accommodating to cotton. Improved finishing procedures to satisfy neat appearance in cotton apparel items are winning commercial acceptance. The comfort of cotton clothing is recognized by the consumer, and Cotton Incorporated is building on that inherent advantage to provide more serviceable textiles.
The Role of the Computer in the Future Apparel Industry

Mary Carter
Gerber Camsco, Inc.

I am here today to talk about the role of the computer in the future apparel industry. I will explain why Cad-Cam (computer aided design and computer aided manufacturing) systems are so important to the apparel industry.

Our industry must have a "quick response" to the market place. "Quick response" is necessary economically. It is the salvation for a large segment of the apparel and textile industries.

A recent study by "Crafted with Pride in America" showed an annual sales loss of $30 billion dollars because of markdowns and stockouts. A typical firm in the fashion industry which makes "to stock" will budget 10 to 20% of its total sales for markdowns. "Stockouts" on the other hand are the results of the inability to handle reorders for items that are "walking out of the stores."

Why has this become such a big problem for the apparel industry? There are several reasons. One is the long lead time necessary to produce new ideas and to manufacture them. Another is the changing nature of the retail business. At one time we had two seasons, spring and fall. Today we usually have four or five seasons, but the trend is to eliminate all seasons and replace them with a continuous demand for new merchandise at the retail level. This has put tremendous pressure on the apparel manufacturer to speed up the cycle from product development through distribution. This is the area that I would like to emphasize today. Although the true need for "quick response" affects the entire fiber, fabric, apparel, retail chain.

Markdowns are caused by inaccurate forecasting of the exact size and color for each style we produce, and also for the number of units of a particular style which will be sold. The major cause of inaccurate forecasting is long lead times. With only four seasons a year the average season is 13 weeks. The trend toward continuous seasons will further reduce this cycle. Coping with reorders becomes more difficult due to the shortened season. This lead time reduction is a fact of life and we must learn to respond with a "quick response" program.

Forecasting accuracy and lead time are linked. If we Americans produce goods in the Far East, we must forecast by style, units, color and size four to six months in advance. Obviously, this much lead time could result in a poor forecast. An 807 project done in the Caribbean requires three to four months lead time. Even normal domestic manufacturing, with a two to three month lead time, is only barely acceptable to current market conditions, and will certainly not be acceptable in the future. "Quick response" will reduce these domestic lead times to one to two months.

Exactly what is "quick response"? I don't have a good definition that will fit everyone's situation and problems, but I do feel "quick response" is a way of life. It is a way of looking at every function within a company, and a way of thinking about how we will handle every situation today, tomorrow, and in the future. It is a tool which may or may not be used effectively depending upon the skill of the user and the commitment of the firm's management to this new way of life.
I would like to show you how I see the apparel firm organizing and developing a "quick response" program. First, you cannot completely change today's firm from its current status to a "quick response" firm overnight. You probably need to set aside a portion of the company. For example: Set a goal for 20% to become the "quick response" segment of the business, and expand this percentage each year. Each firm needs to prepare a time phase merchandise plan which shows the steps and the times involved in developing a product. This time phase merchandise plan is taken from the 1983 technical advisory committee report. It is not intended to show you the actual steps or the time elements within a firm, but is only a guide as to how one should be prepared. The second step is the preparation of a critical path through a time phase merchandise plan. Every text book on management techniques has a chapter on critical path methods which will show how to plot this path.

Improving the "quick response" program involves everyone in the organization. Some of the steps I feel a company needs to take include:

1. Try to overlap functions in time as much as possible, while eliminating duplicate operations.

2. Work on the critical path items. It does little good to shorten the cycle for an item which is not on the critical path, as this will not reduce the total response time.

3. Once an item has been attacked on the critical path and its time cycle reduced, the critical path must be replotted in case it has changed because of this improvement.

4. A company must increase the productivity of every segment of each operation through the latest automation technology as well as increase the personal motivations of all employees.

5. Finally, the elimination of document travel is a very important aspect of the problem. Far too often, I have heard horror stories of firms that take longer to get a picking ticket from their office to the warehouse than it does to pick the actual order. Hopefully the computer will give us paperless apparel manufacturing soon, if it has not already.

Some of the functions often found on the critical path are product design, pattern design, grading, marking, cutting, and sewing. I am certain it comes as no surprise to this group that our company has been working on and developing products for each of these items.

Our fashion illustration package provides a sketch pad for the designer. They can sketch on a model or over a form, and can rework a design of their own. They can check out colors without having to dye fabric swatches, and can study an entire coordinated line without having the fabrics. Entire catalogs are being produced today without ever cutting or making a sample. The time savings in this area are fantastic.

The pattern design system is capable of generating a first pattern three to four times faster than creating them by hand. A pattern maker can work from existing styles, basic blocks, or draft from specifications. The advantages of this pattern design system are: more productivity, faster turnaround time, greater accuracy, standardization of pattern pieces and a permanent storage area in the computer that is easier to access. When PDS is used to create the first pattern, the style can go all the way from sketch to final production pattern without ever cutting a hard copy pattern.

Computerized grading is at least six times faster than grading patterns by hand. Pattern grading is the process of using a sample size as the base for generating the patterns for an entire size range. As an example, in men’s pants, the combination of waistband and inseam measurements generates approximately 300 sizes for 1 style.

Computerized marker making is generally four times faster than hand marker making, plus if you have four marker makers you will get much better material utilization by using the best of those people. Marker making is the process of arranging the desired number of graded pieces into the width of the fabric selected for the cut. The most important aspect of arranging these graded pattern pieces is to use the least amount of cloth. Thirty to 40 percent of a company’s sales volume is represented by fabric cost, therefore, a one to three percent improvement in marker utilization can save hundreds of thousands of dollars per year. Also there are many applications for the use of remote terminals for
entering data on a remote terminal for plotting the markers. This can be done by telecommunications and has proven very effective for many customers.

Automated high ply computerized cutting is five times faster than hand cutting. A medium ply cutter cuts eight to 12 times faster than hand cutting. Computerized automatic cutting improves quality, resulting in better productivity in the sewing operations.

In the area of garment production, the automatic transporting of garments typically reduces 20 days of work-in-process to less than one day. This is a significant savings in the production cycle. The transport system can also be used for the manufacture of salesmen's samples or to eliminate a "stock over" problem, significantly reducing the cycle time for those phases of the business.

Outside of the Gerber "quick response" products, there are at least two other major developments on the way. I urge everyone in the apparel and textile industries to follow these developments. The Textile Apparel Linkage Council, "TALC," under the AAMA umbrella is developing voluntary standards for industry's use. The objectives of TALC are basically the elimination of redundant costs and time lost at the textile/apparel interface. They also want to improve the overall response time of the industry by better information flow and understanding of each other's problems. Some of the studies which TALC already has underway involve bar coding, fabric roll identification, packaging, finished inventory information and standards for transmitting information regarding shade, width and length of piece goods.

A second major project under the sponsorship of "Crafted by Pride in America" consist of the quick response projects involving retail firms, apparel manufacturers and textile manufacturers under the guidance of Kurt Salamon Associates. These look very promising as a means of portraying exactly what can be accomplished when we use the computer to help improve manufacturing performance in terms of cost and providing a quick response.

Like all emerging technologies, new developments are an evolutionary process. Our company is actively researching and developing numerous techniques for the apparel manufacturer. The main reason we are able to successfully complete these developments is through the use of the ever changing computer.
The session included three presentations by the coordinators on current issues in merchandising curriculum development; the distribution of a questionnaire soliciting information on current and preferred practices in curriculum structure; and a panel/audience discussion of current problems and future directions in curriculum development.

Defining a Focus: Strategic Planning for Merchandising Programs--Gifford

Program focus—a clear image of what a program is and where it is going—is essential in merchandising curriculum planning and development. A five-step strategic planning model was presented which can be adapted for use as a tool in defining the focus of a merchandising program and developing the appropriate curriculum to promote the focus. In developing a focused merchandising program faculty were urged to consider critical factors such as developing a thorough knowledge of the students and the industries served; critically identifying program strengths and weaknesses; differentiating programs through the development of a focus unique from other university programs; promoting the image of the merchandising program and faculty through cooperative teaching and research projects with faculty in other disciplines, particularly the business schools; and insuring that the merchandising program also incorporates a liberal education component.

Changing to a Global Focus in Fashion Merchandising--Dickson

Changing to a global focus in fashion merchandising means teaching courses that focus on such issues as international trade regulations, buying and selling in foreign markets, and international trade of textile and apparel products. Additionally, internships in international trade areas need to be developed for faculty and students. Contacts made with U.S. Customs, the Department of Commerce, U.S. firms that trade internationally, as well as firms in foreign countries, may provide appropriate internship experiences.

Another issue that may warrant consideration is the issue of world peace in the context of world trade. Students in merchandising programs can be encouraged to see each international business contact as an opportunity to "make friends and influence peace."

Research and Graduate Programs--Opportunities Untapped--Kotsiopulos

A graduate program is built on a strong research program. Obtaining research funding to support graduate study involves the process of identifying need, concerns, and opportunities in the industry which is likely to provide funding. The industry is concerned with solutions to practical problems, while the researcher is interested in scholarly contributions to the field. The speaker presented several examples of questions posed to her by people in the industry, while consulting for a company developing a retail computer system. The challenge is in developing research projects which serve both the industry and the scholar. Examining past, present, and future trends, and their impact on the industry, may be a fruitful way of identifying program of research. In response a competitive environment, research linked to the bottom line has the greatest potential for outside funding.
Objectives are:
General education
Life skills (communication, analysis)
Critical thinking
Problem solving
Scientific training
Technical competence

Recommendations for textile science curriculum made at the 1985 ACPTC/AHEA Preconference meeting in Philadelphia were reviewed:

- Increased education in physics, chemistry and math in order to be able to work in industrial positions.
- Production exposure needed - internships and practicums.
- Understanding of textile properties.
- Communication skills - on a personal level as well as written and oral.
- Development of a global perspective.
- Increased education in business and economics.

Several questions emerged:
1. Is there some way that ACPTC can help to bridge the gap between our programs (college and university textile science programs) and industry?

Recommendations:
- Bring industry people to campus, perhaps as adjunct professors to acquaint them with home economics textile science programs. This has led to placement of interns.
- Establish contacts with companies that deal with fabrics and textile end products as well as fibers and yarns. This will result in broader contacts.
- Go to companies and invite management to visit campus. Aggressively seek their support.
- Plan textile study tours. Go to a wide variety of places to expand contacts.

2. What should be the critical mass (number of students) who major in textile science at the undergraduate level? How viable is textile science as a major? Should textile science serve as a support for other programs (particularly fashion merchandising)? Currently our academic structure is very lopsided in terms of numbers of majors.

Points of discussion:
- Companies tell us they don't need us to produce textile engineers. They want people who have a broader base and more flexibility.
- Industry wants good communicators who get along with people.
- Industry looks to us to bridge the gap between themselves and the consumer.
- Continuous contact through textile organizations such as AATCC, ASTM, ASQC, etc., helps to cement communication with industry.
- We should work toward a marriage or a "meaningful relationship" between textile science and merchandising.
- Textile science has a stronger research base than Fashion Merchandising does at this time; yet merchandising has the critical mass of students. This dual approach strengthens home economics programs.
- Otherwise merchandising may go to business and textile science to chemistry.

Two recommendations were made by the group:
1. Look at the feasibility of establishing regional textile science graduate programs.
2. Appoint a task force to summarize this discussion as a basis for the next meeting of the group.
The focus of this National meeting is the future. The focus of the organization is the future. The focus of this session is the future. With that in mind, the introduction to this session focuses on one future project in apparel design at one university, the development of the Apparel Design Research and Development Laboratory at Virginia Tech, and the current projects in the lab.

The function of the laboratory is apparel product development. The process to achieve that end is tripartite: 1) needs assessment including physical, psychological and social needs, 2) prototype development data driven by needs assessment and, 3) wear testing in the field on the wearer and in the lab both on and off the wearer. Currently there are three projects in the laboratory: 1) men's indoor exercisewear for a major catalog company, 2) the development of pressure sensors and the wear testing of bathing suits for a New York based bathing suit firm and, 3) the development of a workroom mannequin sponsored by Virginia Tech.

This partnership with industry was eleven years in development. The time was spent developing an experimental method in apparel design that scholars would accept, identifying a potential funding source, making contacts in that funding source through an industry sabbatical, and working with an industry board to implement the Lab.

The discussion session that followed dealt with issues related to curriculum planning involving critical thinking and process development, careers, research, professional development, and size. The conclusions reached were only a beginning. The authors with the help of Susan Lab of the University of Alabama will be doing a follow-up survey on the issues with a possible publication of results in CTRJ.
The 3rd FIBER ART/WEARABLE ART NATIONAL JURIED EXHIBITION, a featured part of the 1986 ACPTC National Meeting in Houston, Texas, provided a viable means for showing art works by members of the Association of College Professors of Textiles and Clothing who have an art emphasis in their teaching responsibilities. The format for presentation included a slide lecture program of selected entries and entrants. Along with this slide lecture, two artists (one representing fiber art and one representing wearable art) chosen by the jury, gave in-depth presentations on their work.

Jurors were Corky Stuckenbruck, Associate Professor of Art, Texas Woman's University, Denton, Texas and Andrea Petor, Associate of EVE FRANCE, a contemporary wearable art gallery located in Houston, Texas. This combination of jurors gave a broad perspective for the selection process.

The jury selected twenty-six pieces from forty-seven entries. Twenty-four artists entered the exhibition with twelve artists representing each category. The two artists selected to make individual presentations on their work at the National Meeting were Robert Hillestad (wearable art) and Wendy Weiss (fiber art), both from the University of Nebraska. Mary Ruth Smith presented an overview of the selected entries and entrants. A questionnaire which solicited information about the artist and his/her work was sent to each accepted entrant. This information provided the basis for the Smith presentation.

Results from the questionnaires revealed that selected participants taught a variety of courses: apparel design, fashion merchandising, basic textiles, basic design, history of fashion and costume, textile design, weaving, and sociological/psychological aspects of dress. The techniques that participants utilized included batik, applique, loom weaving, tapestry weaving, knitting, stitching, machine quilting, and flat patterning. Inspiration for work came from nature, poetry, everyday life situations, experimentation with materials and techniques, and historic sources that represented other art forms as well as costume/fashion.

The slide/lecture format for the FIBER ART/WEARABLE ART NATIONAL JURIED EXHIBITION at future regional and national meetings can continue to support fiber art and wearable art as areas of research in the study of and participation in textile and clothing activities.
RECENT WORK IN FIBER ART

Robert Hillestad, University of Nebraska-Lincoln

My current work includes knitted wearable structures which are created through a technique in which loops are made during the formation of certain stitches. The yarns, threads, tapes and other fibrous materials which are used as media produce surface interest which is rich in texture. During the early phases of this work, design interest was the result of the inherent characteristics of materials in natural colors. As work progressed, surface interest was created through color by selecting and coordinating materials which had already been dyed commercially. As work continued to evolve, greater control over design effects was achieved by adding color to the materials through hand dyeing techniques (see Figure 1).

Higher levels of creativity have been reached by direct application of dye after completion of the structure. Currently, I am developing effects which involve the elimination of pile and the direct application of dyes, pigments and bronzing powders to flat surfaces.

Inspiration for my work comes from widely varying sources. I am often inspired by the potential of various combinations of materials, processes, and techniques. Occasionally, I work with a specific theme as a way of pursuing an idea in depth. For some time now, I have been interested in the concept of celebration and various ways in which apparel is used to carry it out. My knitted wearable structures have been pursued in relation to that theme and I will continue to develop it through future work.

Figure 1. Celebration Coat VII.
The phrase "Sculpture for Movement" describes my work. Using a variety of textile construction techniques, including netting, weaving, wrapping, braiding, lashing, looping, and knotting, I assemble sculpture through which people move: dancers or viewers. I often use other sculptural materials in combination with the textiles, such as wood or metal.

I am presently teaching surface design, weaving and non-loom construction techniques at the University of Nebraska. After having taken a circuitous route to the loom, I earned an MFA degree in Textile Design from the University of Kansas in 1983. I had nearly completed an undergraduate degree in Political Science from Colorado College, however I changed my major and earned a BA in Art History in 1979. My interest in political and social issues remains a compelling factor in the decisions I make regarding my work.

My collaboration with the dance performance group 4,5,6 SPEED-UP, of Lawrence, Kansas, allows me to make textile sculptures that are designed specifically for certain kinds of movement. For example, CURLERS (see Figure 1), five life sized mixed media hair curlers, made in collaboration with artist Jayne Schell of Lawrence, were designed as a commentary on the beauty industry. The CURLERS dance humorously points out how the lures and traps of the beauty industry manipulate and confine the individual.

In other work, I have explored issues that relate to the environment, focusing on relationships between individuals and the natural and built environment. POWERLINES, also a collaboration with 4,5,6 SPEED-UP, examines conflicts that develop between individuals or groups of individuals as a result of struggles for power. The sisal and linen nets, constructed with a Peruvian wrapped netting technique, represent the objects of power, the powerlines, and are central to the development of the dance. The dancers toss, sling, and whip the nets. Finally, at the conclusion of the dance, one figure regroups them in a new order.

SWEET HOME, exhibited as a solo show at the Lawrence Arts Center in May 1986, combines three elements that represent the individual and the natural and built environment. Nets ranging in height from four to eight feet and constructed with dyed sisal, raffia, linen, rayon, mohair, and cotton, represent trees, or the natural environment. A series of painted, hinged, wood triangular forms represent the ways in which individuals interact with the natural and built environment. Through performance, the viewer sees the wood elements grouped and regrouped to suggest different modes of interaction, especially between the tall, stable ladder forms and the sharp, animated triangles.

Figure 1. 4,5,6 Speed-Up performs CURLERS dance.
MICROSCOPICAL ANALYSIS OF RESIDUAL NATURAL SOILS ON COTTON/POLYESTER FABRICS

LAUNDERED WITH A VARIETY OF DETERGENTS

S. Kay Obendorf - Cornell University

Joan J. Webb - Cornell University

Much work has been done characterizing the deposition and detergency of soil on laboratory soiled specimens. However, there have been very few analyses of the distribution of residual soil on naturally soiled and laundered textile substrates. This research first established the character and distribution of natural soil as it existed on washed and unwashed woven shirt collars. Then, five detergent formulations chosen to represent major commercial laundry products were evaluated, using human sebum obtained from facial wipes as the test soil.

Backscattered electron imaging, elemental x-ray mapping and electron beam microanalysis were used to study the location of particulates, and the distribution of oil on fiber surfaces and in the interfiber capillaries of the yarns.

Scanning electron micrographs of longitudinal yarns removed from shirt collars revealed a high degree of soil variability. There was a marked absence of particulates or detectable oil on lightly soiled yarns. Medium soiled fibers were characterized by large particles or aggregates of small to medium sized particulates which often appeared to be coated or soaked with oily substances. Heavily soiled yarns were encapsulated with thick oily material or were grossly expelled with particulate soil.

Oily soil was observed on fiber surfaces, interfiber spaces, and in the lumen, crenulation, and secondary walls of cotton fibers. Oil was also located in the interior of some worn (cracked) polyester fibers, but no oil appeared in fibers which were not damaged. Composite (oily plus particulate) soil was detected in the same location on many fiber surfaces.

Electron beam x-ray microanalysis of laundered facial wipes indicated that the largest percentage of residual oil was located in the interfiber capillaries of the yarn structure (65.47%), followed by the secondary walls (22.73%), the lumen (9.53%), and the crenulation (1.4%) of cotton fibers. Little or no oil was observed in the interior of polyester (0.88%). The large variation of soil level between the panelists who prepared the facial wipes had an effect on the percentage of oily soil found in each of these regions of the yarn structure.

The type of detergent used also had an effect on the concentration of oil found in selected locations. Yarn and fiber surfaces were cleaned more completely when the fabrics were laundered with the powdered detergents than when washed with the liquid detergents. However, there were no differences between the liquid and powdered detergents when removing oil from the lumen, crenulation, and secondary walls of cotton. Although the powdered detergent with the phosphate builder deterged oily and particulate soil from yarn surfaces more completely than the powdered detergent with the non-phosphate builder, the two detergents removed oil from within the yarn bundle similarly.

This study provides a greater understanding of the soil/fabric characteristics that limit detergency for commercial detergents, so that improvements can be made in detergent formulations and in laundering practices.
THE COVERAGE OF NEPS IN DIRECT-DYED COTTON FABRICS

Lenore Cheek, Louisiana State University
Li-Hua Hsu, Louisiana State University
Anne Wilcock, University of Guelph

The recent surge of consumer demand for natural fiber clothing has led to a renewed need for research in finding ways of improving the quality of dyed cotton and high cotton content textiles. One of the major problems encountered in the production of dyed cotton fabrics is the appearance of white or light colored specks scattered throughout the fabric surface. When viewed under low magnification, these specks, called nep, are seen to consist of masses of tangled thin walled immature cotton fibers. Direct dyes, the most common class of dyestuff used on cotton fabrics, differ widely in their coverage of immature cotton. The traditional approach to achievement of nep coverage has been through mercerization of the fabric before dyeing. Mercerization, the treatment of cellulosic fabrics with 20% sodium hydroxide, swells the fiber and increases the depth of color achieved after dyeing.

The purpose of this research was twofold: to investigate possible relationships between the molecular structure of a given dyestuff and the nep coverage achieved, and to evaluate the use of a 14%, submercerization concentration, of sodium hydroxide as a possible alternative treatment to mercerization. Cotton printcloth which had a large number of clearly visible opaque specks on its surface was treated with 20% and with 14% sodium hydroxide. A group of fifteen direct dyes were carefully selected by chemical structure and were applied to control and treated fabric. The dyes were divided into three groups of five dyes each: azo dyes with low molecular weights, high molecular weight azo dyes with linear structures and high molecular weight azo dyes with bulky structures. The dyed fabrics were evaluated for coverage of nep by calculating the average number of visible uncovered nep per given area of fabric. Fabrics were also evaluated for comparative depth of shade as a function of the different sodium hydroxide treatments through use of a colorimeter. The research design was a completely randomized design, three-way factorial, and was analyzed using analysis of variance followed by the Newman-Keuls Range Test.

The major findings of the experiment were: (1) that there was no significant relationship between dyestuff molecular structure and the ability of a given dyestuff to cover nep (2) that the submercerization strength caustic treatment was not quite equal to mercerization in the achievement of nep coverage (3) that the order of increase in depth of shade of dyed treated fabric, consistent across dyes, was mercerization > submercerization > control.

One implication of this research is that one cannot predict the coverage of nep by a given dyestuff by examination of its molecular structure. Instead each dyestuff should be individually evaluated, via a laboratory dyeing procedure, before applying it to a length of cotton fabric containing nep. A second implication is that treatment with a submercerization strength sodium hydroxide solution is a viable alternative to conventional mercerization as a pretreatment to permit coverage of nep in direct-dyed cotton textiles.
EFFECTS OF REPEATED LAUNDERING WITH FABRIC SOFTENER ON FABRIC COMFORT PROPERTIES

Rinn M. Cloud, Mary Lynn Zimpfer, Steven M. Buco
Louisiana Agricultural Experiment Station
Louisiana State University Agricultural Center

Laundry additives called "fabric softeners" were first marketed in the mid-1950's to combat problems associated with synthetic fibers such as harshness of hand and static generation. By 1984, fabric softeners represented a 600 million dollar market (Lense, 1984). New products in this category continue to be introduced. Current trends in fashion apparel towards fabrics with higher cellulosic content have reduced the need for static control but consumers may be convinced that fabric softeners are necessary to maintain comfort in fabrics. Little research is available to indicate whether repeated use of fabric softeners provides improved comfort properties.

The purpose of this study was to determine comfort-related properties of comparable shirt-weight, plain weave fabrics of three fibers contents (100% cotton, 65% cotton/35% polyester, and 100% polyester) tested before laundering and after three laundering conditions (5 wash, 25 wash, and 25 wash with fabric softener). The fabrics were tested using standardized procedures for weight, flexural rigidity, wicking, and air permeability. Subjective evaluations of fabric hand were obtained from a panel of eight female consumers using a balanced lattice design. Results were analyzed using multivariate analysis of variance and Duncan's Multiple Range Test for mean separation. The results indicate significant effects of laundering conditions on properties of fabric weight, flexural rigidity, wicking and air permeability. Differences between repeated (25) launderings with and without softener were not significant for weight or flexural rigidity but were significant for wicking and air permeability with softener producing a negative effect. Rate of wicking was significantly slower for specimens laundered using fabric softener than for those laundered without this additive. Rate of air flow through fabric was also significantly less for fabrics laundered with fabric softener. Panelist assessments indicated no significant differences in hand characteristics of specimens laundered 25 times with and without fabric softener.

Statistical interactions indicated differences by fiber content of specimens. In laboratory tests, laundering conditions showed significantly greater effects on specimens of 100% or 65% cotton than on specimens of 100% polyester. Also, significant interactions of laundry condition and fiber content for panelist assessments indicated a tendency for fabric softener to have a positive effect on hand properties of polyester.

The results of this study indicate that repeated laundering using fabric softener gives little or no measureable improvement in the comfort-related properties tested especially on fabrics of high cotton content. The use of fabric softener slowed the rate of wicking and reduced air permeability of fabrics which could lessen the degree of comfort for these fabrics when worn. Consumers may need to re-evaluate the need for fabric softener additives when laundering apparel of high cellulosic content.

Reference:
Contamination of work clothing by pesticide applicators is an environmental and health concern. Pesticide soils are difficult to remove in laundering; hot water temperatures, pre-wash treatments, detergent types, and solvents may reduce residue during laundering procedures (Laughlin, 1986), but no studies to date have examined laundry products, starch and fabric softeners, and commercial laundering processes.

The purpose of the study was to examine effectiveness of home laundering with a fabric softener and commercial laundering with starch in lower pesticide residues. A 0.2 ml aliquot of chlorpyrifos (0.5% AI, emulsifiable concentrate) was pipetted onto specimens from two fabrics (100% cotton and 50% cotton/50% polyester) of two finishes (unfinished or fluorocarbon soil repellent finished).

Laundering phases for individual specimens were 1) commercial laundering with and without starch, prior to contamination; 2) commercial laundering with and without starch, after contamination; 3) home laundering with and without fabric softener, prior to contamination and 4) home laundering with and without fabric softener, after contamination.

Commercial laundering consisted of a 12 minute wash with 6.5% phosphate detergent, and three rinses of three minutes each in 150 ml distilled water (60°C). Starch was applied by dipping specimens in a 0.04% instant vegetable starch/distilled water solution (21°C). Home laundering consisted of a 12 minute wash with non-ionic, heavy-duty liquid detergent and two rinses in 150 ml distilled water (60°C) with a cationic fabric softener in the second rinse.

Specimens were extracted in hexane on a shaker and concentrated through rotary and nitrogen evaporation. Recovery rates were 78.9% to 83.3%. Gas chromatographic analysis using a nitrogen-phosphorus thermionic specific detector measured area counts and was reported as μg/cm². Percentages of residue remaining after laundering were calculated. Analysis of Variance with LS Means comparisons was conducted at p ≤ 0.05.

The most significant factor in pesticide contamination and removal was the soil repellent finish; however, the pesticide was not more completely removed from the SR specimens.

No differences in commercial laundering were found attributable to laundering with or without the use of starch before or after contamination. Additional aqueous solutions in commercial laundering did not result in greater residue removal. Use of fabric softener did not affect pesticide soiling or soil removal in home laundering. An additional finding was that the soil repellent finish was rendered ineffective after only one laundering cycle.

Recommendations include: 1) commercial or home laundering of contaminated clothing before a second wearing of the garment; 2) small quantities of starch used by commercial launderers does not affect after-laundering residues; however, additional research is needed to investigate higher add-ons of starch, and 3) fabric softener use will neither help nor hinder pesticide removal from clothing.

Several researchers have measured the thermal insulation provided by single and multiple layers of bedding fabrics using devices such as hot plates. However, these insulation values have little relationship to the insulation surrounding people when they are in bed. Small-scale testing of fabrics does not account for variations in the amount of body surface area covered by the bedding, the insulation provided by the mattress, pillow, mattress pad, bottom sheet, and clothing (when worn), and the effects of placing flat textiles over curved body surfaces (i.e., air layer entrapment and increased surface area for heat loss). Insulation values for entire bedding systems have not been measured, and this information is needed.

The purpose of this study was to (1) develop a data base of thermal insulation values for a wide variety of bedding systems, with and without clothing, and (2) develop and compare the predictability of equations for estimating the insulation provided by bedding systems.

An electrically-heated manikin on a bed and pillow was used to measure the insulation values of about 100 different bedding systems. Sheets, blankets, bedspreads, comforters, and bed clothing which represented the types of fibers and constructions found in the U.S. market were used. The manikin was instrumented with 16 thermistors and heated internally to simulate the skin temperature distribution of a human being. During a test, the mean skin temperature of the manikin was held constant at 95°F, while the hands and feet were maintained at 85°F. The air temperature in the environmental chamber was adjusted for each type of bedding so that the power used to heat the manikin was 80 ± 10 W (the amount of heat that would be produced by a resting person). Air velocity was controlled at 30 ft/min. The total insulation \( I_T \) value for each bedding system was reported as the average of two independent replications.

The insulation provided by the bed, pillow, and the air film surrounding the nude manikin was 1.15 clo. The clo values for the bedding system covering all but the manikin's head ranged from 1.9 clo for a percale sheet to 4.9 clo for a percale sheet, a leno weave blanket, a flocked foam blanket, a quilted bedspread, and a polyester fiberfill comforter. A set of insulation values for bedding systems containing clothing was used to develop linear regression models for predicting the insulation provided by bedding systems. Equations were developed based on variables such as bedding and clothing thickness, bedding and clothing weight per unit area, the amount of body surface area covered by the bedding and clothing components, and the insulation value \( I_c \) of the clothing. Equations with as many as five variables explained up to 95% of the variance in bedding system insulation. Consequently, researchers who want to conduct thermal comfort or energy use studies can now estimate the insulation provided by complex bedding systems in the field or laboratory with one of these equations. In addition, the insulation data base can be used to revise environmental standards such as ASHRAE 55-1981 and ISO 7730 so that they include insulation values for bedding systems and address the comfort of people in bed.
The Effectiveness of Ultraviolet Filtering Sleeves in Reducing Fading of Natural Dyes

Patricia Cox Crews

University of Nebraska-Lincoln

The use of ultraviolet filtering sleeves on all fluorescent lamps in textile exhibition and storage areas has long been recommended as a means for slowing the rate of fading and degradation that occurs in all textiles upon exposure to light. However, most of the claims regarding the effectiveness of ultraviolet filtering sleeves have been based on tests involving fabrics colored with synthetic rather than natural dyes. Since most textiles in museum collections have been colored with natural dyes, it is important to demonstrate that the filtering sleeves will reduce fading of natural dyes as effectively as synthetic dyes. The objective of this research was to evaluate the effectiveness of ultraviolet filtering sleeves at reducing fading in natural dyes.

Selected for this study were six of the most widely used natural dyes for red, yellow and blue colors in American and European textiles. They were cochineal, madder, fustic, turmeric, weld and indigo. The dyes were applied to wool fabric according to documented nineteenth century recipes and procedures.

Two ultraviolet filtering sleeves were selected for this study, one was clear and one was tinted an amber color to enable it to filter out some radiation in the visible region of the electromagnetic spectrum. Both were polyester films with an ultraviolet absorber dispersed throughout the film. The filtering screens were placed directly over the dyed wool specimens as they were mounted in exposure masks. The specimens were then exposed to xenon light for 80 AFU's. Xenon reference fabric was used to control the exposure period. To evaluate the protective effect of the sleeves, color difference measurements were made using a Hunterlab D25-M tristimulus colorimeter.

The research design for this study was a completely randomized block design (6 x 2). Analysis of variance procedures were used to evaluate the dependence of color difference on natural dye and ultraviolet filtering sleeve. Duncan's Multiple Range Test was performed on mean color difference values when the independent variables showed significance at the .05 level.

Results showed that natural dyes were not as well protected from fading by clear ultraviolet filtering sleeves as were synthetic dyes. Some natural dyes exhibited almost as much color loss when exposed to light behind clear ultraviolet sleeves as they did without any ultraviolet sleeves. Amber-tinted rather than clear ultraviolet filtering sleeves should be used in both storage and display areas of museums to provide maximum protection of the artifacts.
Most flat textiles and costumes found in private collections or museums were dyed with natural dyes of vegetable or animal origin. It is essential to know the lightfastness of these dyes when making decisions regarding the conservation, storage and display of such valuable and irreplaceable pieces.

The evaluation of the lightfastness of natural dyes can be done by instrumental measurement. The instrumental measurement of the color change with the use of the CIE LAB color difference formulae is a quantitative and reproducible system that standardizes the measurements and decreases the possibility of human error or difference in observations due to human visual idiosyncrasies. It is possible to study the color change in terms of total color difference or \( \Delta E^* \), and also the change of the individual components of color: \( \Delta L^* \) or change in lightness, \( \Delta C^* \) or change in chroma and \( \Delta H^* \) or change in hue. In this study the fading of a range of natural dyes was analyzed using the CIELAB system.

Six natural dyes: indigo, logwood, cochineal, madder, fustic and turmeric were applied to wool and silk samples. Four mordants were used to obtain a total of 19 different colors. All dyes showed a decrease in total color change or \( \Delta E^* \). The analysis of the individual components of color provided greater insight into the direction of color change. Most dyes showed a decrease in \( \Delta L^* \) and \( \Delta C^* \), indicating that they lightened and dulled. Other dyes showed an increase in \( \Delta L^* \) and a decrease in \( \Delta C^* \), they darkened and dulled. Some samples showed a decrease in \( \Delta L^* \) at 80 and an increase in \( \Delta L^* \) after a total of 300 hours of exposure. The dye darkened at the beginning of the fading process and then progressively lightened.

The color difference in faded textiles when visually assessed can only be described as a decrease in the amount of total color. This quantitative method showed the exact amount of color change and the direction of the color change. The analysis of the quantitative change in Lightness, Chroma and Hue and the trends followed by each dye or combination dye/mordant will help predict the original color of historical and archaeological textiles with greater accuracy. Further research could help establish a pattern of dye fading that could be used to ascertain the stage of the fading process of a particular dyed museum textile.
Degradation of museum textiles occurs both during display and storage. The two main causes of degradation are light and oxygen. Fading and fiber degradation may be reduced by the application of ultraviolet (UV) stabilizers such as UV absorbers and antioxidants. Antioxidants were selected for examination because of their ability to reduce oxidation reactions, not only those caused by photoreactions, but also those caused by ordinary exposure to atmosphere such as that found in the storage of textiles. The objectives of this study were 1) to determine if antioxidants applied by an immersion procedure could reduce yellowing of undyed natural fibers and fading of natural dyes and 2) to determine if antioxidants applied by an immersion procedure could reduce photodegradation of undyed natural fibers, plus wool dyed with natural dyes.

Seven antioxidants were selected for this study on the basis of commercial availability, color, toxicity, and solubility. They were: A-1, a thiodipropionate; A-2, a phosphite; A-3, a substituted phenol; A-4, a thiodipropionate; A-5, a hindered phenol; A-6, a phosphite; and A-7, a phosphite. Antioxidants were applied to fabric specimens by an immersion bath; the specimens were then exposed to xenon light for 80 AFU's. To determine the amount of yellowing or fading that occurred in the textiles during light exposure, instrumental color measurements were taken using a tristimulus colorimeter. To determine the amount of degradation that occurred during exposure, breaking strength measurements were completed using a CRE-500 Scott Tensile Strength Tester.

The research design for this study was a completely randomized block design (7 x 4 x 5) with seven antioxidants, four undyed fibers and five dye-mordant combinations. One-way analysis of variance was performed on each fiber and dye-mordant combination. The level of significance for the analysis of variance was 0.05. When analysis of variance procedures showed that antioxidant treatment was significant, pairwise comparisons were used to determine which antioxidant significantly affected color and/or strength. The level of significance for this phase of analysis was 0.01 to decrease the possibility of a Type I error.

Evaluation of results showed that some antioxidants significantly reduced yellowing of undyed silk, wool, linen, and cotton fabrics exposed to xenon light, but none reduced fading of wool dyed with five dye-mordant combinations. Two phosphate antioxidants showed promise for use on undyed museum textiles such as white damask table linens, quilts and undyed cotton and linen clothing because they significantly reduced yellowing of all four natural fibers. In addition, phosphate antioxidants slightly suppressed fiber degradation during light exposure. Unfortunately, the other antioxidants significantly increased degradation of undyed fabrics and most dyed wool fabrics.

Further research is needed to determine whether phosphate antioxidants might interact synergistically with UV absorbers for more effective reduction of color changes and strength losses of textiles. Further research is recommended since previous research has shown that many antioxidants in combination with the UV absorbers reduce yellowing, fading, and strength losses far more effectively than either compound does when applied separately.
PHOTOGRAPHIC TECHNIQUES FOR THE ASSESSMENT
OF DAMAGED HISTORIC TEXTILES

Sarah Cowan - University of North Carolina at Greensboro

Laurel Wilson and Howard Wilson - University of Missouri at Columbia

Successful restoration of discolored cellulosic historic textiles remains a challenge for textile conservators. Storage of cellulosic fabrics may result in yellowing by slow oxidation or brown stains if an oxidizing bleach is not entirely removed from the fabric substrate. Acidic environments (such as storage in ordinary tissue paper) weaken cellulosic fabrics through molecular chain cleavage.

Recent research has focused on efforts to restore cellulosic historic textile fabrics to original appearance without further damage to the fragile fabric (Cowan, Hurwitz, & Gahagan, 1982; Hurwitz & Cowan, 1980). It was shown that hydrogen peroxide, sodium borohydride, and sodium hypochlorite bleaches, when properly used, were effective in the restoration of whiteness without significant loss of either tensile strength or molecular weight. However, tear strength anomalies were reported. It was suggested that the apparent discrepancies may be attributed to test sample site.

Since photographic documentation (Eastman Kodak, 1974a, 1974b; Lowey-Ball & Riecken, 1977) of an historic fabric may be a viable method for locating sites of fabric degradation, a stained, worn cotton fabric was photographed at each step of the research procedure. The test fabric, a pillowcase that was used continuously for a thirty-five-year period beginning in 1946, was photographed in its original condition and after bleaching using two sets of conditions: (1) blue filter and reflected light (2) blue filter and transmitted light. The blue filter enhanced the yellow stain images while the reflected light provided optimum conditions for stain site documentation.

Transmitted light which passed through the fabric provided optimum conditions for wear documentation. Because each physical test sample site was marked on the fabric, the tear, tensile and fluidity data could be evaluated in the context of their photographed locations on the original pillowcase.

Results show a valid relationship between physical test results and the enhanced photographic images of the fabric. Use of this photographic technique to locate degraded sites which may not be apparent by visual inspection of the fabric will enable the textile conservator to develop accurately a strategy for textile restoration without further fabric degradation.

BIBLIOGRAPHY


Recently clothing researchers (Kelley and Sweat, 1983-84; Workman, 1984-85) have used Correspondent Inference Theory (Jones and Davis, 1965) to explain the impact of appropriate and inappropriate clothing in different situations. In order to use apparel appropriateness as a variable it is first necessary to conduct pilot studies to determine some normative level of appropriateness for the situation as defined by the research. Obviously the apparel which may be appropriate in one situation may well be inappropriate in another situation. This research was undertaken in an attempt to define appropriate and inappropriate attire over a wide variety of situations and a large number of people in order to provide a body of knowledge to be used as a starting point for future researchers.

Twenty-six situations including party, job interview, business meeting, teaching a class, and picnic were identified and used in the research. The respondents were 174 undergraduates who participated as part of an optional course activity. They filled out a questionnaire consisting of questions of the form: "What are your first three most appropriate/least appropriate choices of attire to wear to a 'situation'?

Respondents were provided with ten apparel choices for their answers. Chi square statistics were calculated for the most appropriate and the least appropriate apparel choices for each of the 26 situations. Occasionally some of the apparel choices had to be combined in order to meet the assumptions of the Chi square statistical procedure. Every Chi square value was significant at or beyond the .001 level. Apparently there is significant agreement among undergraduates as to what apparel is appropriate and what apparel is inappropriate across various situations. For example the classic suit was selected the most appropriate attire for a job interview while the least appropriate attire for that situation was the sundress; the most appropriate attire to wear to a cocktail party was the dressy dress, while the least appropriate attire for the situation was sweatsuit and sneakers.

These findings have important implications for clothing researchers. At the very least they should provide the necessary input for researchers using Correspondent Inference Theory to explain and predict the impact of appropriate and inappropriate clothing selection. These results also serve as normative guidelines for anyone studying clothing behavior of college students.

References


PERCEIVED APPROPRIATENESS OF ATTIRE
FOR FEMALE MANAGERS IN BUSINESS

Lucille M. Terry
University of Akron, Akron, Ohio 44325

Frequently, one is confronted with information on how to dress in business. Yet, little research has been done to determine what is considered appropriate by those actually in business on multiple components of the attire. Therefore, the purposes of this study were to determine what was perceived as appropriate dress for females in management level positions on 17 different components of dress and if any differences existed with respect to personal (sex & position) and company (size, type product, & if corporate headquarters) variables.

To measure the perceived appropriateness a questionnaire obtained input on 17 dress components including such things as type ensemble, fiber content, cut/style, length, pattern/texture, and color of outerwear, blouse, shoes, hosiery, and/or hair, as well as jewelry, makeup, accessories, etc. Under each component a number of possible options were given and respondents indicated the appropriateness using a 5-point Likert scale from most appropriate, somewhat appropriate, neutral, unappropriate, to totally unappropriate. Statistical analysis included repeated measures ANOVA and Tukey's Multiple Comparisons Test. Significance was set at the .05 level.

The questionnaire was distributed to 410 males and females in management, personnel, and/or corporate executive positions in 19 different companies hiring at least 500 employees in a large city in the midwest. A total of 294 were received for a 71.7 percent return. Of these 156 were males and 133 females with the largest percentage (33.9%) being in companies employing between 1,500-3,000 in automotive/turbine products (39.1%), and not at a corporate headquarters (64.8%).

Overall, the most appropriate types of dress included: the skirted suit, with a fitted or traditional blazer style jacket, skirt coming 1-2 inches below the knee, of all natural fibers, and in a solid color, preferably navy or gray. The blouse preferably had either a bow at the neck or man-tailored, with long sleeves, in a solid color. The shoes preferably were basic pumps in black or navy with 1½ inch heels worn with nude colored hosiery. Jewelry worn would preferably be only two pieces at a time and most appropriately include a watch and wedding band. Some makeup, however not obvious, was preferred with muted lipstick and clear nail polish being the most appropriate. Hair preferably should be either short or shoulder length, with some curl or wave, and basically in any of the natural colors.

On the repeated measures ANOVA, the variables which contributed to the greatest amount of differences were sex and type of product, with 16 and 6, respectively, of the 17 components revealing significant differences. The other variables (position, size, & corporate headquarters) had significant differences on only 2-3 components each. The particular dress component which revealed most significant differences (4 of 5) was type of major ensemble.

The most interesting results were the significant differences between males and females. For the most part, the females were considerably more conservative on all components, except the use of makeup and jewelry, than the males. Since more females are entering management level positions, information on what is perceived as appropriate for them to wear by difference personal and company variables could be extremely beneficial.
CLUSTER ANALYSIS OF WOMEN'S BUSINESS SUITS

Mary Lynn Damhorst, Molly Eckman, Shari Stout

Iowa State University, Ames, Iowa 50011

Previous researchers of women's business attire often have taken an atomistic approach in which specific garments or style details are rated by respondents. The present study incorporates a holistic approach in which retailers ranked a wide range of women's suit styles on appropriateness for entry-level management interviews in retail firms. Our findings provide information about rule systems employed by personnel interviewers in assessing appropriateness of interview attire and give insight into the organization of visual information during aesthetic perception.

Method. The sample included 42 college campus retail recruiters and retail employees who hire personnel for stores in a mid-sized Midwest city and nearby university town. The stimuli were 74 full color photographs of women's skirted suits selected from popular fashion magazines and mail order catalogs to represent a wide variety of styles available in 1985. Background and heads of the models were cut from around the pictures of full length clothed bodies, which were then mounted on white bond paper.

Each respondent sorted the pictures into up to five piles according to appropriateness of the suits for interviews for entry-level retail management positions. The rankings were converted to a similarity matrix, and hierarchical clustering of variables via the single-linkage rule was conducted using the BMDP P1M cluster analysis program. In addition, appropriateness rankings were transformed to midranks scores to calculate mean rankings of suits.

Results. The analysis yielded two superordinate clusters. Cluster 1 included 26 suits considered more appropriate for retail management interviews. In general, the suits had classic tailoring; natural to slightly boxy silhouettes; neutral or dulled colors; low contrast plaids, stripes, and textures in skirts; skirt length right below knee; neck emphasis; and limited accessories.

Cluster 2 contained 21 suits ranked less appropriate for interviewing. Each ensemble included at least one element of extreme styling, such as highly clothes or body dominant silhouettes; unconventional combinations of textures, colors, and prints; attention-grabbing design details or accessories; high chroma colors; and out-dated or trendy styling.

Not included in the main clusters until final agglomeration of all items were 27 suits, transitional in features between Clusters 1 and 2. Subordinate clusters within the tree diagram yielded further information about perceptual groupings.

Implications. The results give indication of aesthetic decision rules used by retail personnel interviewers in assessing appropriateness of dress worn by female job interviewees. The stimuli were limited to suits worn in a specific context; further study of additional contexts and garment forms will help to build a taxonomy of dress components used by perceivers to form impressions of individuals. Such a taxonomy will provide a basis for hypothesis formation and stimulus development in experimental research.
Mary Ellen Roach-Higgins - University of Wisconsin-Madison

Many writers discuss theories of dress by setting forth pros and cons of various theories of origins: e.g., adornment, modesty, or protection. Ideas are often hazy, references vague—perhaps a noncommittal "experts agree." Even writers with misgivings go through ritual discussion. This drift toward the realm of myth inspired by efforts to disperse miasma surrounding these theories and locate their place in history of the behavioral science of dress.

Study revealed elements of nineteenth-century theories of social evolution as prominent, but mostly unacknowledged, parts of theories of dress. Writers seldom cite works earlier than Veblen's 1899 Theory of the Leisure Class and fail to accord him position among classical social evolutionists. Generally overlooked are 1870's evolutionary views on dress by Darwin and Spencer, and continuation of nineteenth-century evolutionary views in 1920's works of Hiler, Hurlock, and Flugel.

Theorists of dress reveal an evolutionary bent in their search for origins—first forms, first motives for use—and building family trees showing order of descent. In their fervor to find the unknown and unknowable, they may decide dress originated in ornament of primitives and evolved into clothing of the civilized. Arguments are obscured by ambiguity of terms like ornament, clothing, protection, or modesty, which carry ideological meanings of good and bad as well as culturally relative inferences about form or psychological motive. Another evolutionary legacy is a naive assumption that one can mentally reconstruct dress of "primeval" Europeans on the basis of historically known "savages." A darker, elitist side of social evolutionism, which assumed moral and aesthetic superiority of Europeans, is perpetuated by theorists who discuss mutilations of primitives, fads and fashions of Euro-Westerners.

Conclusions: we must forgo arguments about origins—first form or motive; use value-free terms, distinguishing form from motive and avoiding ambiguous terms like clothing, ornament, protection, modesty; recognize these theories as historical artifacts appropriate to advanced study of the social science of dress and not introductory classes.
The Relationship between Teacher's Dress and

Student Perceptions of Teacher Characteristics

Sara Butler, Miami University

Kathy Roesel, Kentucky Cooperative Extension Service

Clothing investigators have been interested in examining the role of clothing in forming impressions for some time. Symbolic interactionism can be a useful theory in describing the interaction that occurs between actor and observer in impression forming situations. Blumer proposes that humans interact on the basis of the meanings things have for them and that meanings are derived through social interactions which are unique to individuals. (Blumer, 1969) Literature in clothing deals with both the actor who utilizes clothing to create an impression and with observer reactions and how clothing is used in forming impressions.

This investigation of the influence of teacher's dress on student perceptions of teacher characteristics was guided by the symbolic interactionism approach. A limited number of studies have addressed the importance of clothing in the teaching profession. Results have generally indicated that clothing style is related to student perceptions of teacher characteristics, including personality attributes, teaching styles and competency.

The sample consisted of 201 home economics students enrolled in two Kentucky high schools of varying economic levels. Economic level was verified by comparing median family income in the community to U.S. Census definitions. Teacher characteristics were measured through student responses to twenty statements designed to be indicative of student perceptions of teacher approachability, knowledge, respect and overall acceptability. The independent variable of clothing style was operationalized by utilizing photographs of four headless teacher models dressed in clothing styles ranging from very informal to formal. Students responded to the instrument by selecting the photo that best fit each statement. The data were analysed using Chi Square techniques.

The most informally dressed teacher was viewed as fun, approachable, not especially knowledgeable, commanding limited respect, not looking like a teacher and generally preferable. The suited teacher was seen as unapproachable, not especially fun, an authority figure who assigns homework, as possessing the image of a teacher but as the teacher students would prefer not to have. The teachers in slacks and a dress seemed to have less of a distinctive image, although income level seemed to influence students' perceptions of these teachers. The middle income level students preferred the teacher in slacks on more of the items than did the lower income level students. Few differences were found between males and females.

The results support previous research that indicate that a teacher's clothing style influences student perceptions in certain areas. It could be hypothesized that the different meanings students attached to the various clothing styles were a result of the social interactions student have had with similarly dressed individuals. It may also be that certain clothing items have assumed meanings as a result of complex social and cultural influences transmitted through human interactions over time. Interactions unique to income level may account for the variations observed between middle and lower income level students. Further research should focus on the question of how meanings are formulated and on the influence of a teacher's clothing on the learning process.

EFFECTS OF DRESS ON PERCEPTIONS OF INTELLIGENCE, BEHAVIOR AND ACADEMIC ACHIEVEMENT OF HIGH SCHOOL STUDENTS

Elizabeth A. Williams and Dorothy U. Behling
Bowling Green State University

Clothing, an integral part of appearance, has been the basis for a number of studies of first impressions and person perception (Douty, 1963; Johnson, Nagasawa & Peters, 1977). Researchers found clothing influenced judgments of such things as sociability, intelligence, talents and social status. However, person perception and the formation of first impressions in the classroom has been a neglected area for research.

This study was designed to determine whether students' and teachers' perceptions of intelligence, behavior, and potential academic achievement of high school students is affected by choice of clothing. Subjects were 909 high school students and teachers from six schools in Ohio. Black and white photographs of two high school students, one male and one female, in four different styles of dress were used in the study. Styles were determined by a preliminary poll of high school students along with descriptive names. The four styles which evolved were: Hood, Artsy, Casual and Dressy. The eight photographs were incorporated into a questionnaire with bi-polar adjectives or phrases describing in-class behavior and general attributes of students. The questionnaire also called for subjects to assign an IQ level, a grade point average and the level of education the pictured model would attain. Data were analyzed using repeated measures analysis of variance.

Significant differences were found in perceptions of behavior, intelligence, and future academic success based on clothing style and sex of the model by both students and teachers. Subjects generally placed clothed models in decreasing order of positive attributes as: Dressy, Artsy, Casual, and Hood. Males were rated higher than females for all clothing styles except the Artsy look.

Results of the study indicate that students are perceived differently according to their choice of clothing both by their peers and by their teachers. Not only are they perceived differently as far as expected behavior, but also their expected academic performance is judged, past, present and future. Results of this study have broad implications for our school systems and more research needs to be done in this area.

References


The Effect of Sex, Sex-related Clothing and Occupational Sex-linkage on Perceptions of Occupational Success

Leslie L. Davis - Oregon State University

Prior research in the area of sex role stereotyping has clearly demonstrated that stereotypic beliefs about sex-related traits influence occupation-related perceptions and decisions. Individuals' perceptions of a stimulus person's competence, leadership ability, occupational suitability, and occupational success have been found to vary as a function of the stimulus person's sex role orientation which was inferred from information provided to the subjects. This study extended research on the influence of sex role stereotyping on occupational decisions by investigating the effects of sex, sex role orientation as inferred from sex-related clothing, and occupational sex-linkage on perceptions of occupational success.

A 2 X 2 X 2 X 3 complete factorial between-subjects experiment was conducted with four independent variables: sex of subject, sex of stimulus person, the stimulus person's sex-related clothing, and the stimulus person's sex-linked occupation. 120 male and 120 female undergraduate students participated in the study and were randomly assigned to the experimental cells. In groups of 10, subjects were shown a slide of either a male or female stimulus person wearing either masculine or feminine clothing. Subjects also were given a personal profile sheet supposedly filled out by the person in the slide and included, among other constant information, the occupational sex-linkage manipulation. One third of the stimulus persons were said to be employed in a masculine occupation (engineering technician), one third in a feminine occupation (administrative secretary), and one third in a sex-neutral occupation (educational counselor). Under the auspices of this being a study on the accuracy of first impressions, subjects completed a Person Perception Questionnaire which included five 7-point Likert-type items measuring perceived occupational success and advancement, the sum of which served as the dependent measure.

A four-factor analysis of variance of the responses on the occupational success measure resulted in the predicted significant sex-related clothing and occupational sex-linkage interaction, F (2,216)=3.50, p < .05. Comparison of the means revealed that stimulus persons wearing masculine clothing were perceived as having greater occupational success than stimulus persons wearing feminine clothing for both the masculine and feminine occupations. Perceived occupational success did not vary as a function of clothing for the stimulus persons in the sex-neutral occupation. No differences were found between male and female subjects nor between male and female stimulus persons.

It appears that appearance factors do contribute to sex role stereotyping in occupation related perceptions. Indeed perceptions of occupational success varied as a function of the stimulus person's sex role orientation as inferred from the person's sex-related clothing; although masculine attire was favored by the subjects in this study for both masculine and business-oriented occupations. These results refute some aspects of cognitive consistency theory (feminine dress favored for feminine occupation). It appears, however, that the power symbolism of masculine attire outweighed apparent role consistency.
REINFORCEMENT OF MASCULINE-FEMININE PERSONALITY TRAITS THROUGH THE
CLASSIFICATION, USE AND OWNERSHIP OF SELECTED APPAREL ITEMS

Linda A. Snyder

Queens College

Appearance has been used in the assessment of personality traits and as such is one of the strongest forms of nonverbal communication. The clothing one wears is a critical factor of appearance which is often used to identify an individual's age, sex, status, occupational roles and social affiliations. Personality trait research has often been used to identify the relationship of clothing design preferences to general personality constructs, extraversion and conservatism. Very little has been done to investigate the relationship between an individual's self-reported endorsement of masculine-feminine personality traits and the perception of the masculine-feminine associations of selected clothing items and the ownership and use of the items.

A total of 240 subjects completed the Personal Attributes Questionnaire (PAQ) and the Andro Clo Instrument. Scores derived from the masculine and feminine scales of the PAQ were used to classify subjects into sex-typed masculine, sex-typed feminine, androgynous and undifferentiated groups. Three variables from the Andro Clo Instrument were selected for Chi-square analysis to assess differences in the classification, use and ownership of selected clothing items by the four PAQ groups.

Results of the Chi-square analysis indicated significant differences at the .05 level for one clothing item in each apparel category (masculine, feminine, and androgynous), and at the .01 level for two clothing items in the masculine and feminine categories. The Undifferentiated and Masculine PAQ groups perceived the items in these categories differently. The two feminine apparel items were classified as androgynous by the Masculine PAQ group, while the Undifferentiated group classified them as either androgynous or feminine. Significant differences in use and ownership were found for the apparel items classified as masculine or feminine for the four PAQ groups. Sex-typed feminine individuals tended to own and use feminine apparel items, while sex-typed masculine individuals tended to own and use masculine apparel items.

The results of this research indicated that instrumental and expressive personality traits may be reflected in the clothing one owns and uses and may affect the classification of some apparel items as masculine, feminine, or androgynous. While significant differences occurred in the classification, ownership and use of apparel items in the three apparel categories, subjects generally indicated adherence to the prevailing cultural stereotypes and a willingness to use sex-appropriate clothing to reinforce personality traits.
Dress as a Perceptual Cue

Lois Dickey

The Ohio State University

The four papers presented were based on the assumption that clothing is a form of non-verbal communication, and what a person wears stimulates judgmental and behavior responses from the observer. Thus, dress provides perceptual cues to which meaning is attached and impressions are formed.

Overall, the findings indicated that cues were perceived and interpreted when dressed stimulus persons or items of clothing were shown to subjects. Subjects in each of the four studies were male and female students, either high school or college. There was some evidence in three studies of little difference between the responses of male and female subjects. On the other hand, sex of the stimulus person did make a difference in the responses. The use of male and female subjects and stimuli was a strength of the studies of dress as a perceptual cue. However, we must recognize the difficulty of clearly defining a clothing concept and operationalizing it in an equal manner for both male and female subjects. For instance, in one study the "Artsy" look on males may have suggested an effeminate style so that it was perceived negatively; in another study the stereotypic masculine and feminine clothing stimuli may have been that of formal/informal as well as masculine/feminine.

In an attempt to bring the four studies together, several articles by clothing researchers were examined. Based on Kaiser's (1983/84) article, the studies could fit under the cognitive social psychology approach - specifically, cognitive consistency theory and attribution theory. Davis' experimental study was based on cognitive consistency theory; predictions were made and tested and findings were interpreted in terms of the theory. Attribution theory was implied for the two studies in the classroom settings for the perceivers used clothing cues to interpret the wearer's behavior in a specific situation or situations. In addition, ideas from symbolic interaction could be identified, thus providing the possibility of the convergence of the two theories into a contextual social psychological framework as proposed by Kaiser.

Both Hutton (1984) and Buckley (1984-85) have challenged us on the need for valid operational definitions of the distinctive features of dress. Hutton noted that researchers have used a wide range of terms to define clothing concepts. Problems occur in the measurement and in the interpretation of results because terms vary and are not on a continuum of the same concept. One of the contributions clothing researchers could make to the literature would be to identify the dimensions of the most descriptive terms which are on a continuum of the same concept. Based on the studies, a number of ideas or questions for further investigation or for refinement of the measures were identified. The challenge for further research is to use a theoretical framework and make predictions to test the theory. Buckley, H.M. (1984-85). Toward an operational definition of dress. Clothing and Textile Research Journal, 3, 1-10.


EVALUATION OF PROTECTIVE CLOTHING SYSTEMS
FOR STRUCTURAL FIRE FIGHTING

Janice Huck and Elizabeth A. McCullough
Kansas State University

Although the protective clothing and equipment worn by a fire fighter provides protection from heat, cold, flame, steam, impact, and water, it can be physiologically stressful to the wearer because of its weight, stiffness, and impermeable nature. Additionally, fire protective clothing systems should be relatively acceptable to the wearer, so that the clothing will be worn at all times on the fire ground. Persons using and/or purchasing fire protective clothing need to have information available to help them select the best clothing for their needs. Although previous research has attempted to develop innovative designs and/or fabric combinations for fire protective clothing, the resultant prototypes have not been adequately evaluated to determine their suitability for actual use on the fire ground. Additionally, little statistically valid research has been done to evaluate currently available designs and fabrications of fire protective clothing. As a prerequisite for development of new fire fighting clothing systems, it is necessary to provide physiological and subjective data for presently available clothing systems.

The purpose of this study was to evaluate the physiological costs associated with wearing different designs and/or fabric combinations of structural fire protective clothing. This research additionally quantified fire fighters' subjective evaluations regarding the acceptability of the clothing systems, and a major contribution of this research was to develop a semantic differential scale for determining wearer's acceptance of the clothing systems.

The three independent variables used were: (1) three designs of fire protective clothing, (2) two moisture barrier fabrications, and (3) use of a self-contained breathing apparatus. Dependent variables were: (1) physiological responses of subjects wearing the clothing systems and (2) fire fighters' subjective evaluations of acceptability and thermal comfort of the clothing systems. Nine professionally trained fire fighters completed an exercise protocol designed to simulate the physical activity associated with fire fighting (walking, ladder climbing, crawling, chopping). Physiological responses, i.e., added energy expenditure, increase in rectal temperature and heart rate, and weight loss were measured. At the end of each exercise period, the subjects completed a Thermal Sensation Ballot and Wearer Acceptability Scale.

Results indicated that the use of a self-contained breathing apparatus was more important than design or moisture barrier fabrication in determining the physiological costs of wearing the protective clothing system. Responses on the Wearer Acceptability Scale were subjected to a factor analysis technique, and three factors (freedom of movement, clothing acceptance, and stress) were identified. The best design/fabric combination was determined to be a traditional or tailored coat with waist length pants, fabricated with a Gore-tex® moisture barrier, and worn without a breathing apparatus. The results of this research should help consumers, designers, and manufacturers evaluate currently available fire protective clothing. It may also provide methodological techniques to aid in the development and evaluation of all types of protective clothing.
Development of Protective Clothing for Lawn Specialists

Ann C. Slocum & Lois Shern, Michigan State University; Sharleen Gay, Seattle Pacific University

This study developed and tested a protective garment for commercial lawn care specialists. During liquid spray application the primary means by which chemicals enter the body is through dermal absorption (Wolfe, 1973), and work practices in the lawn industry create the potential for considerable dermal exposure. While protective clothing can reduce dermal exposure, the appearance and comfort of commercial garments is often not acceptable.

The first phase of the study determined where pesticide was deposited on the body during spraying. The purpose of phase two was to identify design criteria, experiment with construction variables, present sketches of protective garments to the client, and construct the selected prototype for field testing. The development of the protective garment was a product of collective ideas and experimentation. Design criteria were identified through a review of the clothing and pesticide research literature and analysis of video tapes made during phase one of the study. Watkins (1984) identifies 4 types of criteria: textile molecular impact protectiveness, allowance for motion, relief of heat stress, and ease of decontamination.

Experimentation with different design features to meet the criteria included: 1) gussets, sleeve style, fabric construction, and action pleats for providing ease of motion; 2) fabric and location of ventilating panels for heat reduction; 3) materials and fastening systems for lower leg, and additional crotch and shoulder protection. Full scale samples were constructed and judged by a panel of undergraduate students. Two complete garments were test worn by a graduate student. Three sketches and two prototype garments were developed and submitted with synthesis of observational data to company officials who made the final selection. A modified version of the regular uniform, that offered an intermediate level of increased protection, was chosen to be field tested.

The protective garment was evaluated in two ways. Fit, mobility, appearance, and comfort were rated by the wearers using a five point scale (1=high to 5=low). Five of the six subjects completed the ratings for the pants and shirts. The overall average rating for the pants was 2.7; the overall rating for the shirt was higher, 2.05. Average ratings for fit, mobility and appearance were higher than those for comfort for both pants and shirts. A second evaluation used biomonitoring to determine the amount of test chemical absorbed and excreted from the body. This measure indicated that, in comparison to the regular work clothing, the protective garment reduced the amount of chemical absorbed into the body.

This project was supported by The Dow Chemical Company, TruGreen Corporation, and Benham Chemical.

References


DESIGN FOR A FAST FOOD RESTAURANT UNIFORM

Jane E. Workman
North Texas State University

A unique opportunity presented itself when an executive from Grandy's, a fast food restaurant, requested a new uniform design for their employees and offered funding for the research project. The general request was for uniforms for employees with these job titles: hostess, counter worker (female and male), and manager (female and male). Included in the request was consideration of an identifiable image that would coordinate with the company logo, character of company advertising and recently updated interior design of the restaurant. The company objective was to increase employee morale by providing an attractive, functional uniform and to create a favorable image in the public's mind, thereby increasing their business.

The purpose of this research was to gather information to set design specifications for a uniform for a fast food restaurant employee in general and for one restaurant's employees in particular. The functional design process (Orlando, 1979; Watkins, 1984) was followed in developing a design for a fast food restaurant uniform. Categories of critical factors identified and investigated were: sizing and fit, movement, thermal, social-psychological, and materials. A literature review helped clarify and define the critical factors that constituted this design problem. Employees were interviewed and observed in action. Existing uniforms were examined for features that would aid in setting design specifications.

The purpose of the sizing and fit analysis was to gather data about design features that would accommodate a small, medium, large sizing classification (counter workers) and a "one size fits all" category (hostess). During the movement analysis obvious faults identified were a lack of pockets and safety factors such as the manager's tie and female counter workers' apron strings. Thermal analysis revealed an uncomfortably warm environment for counter workers and managers. However, hostesses were elderly women ("grannys"), thus thermal considerations due to age were necessary. Social-psychological analysis included consideration of employees' preferences as well as the image desired by the company. Management wanted to convey a warm, hospitable, family atmosphere and an old-fashioned country image. Materials analysis revealed a dislike for polyester double knit fabric. The calico print fabric design was dated and colors needed to be coordinated with the new interior design of the restaurant. Data collected from the various assessments were stated as design criteria. Priorities were set and interactions noted.

Students considered the design specifications in determining what would be incorporated into the final design. Portfolios, containing sketched proposals for uniforms with fabric specifications, were submitted to restaurant executives for critique. In compliance with their suggestions and decisions, prototypes were constructed and evaluated.

The research project effectively coordinated various aspects of textiles, clothing and design. It was a mutually beneficial project between industry and education.

Functional Design Research

Discussant Remarks

Jacquelyn Orlando DeJonge

The University of Tennessee

Functional apparel design has stimulated research involvement in the areas of textile science, physical measurement, social-psychological aspects of apparel, and apparel design. Researchers today have demonstrated the feasibility of using aspects of the functional design process to meet needs of clients in real situations.

One problem of the functional design process, (ACPTC Proceedings, 1979 and Clothing: The Portable Environment (Watkins, 1984)) has been responding to short-term requests without sacrificing the research quality.

Jane Workman, in discussing design for fast-food restaurant uniforms, illustrated the use of three carefully selected methods from the functional design process: investigating user behavior, interviewing users, and visual inconsistency search. Her paper did not provide us with extensive information on the users' behavior observed or the results from the interviews. Examples of these methods and refinement of the techniques can help other researchers use them efficiently. Her use of evaluating existing uniforms is an excellent example of the visual inconsistency search. The results obtained appear to be functional designs that met the design specifications and provide us with a good example of selecting design methodology appropriate for user-requested type of apparel.

Slocum, Shen and Gay in The Development of Protective Clothing for Lawn Specialists presented us with one aspect of a more fully developed functional design study. The design phase described often involves this synthesis of information obtained from established design criteria, review of the literature, and visual observation. All these methods were incorporated into this study. However, it is unclear how the design criteria were ultimately determined from conflicts between critical factors and sub-solutions. The use of a matrix to identify conflicts is often helpful in this design phase of the process. The prototype evaluation used in this study illustrates a good example of using the combination of subjective and objective evaluations.

The evaluation of prototypes is an extremely important component of the functional design process. Huck and McCullough in their Evaluation of Protective Systems for Structural Fire Fighting have picked up the functional design process in the evaluation stage where they found limited information from garments which had been developed. The use of the thermal sensation ballot and the wear acceptability scale with their comparison to the physiological measures represents an important contribution to the evaluation of functional apparel. The wear acceptability scale has potential for further use and refinement in other areas of functional design.

Refinement of the methodology for quick response to functional design problems will enable us to maintain quality product development while advancing the state of methodology in the functional design area. As a specialized request is received, I would challenge researchers to carefully select design methodology appropriate for the request and build into the processing further development of that methodology. If we all attempt to do this, we can contribute to the scientific literature while servicing business, industry and agencies with appropriately designed garments.

Each year over 100,000 new cases of breast cancer are diagnosed in the United States, resulting in surgery. With each type of surgery there is a range of physical problems such as lymphedema, sunken areas, figure imbalance, tenderness, scarring, limited range of motion, and posture changes. Mastectomees have special clothing needs to accommodate the physical loss of the breast, and to meet the psychological needs of comfort and self-esteem.

A Design Demonstration project, funded by the National Endowment for the Arts, was carried out with the purpose of developing ways to provide comfortable and attractive clothing for mastectomees. Objectives were as follows: conduct a needs assessment, develop designs and adaptations in four categories of clothing, construct prototype garments from original designs and adapted patterns, adapt RTW, and evaluate garments.

The research design included interviews with mastectomees, a pilot study and a questionnaire mailed to 257 mastectomees in two states. Survey data from Ohio (121 responses, a 60% return) were analyzed using descriptive and correlational statistics to answer research questions.

Physical conditions resulting from a radical or modified mastectomy led to specific clothing problems with swimwear and evening wear causing the most design concerns. Of the 121 respondents 80 women indicated some kind of problem with swimwear. The most often expressed problem (64% of those having problems) was too low a neckline. Lack of support or anchor to prevent swimsuit from falling away from the chest wall was noted by more than half. Of the sixty who indicated problems with evening wear the most common was a gaping or too-low-cut neckline. The need for greater coverage in the armhole as well as the neckline was apparent. Half of those who had problems with suits and other daywear found sleeves were too snug and 30% said the armhole was too snug. Problem with snug sleeves correlated with incidence of edema.

When asked about satisfaction with available clothing choices 83% were either somewhat or completely satisfied; 17% expressed some degree of dissatisfaction. In general, the women did not want "special designs".

Selection criteria are listed with most important first: attractiveness on self, appearance of garment and fit (of equal importance), comfort, care requirements and cost. Fashion and distinctiveness were less important.

Individuals who cooperated in the study and for whom garments were made reacted to the designs and the fit and were extremely helpful in the search for solutions to problems.
A THEORETICAL FRAMEWORK FOR DESCRIBING BODY FORM

VARIATION RELATIVE TO PATTERN SHAPE

Edith Berlow Gazzuolo

Minneapolis College of Art and Design

The history of standard patterns and drafting systems reveals the absence of a logical link between body form and pattern shape. Historically, an intuitive leap has bridged this gap as an educated guess of the needed pattern shape. Resulting drafting systems and patterns were corrected by trial and error, guarded with utmost secrecy and even bequeathed in wills. Today, this element of mystery remains in the drafting and grading systems, slopers, and dress forms used throughout the industry.

New anthropometric information about civilians would greatly improve current sizing practices. However, even if new data were available, there remains the issue of translating body dimensions to pattern dimensions. This transition from 3-D form to 2-D shape requires a theoretical construct which links anthropometric assessment to pattern plane coordinates. Thereby, pattern dimensions of predetermined garment forms are accessible from collected data.

The following is an original construct proposed as a theoretical framework for the observation of body form variation such that it is meaningful to the dimensions of garment patterns (Gazzuolo, 1985). This framework emerged from an extensive review of the literature of several fields in order to devise vocabularies for describing spatial relationships between garment and body, as well as physiological factors of morphological variance.

Also included in the development of this framework was an analysis of standard anthropometric practices. This analysis resulted in an experimental methodology, tested on 30 subjects. Flexible planes ruled with a one-centimeter grid were draped over the body surface, measuring premarked anatomical reference points as a constellation of points on a pattern plane. Frontal and lateral view silhouette photographs were taken concurrently with the dimensional data. Both visual and dimensional data from the exploratory study are used to explain the theoretical framework and its four components:

Analytical Component. Spatial relationships between garment and body are analyzed prior to data collection. This analysis of the garment forms to be derived from the dimensional data determines the anthropometric methodology.

Dimensional Component. Individual pattern graphs, which result from the methodology determined above, are sorted either by pattern shape variables or user group traits. Standard patterns for a limited range of variance thereby provide better fit for the targeted user.

Visual Component. Visual data, including silhouette images and photogrammetric values, are correlated with dimensional data. Practical applications include composite images for the communication of new sizing categories to the public, as well as the development of two and three-dimensional models for designers.

Physiological Component. Visual data are analyzed with regard to physiological factors in morphology. Photogrammetric values are used to amplify visually perceptible traits. This component comes full circle to analysis of garment forms with reference to the body.

"GRAPHIC SOMATOMETRY" FOR RESEARCH AND TEACHING: Garment Selection and Engineering, Apparel Planning, Preventive Health Care

Helen I. Douty - Auburn University

Research must be based on a theoretical framework, be objective with results and conclusions arising from factual evidence, have a quantification strategy for measuring and collecting data, and use tested methods for analyzing and interpreting results. When this long-term research direction was established, statistics as a discipline was evolving and methods could be adapted. Clothing study was still very personalized, resting at times mainly on personal likes and dislikes which created barriers to logical thought processes and analytic techniques. New instruments and methods for study and research had to be developed, tested and refined; then followed by exploration with possible applications.

The biggest challenge was the development of reliable and valid instruments and methods that could be used for interdisciplinary projects where body/person/mind interactions could be effectively analyzed. To meet multi-purpose demands, the method had to be: (1) objective, in order to avoid defensive reactions of individuals to self information; (2) clearly visible, which led to graphic presentation devices; (3) anonymous, which led to identification by code numbers; and (4) quantifiable so that data could be collected and hypotheses tested. Silhouette photography was selected as the main data source and procedures were developed to achieve a graph of individual gross body characteristics. Quantification by means of relative anthroposcopic ratings on equal-appearing intervals served as the guide for development of illustrated scales for "body build"—the fatness dimension—and for posture. Distributions, represented by hundreds of "somatographs", as well as the total range of body types represented in the American population served as guides in evolution of the scales. Information derived from use of the method and instruments with classes provided feedback needed to refine methods and instruments and to develop hypotheses and even theories. "Graphic somatometry" was devised as the name to specifically identify this method.

Applications in varied research implemented the general purposes. Interdisciplinary projects supported the broad objectives. Research findings have stimulated continuous research projects and have been focused on cognitive processes, including: (1) the nature of body structures, garment selection, garment engineering and design with their influence on self-concept; (2) the role of body structure in total health—physical, mental and spiritual—throughout the life stages; and (3) the role of body structure in person perception and social interaction.

At this ACPTC meeting emphasis was placed on instruments and methods with applications. Examples of research hypotheses and statistically significant results were presented. All areas in clothing can benefit from the insights derived from this factual, graphic method.

These projects have opened new perspectives on the clothing that is used to cover the body and give psychological support to the person; on the body itself and its condition as a habitat for the person and life processes. This approach offers the potential for stimulating continuing interdisciplinary research in many areas while facilitating and deepening understanding of the meaning of clothing in the lives of people.
Problems of elderly Americans touch almost everyone. By the year 2000, if present trends continue, one out of every eight persons in the U.S. will be 65 years of age or older. As people enter middle age, their body proportions often change. These changes with time become more accentuated, until the older person can no longer wear standard-size, ready-to-wear clothing. However, even with the growing number of women age 65 plus, dress designers, clothing manufacturers, and fashion clothing retailers tend to ignore the fitting problems of this group of women.

The objectives of the study were: 1) to obtain selected physical measurements of 100 ambulatory women age 65 years or older and 2) to compare findings of 1986 study with 1941 study (research basis for PS 42-70). The experimental design included obtaining girth, vertical, width, and length body measurements of 100 volunteer, ambulatory women 65 years and older residing in either residential housing or life care communities. Participants were measured standing with the exception of the sitting spread girth measurement, and were attired in a long T-shirt, undergarments, and shoes.

Body measurements were obtained with the Body Graph Measuring Device, adjusted on the body without ease. The BG defines key horizontal and vertical coordinates to produce individualized patterns. Descriptive statistics, ratios, Pearson's r, partial correlations and a t-test were utilized to analyze the data.

One hundred twelve women age 65 and older were measured resulting in usable data for 104 participants. The mean height and weight were 63.6 inches and 133.0 pounds, while the mean age range was 75-79. In rank descending order, the total weight, girth base of armscye, bustline, abdominal extension, waistline, hipline, and armscye girth were highly correlated to the other 26 measurements. In correlations with height, weight, or height-weight held constant, weight was the influencing factor. Due to the variability of the findings, a ratio analysis of the 26 measurements to the total bustline was made and results compared to the 1941 study. Using t-tests, significant differences revealed 17 ratios larger in the 1941 study and four larger in the current study.

Information will serve the garment and pattern industry in developing a system of garment sizes satisfactory to women 65 and older, as well as, to suggest implications for the design and delivery of service for the woman 65 and older in securing a better fit in clothing. Findings also will provide information for the development of computerized basic apparel patterns. The method of recording individual body measurements can be used for custom designing and, with the increased use of laser beam cutting, for manufacturing in the future. This project was funded by the AARP Andrus Foundation.

---

QUALITY CONTROL IN OVERSEAS APPAREL MANUFACTURING

Nancy J. Rabolt and Katrina Bothwell, San Francisco State University, CA 94123

Mary Barry, Auburn University, Auburn, AL 36849

Today the U.S. apparel industry has become international with many domestic companies sourcing overseas. Much of this global sourcing has resulted from increased competition among retailers in addition to domestic apparel firms. As more retailers become manufacturers with private label programs they must be concerned with product quality within the manufacturing process. Apparel quality is measured in a variety of ways. Researchers have tested for end-use properties such as durability, colorfastness, comfort and appearance. The AAMA has set forth guidelines for an apparel quality control program including raw materials, product evaluation, manufacturing process and finished garment evaluation. Problems unique to quality control in overseas manufacturing, however, have not been addressed in any of these approaches. Therefore, the purpose of this study was to identify specific quality control problems associated with overseas apparel manufacturing.

Apparel exporters and fabricators in seven Asian countries were visited by quality control personnel of a West Coast apparel firm in 1985 to determine quality control problems and causes. Eight sites in Hong Kong, one site in Macau, nine sites in Taiwan, six sites in India, one site in Nepal, three sites in China, and one site in Korea were visited. Problems were itemized for each site. A content analysis was performed on the qualitative data with four major problem areas identified including materials, fit, construction, and finishing.

The analysis resulted in the identification of five plant-site causes of problems. In order of the most problems they included: not following specifications/patterns/sample, mass production method, management, facilities and equipment, and lack of skills. In addition, cultural behaviors and beliefs, resource availability, and governmental structures and restrictions were found to cause unique problems. Communication was an overall important related problem including semantics, misinterpreting working sketches of fashion-forward styles quite unknown to the workers, and unreliable telecommunications systems. In addition, the overall structure of the apparel industry of India with many small, widespread fabricators lead to general communication problems.

There is a need for manufacturers and contractors to educate their workers to acceptable levels of quality. This education becomes vital when domestic firms deal with overseas production facilities which are influenced by a different set of norms. In addition, it is important that American personnel consider the cultural, social, political and technological norms under which overseas contractors operate.

Firms which are better able to predict product quality as a result of choosing optimum production sites will remain competitive in the marketplace. This analysis may benefit retailers and manufacturers producing apparel overseas as they can analyze production sites in relation to quality control problems and needs assessment.
The secondhand clothing market (SCM) has expanded by offering desirable, often low-priced apparel and ways to earn money by supplying garments. Consignment stores provide for clothing acquisition by purchase and for disposition by consigning, contracting with a store to share revenue from a garment's sale.

This research, on consumer acquisition and disposition (patronization) in apparel consignment stores, determined (1) patrons' demographic characteristics and buying and consigning behavior, and (2) demographic and patronization differences between purchasers, consignors, and purchasers/consignors. The underlying framework was a secondhand clothing process model of inter-household garment cycling by successive acquisitions and dispositions. Consignment is planned disposition with intended purchase by others. Household and garment characteristics are thought to affect consignment selling and buying. A questionnaire, that mainly elicited forced-choice answers, was developed and administered to 170 patrons in three consignment stores in Roanoke, VA, June 7-July 3, 1985. The convenience sample included 81 purchasers, 50 consignors, and 39 purchasers/consignors. Data were analyzed through frequency tabulations and Chi-square tests (.05 significance level).

Most respondents were female (99%); 18-49 years old (66%); high school graduates only (35%) or college graduates (27%); employed full- or part-time (67%); and living in households with other adults (72%; 43% with children, 29% without) and which financially supported no children (48%) or one or two (42%). Fifty-four percent had household incomes > $30,000, compared with 11% in the Roanoke population. Subgroups had few significant differences: Consignors more often supported no children; purchasers more often supported one or two; and purchasers/consignors more often supported three to five. Between purchasers and consignors, purchasers were more often single parents; and consignors more often had college degrees while purchasers more often had only completed high school. Thus, it was concluded that the stores catered to upper-income and similar buying and selling clientele, though consignors perhaps inadequately supplied some purchasers' needs, e.g., children's clothing. Yet, shirts and blouses were the items most bought or consigned, an indication of supply-demand alignment. Also, saving money and obtaining more clothing for money spent were the main motives for buying at consignment. The stores appeared responsive since 80% of purchasers and purchasers/consignors noted satisfaction with prices and quality.

A second conclusion was that purchasing and consigning frequencies differed significantly. While most respondents bought or consigned in consignment stores three or four times a year, many purchased once or twice a month or once every two months. Retrieving part of initial clothing investments and discarding unwanted items were the main motives for consigning. The latter may foster seasonal consigning. Proprietors might stress the first motive to coax more regular supply from consignors, whom they know well, based on responses about the consignor-proprietor relationship.

The third major conclusion was that the stores attracted habitual secondhand-clothing purchasers. About 67% of purchasers and 44% of purchasers/consignors also bought from other types of SCM sellers. Opportunities to purchase and consign may encourage consignment-store patronization at the expense of other SCM sellers.
THE EFFECT OF PRODUCT-SPECIFIC FACTORS AND EXPERIENCE ON RETAIL BUYING DECISIONS: AN EXTENSION

JANET WAGNER - UNIVERSITY OF MARYLAND

RICHARD ETTHENSON - UNIVERSITY OF MARYLAND

The Sheth (1973) model suggests that in buying decisions the use of product-specific factors is likely to vary according to the experience of the decision-maker. Ettenson and Wagner (1986) demonstrated that in decisions involving the saleability of basic misses' blouses, retail buyers focus on selling history and markup, while their less-experienced counterparts -- assistant buyers and students -- focus on selling history and advertising allowance.

The Sheth (1973) model also suggests that in retail buying decisions the use of product-specific factors may vary across merchandise categories. Since the generalizability of the Ettenson and Wagner (1986) results is unknown, the purpose of this study was to extend that study to men's dress shirts. The results should be of interest to retail stores, in developing executive training programs, and to universities, in developing fashion merchandising curricula.

The experimental design was a 3 x 2^8 mixed 1/16 fractional factorial design with full replication. The three groups of participants included 18 department store buyers, 20 assistant buyers and 20 fashion merchandising students. The eight product-specific factors included both quantitative (markup, selling history, advertising allowance) and qualitative (fiber content, color, cut, brand, country of origin) factors. Each factor was varied at two levels. Each of 32 buying cases (16 with a replication) described a men's dress shirt.

The results of individual-subject ANOVA's showed that selling history was the factor used most frequently at all three experience levels. Next to selling history, markup was used most frequently by the buyers, and advertising allowance by the assistant buyers and students. Hays' omega squared (w^2) demonstrated that selling history and markup dominated the buyers' decisions, while selling history and advertising allowance dominated the decisions of the assistant buyers and students. The qualitative factors had little effect on decision-making at any of the experience levels.

A 3 (experience) x 8 (product factors) ANOVA performed on the individual-subject w^2 values revealed a significant effect for factors (F(7,440)=38.26), no effect for experience (F(14,440)=1), and a significant experience x factor interaction (F(14,440)=4.42). The results of t-tests demonstrated that the product-specific factors were used in a manner similar to that observed by Ettenson and Wagner (1986). The buyers were more likely to use markup, and less likely to use advertising allowance than were either the assistant buyers or the students. The assistant buyers were more likely than the students to use markup.

In conclusion, the use of product-specific factors seems to vary by experience in buying decisions involving men's dress shirts. This implies that the findings of Ettenson and Wagner (1986) can be generalized to other merchandise categories.


High School Students' Perceptions of Selected Educational Options and Careers

Margaret Rucker, Janet Dessayer, and Kelly Rennick

University of California, Davis

For students planning to continue their education after completing high school, critical decisions include establishing career objectives and selecting courses of study that will assist in achieving those objectives. Recent research (cf. Mallory & Sommer, 1986) suggests that one factor accounting for failure to select the best educational option may be lack of awareness of available academic alternatives. Furthermore, students may be unfamiliar with career opportunities associated with various college majors.

In the present study, a questionnaire was used to assess high school students' perceptions of selected options within the textiles and clothing major and their awareness of related career opportunities. In addition, it was designed to determine the frequency with which various sources provided information about the major. Items about ten other majors were included for purposes of comparison. Copies of the questionnaire were distributed to 371 students enrolled in five high schools chosen to represent urban, suburban, and rural areas.

A comparison of the textiles and clothing major with the other majors showed that, overall, this major fell in approximately the middle of the distribution in terms of level of interest. With respect to interest in different textiles and clothing options, the data indicated that the business oriented options generated higher interest scores than those reflecting a physical science focus.

In answer to a question about having received information about different majors, about one-fifth of the students reported they had received some information about one of the business oriented options whereas less than one-tenth said the same about the physical science oriented options. Sources most often listed as providing information about textiles and clothing were high school teachers and colleges; counselors, career centers, and career days were relatively low on the list.

When asked to name a typical job that each major prepared one for, only one-third listed something for the business options and about one-fifth reported a possible job related to the physical science options. Fashion merchandising was most likely to be associated with a specific job and polymer and fiber science least likely. This lack of awareness of career options was among the most extreme of the majors selected for study.

These findings suggest that faculty in textiles and clothing should consider more active marketing of their offerings. The data on sources of information support reports by previous investigators such as Noeth, Engen, & Noeth (1984) that faculty cannot depend on high school counselors to do the job for them. Other options such as seeking high visibility in general college recruiting materials and serving as a guest speaker in high school classes need to be pursued.


The place of retailing programs is controversial among educators. A review of literature revealed that both business and home economics faculty question whether retailing should be a part of their programs. While retailers are the primary employers of textiles and clothing graduates, little research is available on which to base curriculum decisions. The purpose of this study was: 1) to describe the environment for and develop an ethnographic description of careers in retailing based on a selected sample of retail executives, 2) examine the relationship between educational background and retailing careers.

University graduates employed in retailing identified 161 midwest based retail executives as potential informants; 77 responded to a preliminary questionnaire and 42 became informants. Twelve informants were graduates of home economics programs (11 from textiles and clothing programs), 7 informants had degrees in the business area, 4 had MBAs, 4 were graduates of two-year programs, 4 had bachelors degrees from a variety of programs, and 8 had no college degrees, and 3 had other advanced work.

Ethnography is a qualitative research methodology which uses analytic induction where the research is uncommitted to a particular theoretical model. In this study, the aims of revelation and disclosure take precedence over explanation and prediction. The ethnography of retail careers included quotations of informants and descriptions and inferences that were triangulated from the preliminary questionnaires, ethnographic interviews, documents provided by employers, and fieldnotes. A taxonomy of Retail Careers was developed through continuous comparison of career experiences including the divisions of responsibility, job titles, career levels, and the relationship of career levels between retail divisions.

There was an apparent correlation between education and income among the informants though most informants asserted that educational background was not a factor in career development. At the same time, the informants without degrees or with two-year degrees tended to be in low paying positions in the stores divisions while informants with MBAs were in upper management and had moved rapidly through the ranks. Some retailers recruited only from four-year business programs and grade point average was a selection criterion. Informants said internship should be a part of academic programs although the recruiters gave no preference to graduates of programs that included internships. Informants who had graduated from programs other than home economics tended to be satisfied with their educational background while home economics graduates said if they were going to repeat their education they would take business. Areas in the educational background that were frequently mentioned as needing additional emphasis included oral and written communications, personnel management, and business finance.

Attitudes toward education are deeply ingrained in the retail environment. Contrary to what informants said, educational background was related to career development. Other critical factors for career development included mentoring, advancement potential, growth experiences and visibility, and self-marketing.
EMPLOYMENT STATUS AND JOB SATISFACTION AMONG SELECTED
GRADUATES OF A UNIVERSITY PROGRAM IN FASHION MERCHANDISING

Lona J. Robertson - Indiana State University
Carol E. Avery - Florida State University

The high turnover rate among employees is a continuing problem for retailers who tend to blame colleges and universities for presenting a glamorized picture of retailing which leads to dissatisfaction with the realities of low starting salaries, long hours, and demanding work. The attitude of a worker toward his/her job appears to be related not only to employment but also to satisfaction toward life in general. Content theories of job satisfaction have attempted to specify the needs that must be meant for a person to be satisfied with his/her job, while process theories describe some of the variables that are thought to be related to job satisfaction.

The purpose of this ex post facto research was to provide information to educators and retailers that might be used to increase job satisfaction and reduce turnover rates. Three research questions were investigated. The first dealt with the relationship between job satisfaction and the variables of age, tenure, marital status, salary, and size of retail organization which are thought to affect satisfaction; the second with the possibility of using these variables to predict job satisfaction; and the third with the differences in job satisfaction for graduates in retail and non-retail positions.

Questionnaires including the Job Descriptive Index (Smith, Kendall, & Hulin, 1975) and demographic questions designed by the researcher were sent to all December, 1973 to December, 1978 fashion merchandising graduates of a large university for whom the alumni office had addresses (325). Only 91 of the 118 respondents returning questionnaires met the criteria of full-time employment and were included in the analyses. Correlations, multiple regression analysis, and pooled t-tests were used to examine the research questions.

The mean JDI score indicated that most graduates were moderately satisfied with their present positions. Both retail and non-retail employees were most satisfied with the type of work they did and least satisfied with their salaries. Although two variables, age and salary, were significantly correlated with job satisfaction for the retail group, predicting job satisfaction on the basis of these variables was little better than chance. The retail group differed significantly from the non-retail group in respect to age (younger) and tenure (longer) but did not differ in terms of job satisfaction.

Helping students establish realistic goals and expectations may improve job satisfaction and reduce employee turnover. Duplicating the study with larger samples from different schools in different areas of the country could verify the relationship of the variables to job satisfaction. However, longitudinal research may be needed to determine at what point graduates become dissatisfied with retailing and what variables other than the ones investigated in this study influence them to seek different employment opportunities.

References
The Price of Women's Blazers Related to Brand, Country of Origin, Store Type and Store Location

Pamela S. Norum - University of Missouri-Columbia

Lee Ann Clark* - University of Missouri-Columbia

The price of goods has long been a major consumer concern. In informationally imperfect markets, price is frequently used by consumers as a signal for quality (Maynes, 1976). Market price variations can be attributed to numerous factors including brand name, country of origin, store type and store location (Cline, 1979; Dardis, Spivak and Shih, 1985). Research on the relationships between these variables and the price of apparel items has been relatively limited.

The purpose of this research was to explore price variations for a single apparel item due to selected store and product attributes. These attributes include brand name, country of origin, store type, and store location. Women's blazers were chosen as the unit of analysis for this study.

The sample consisted of observations made on the entire stock of women's blazers found in fourteen stores in a medium sized midwestern city. The total sample included 122 blazers. The brand variable was divided into two categories: national and store brand. Country of origin was classified as either domestic or imported. Observations were made in four types of stores: discount store, mass merchandisers, department store and specialty store. Store locations sampled included a regional mall, secondary malls, and the central business district.

Various statistical procedures were used to analyze the data. T-tests indicated no significant difference in the mean prices of blazers of national versus store brands, or the mean prices of imported versus domestic blazers. Previous research has suggested that imported apparel is less expensive than domestically produced goods (Cline, 1979; Dardis et al., 1985). Analysis of variance indicated a statistically significant relationship between store type and price, and between store location and price.

Additional research on other specific merchandise categories would enhance the ability to generalize from both this and other cited studies, as well as illuminate the extent to which previously reported price-sourcing relationships may be changing in the marketplace. Furthermore, the introduction of quality as an additional variable related to price would contribute to the findings of the present study.

Canadian Consumer Attitudes Toward the Quality of Canadian, U.S. and Foreign-Made Apparel and Footwear

Marjorie Wall - University of Guelph

Louise A. Heslop - Carleton University

In both Canada and the United States, an influx of imported clothing and footwear has caused serious concern. While retailers and consumers want a broad selection at competitive prices, there is a definite need to sustain domestic production and employment. However, little effort had been made to determine Canadian consumer attitudes toward Canadian-made and imported goods. Many marketing studies of American and European consumer attitudes toward products in relation to country of manufacture have been conducted (e.g. Bilkey and Nes, 1982; Wall and Heslop, 1986). As the consideration of free trade between Canada and the United States begins, comparisons of attitudes toward U.S. and Canadian-made apparel is timely. The study was focused on consumer perceptions of quality. Quality was defined broadly to include performance, durability, aesthetic and price-value attributes and has become a key factor in determining consumer preferences in recent years.

The purpose of this study was to determine consumers' quality images of Canada, the United States and the various countries from which men's, women's and children's clothing, and men's and women's footwear are imported. A mail survey of 1500 members of a commercially operated consumer panel yielded a usable sample of 650 French and English speaking Canadian men and women (see Wall and Heslop, 1986 for details of methodology). The importance of criteria used to determine clothing and footwear quality, the belief that the various countries under study offered clothing and footwear with these qualities and a general rating of overall quality of each product for each country, allowed the Fishbein-Rosenberg, multi-attribute model of attitude formation to be tested. Frequencies, Kendall correlations and chi square analysis of contingency tables were used to obtain a profile of consumers in relation to their attitudes and behaviors.

Highlights of the results included that consumers held very positive images of Canadian and U.S.-made clothing and footwear. However, certain specific areas - e.g. Italian-made women's shoes and French-made women's clothing styling were perceived as superior. Consumers with higher education, income and employment status were more likely to be critical of Canadian quality than those who held lower status on these variables. Canadian and U.S. products were viewed as virtually identical while products from developed European sources were seen as expensive, although well styled. Clothing and footwear from developing and centrally planned countries were considered to be inferior in quality. However, growth in imports from such countries indicate that consumers' perceptions are lagging behind behavior and that country of origin is often ignored when making selections. Implications were drawn that emphasized the need for consumer research and better marketing strategies if Canadian-made products are to be competitive and hold market share.

References


CONSUMER'S PERCEPTION OF QUALITY AND PRICE GIVEN THE INFORMATION

CUES OF COUNTRY OF ORIGIN, STORE IMAGE AND THE BUY AMERICAN CAMPAIGN

Bonnie Davis, Sue Ann Kern, Brenda Sternquist

Michigan State University

Although much research has been conducted on buyers of industrial and non-textile/apparel products, little information exists about average consumer's perceptions of apparel quality and price or about their attitudes toward apparel based on source of origin. The "Buy American" campaign attempts to influence consumer's predisposition to purchase domestically produced apparel. However, since this is a recent endeavor, little research concerning impacts of the campaign on consumers has been conducted. This research is needed because the import restriction controversy has strong impact on national and world economies.

Consumers use information cues to reduce perceived risk in making decisions. This study investigated consumers' use of specific information cues (i.e., country of origin, store prestige, and "Buy American" campaign materials) when making decisions concerning quality, estimating price and "selecting" apparel items to purchase.

Research objectives were to determine if consumer perceptions of garment quality and price differed as a result of information cue manipulation, and if presence of "Buy American" campaign materials influenced garments selection.

Four identical women's sweaters and men's shirts were used to control actual quality. Information cues were manipulated by replacing original garment labels with labels containing desired information. One label identified a retailer (hence, store prestige) and another indicated product origin. The third information cue was manipulated by presence or absence of "Buy American" campaign information during testing.

The sample, consisting of 395 randomly selected women, rated each garment (either a shirt or a sweater) for quality and estimated a retail price. Respondents also "selected" the shirt or sweater they preferred to purchase.

A three factor analysis of variance was used to determine influence of information cues. Store prestige proved to be the strongest risk reducing information cue resulting in significant quality differences for shirts (p<.05) and sweaters (p<.001), as well as estimated price differences (both, p<.001). Neither the country of origin cue nor the "Buy American" information cue significantly affected quality perceptions or price estimates. Interactions were not statistically significant.

Chi-square tests revealed that the presence of "Buy American" campaign materials did not significantly influence consumers to select domestic apparel. The presence of "Buy American" campaign materials significantly influenced consumers to select the "high prestige, imported" sweater (p<.05). Greater personal involvement in sweater selection may have resulted in perceptions of higher social-psychological risk. Subjects may have selected this sweater as a guarantee of satisfaction and good value.
Importance of Country-of-Origin at Point of Purchase in Women's Decisions to Purchase Sweaters

Kay Gipson - Oregon State University

Sally K Francis - Oregon State University

Expressed consumer attitudes and actual purchase behavior with regard to imported apparel seem inconsistent. Although respondents in previous studies have indicated preference for U.S. made apparel, sales of imported apparel have continued to increase in the U.S. market. The present study examined the influence of country-of-origin (C-O-O) on apparel purchase behavior. Specifically, the purpose of the study was to determine the importance of C-O-O in the apparel purchase decision.

The sample consisted of 181 adult female sweater purchasers who were surveyed directly following the purchase of a sweater for personal use in the Portland, Oregon, metropolitan area—138 were department store shoppers and 43 were discount store shoppers. C-O-O and price information were recorded from the garments purchased while respondents completed questionnaires. Advantages offered by the present study were: apparel purchasers were questioned at the point of sale regarding a garment actually purchased, awareness of C-O-O could be verified, and the importance of C-O-O was measured relative to the importance of other purchase criteria that also influence the apparel purchase decision.

The following hypotheses were tested and the results were: H:\_ Importance of C-O-O differs from the importance of other selected purchase criteria in the decision to purchase a garment (ACCEPTED). H:\_ Consumers who purchase U.S. made apparel are more frequently aware if garments are U.S. made or imported than consumers who purchase imported apparel (ACCEPTED). H:\_ C-O-O is more important to consumers who purchase U.S. made apparel than to consumers who purchase imported apparel (ACCEPTED). H:\_ C-O-O is more important to apparel purchasers who are aware if garments are U.S. made or imported than to purchasers who are not aware (ACCEPTED). H:\_ Importance of C-O-O differs according to the age, education, income, and occupation of apparel purchasers (PARTIALLY ACCEPTED). H:\_ Importance of C-O-O is positively related to the price paid for a garment (REJECTED).

Data were analyzed using t-tests, Pearson's correlation coefficient, and chi-squared analysis. A seven-point semantic differential scale was used to measure the importance of C-O-O and 14 other purchase criteria in the decision to purchase a sweater. C-O-O received the lowest mean importance score (2.40). A paired t-test showed this mean to be significantly lower than the means of all the other purchase criteria except designer label/brand name. Fit, color, and coordinates with wardrobe received the highest mean importance scores, each above 6.25. Only 17 percent of the respondents were aware of garment origin at the time of purchase. Although C-O-O was found to be most important to purchasers of U.S. made sweaters, purchasers aware of garment origin, purchasers over 50 years of age, and homemakers, mean importance scores for C-O-O remained low even for these groups. Importance ratings for C-O-O were not found to differ significantly on the basis of education, income, price paid, or store type.

In conclusion, C-O-O was not found to be an important criterion compared to other purchase criteria that influence the decision to buy a sweater. However, a limited number of purchasers did notice garment origin and considered U.S. origin to be an important factor in the apparel purchase decision.
REFLECTIONS ON THE COUNTRY OF ORIGIN QUESTION

Kitty G. Dickerson
University of Missouri-Columbia

Research presented in this session focused on various issues related to the influence of country of origin in product evaluations. Country of origin refers to the labeling of a product as "Made in X Country" and is considered to be an extrinsic information cue that has the potential of influencing consumer behavior.

Previous research has focused on attitudes toward countries and products from various countries. Others have considered quality assessments and willingness or intent to buy. Both attitude surveys and experimental designs have been conducted. In some studies, products have been present; in most, consumers have responded to abstract stimuli. Most previous research has found country of origin to influence product evaluations, i.e., country of origin has appeared to be a significant information cue to consumers.

Although the studies reported in this session investigated the country of origin question in a variety of ways, all included a consideration of country of origin as it influences consumer choice, or price, or both. The studies focused on choice and price as follows:

Wall & Heslop
Davis, Kern, & Sternquist
Clark & Norum
Gipson & Francis

My interpretation of the importance of country of origin as an influence on choice or price, from the findings of these studies is as follows:

Wall & Heslop -- Maybe
Davis, Kern, & Sternquist -- No
Clark & Norum -- No
Gipson & Francis -- No

Findings from research presented in this session are, for the most part, in contrast to those from previous studies. In short, findings reported here indicated little or no influence of country of origin on either choice or price.

When the findings of this session's presenters are compared to a few others that have considered country of origin for apparel products, a few patterns appear to emerge. Consumer studies with products present have shown little or no influence of country of origin on product evaluations. Those consumer studies that focused on attitudes, recall, or other abstract stimuli have tended to show that country of origin influences consumer perceptions. In contrast, product studies have shown some influence of country of origin, but the results have often favored imported products.

The clothing and textiles field is on the forefront of research on country of origin concerns perhaps because this professional area is so closely related to the U.S. industry sector taking the lead in promoting domestic products. As the American textile and apparel industry pursues a multi-million dollar "Crafted with Pride in the U.S.A." campaign to promote products on the basis of country of origin, clothing and textiles researchers' findings contribute importantly to industry concerns as well as to the scholarly literature.
Ethnohistory: A Method for Studying
The Cultural Aspects of Textiles and Clothing

Rachel K. Pannabecker
McPherson College, McPherson, Kansas

The author's purpose was to investigate the development of the ethnohistorical method and its suitability to the study of the cultural aspects of textiles and clothing. Ethnohistory provides an alternative to limitations inherent in the fieldwork experience (required by the ethnographic method) which have been identified as barriers to the study of the cultural aspects of textiles and clothing (Daly, 1984; Littrell, 1980).

"Ethnohistory" is a neologism of the twentieth century created to identify interdisciplinary research relating to "the past of cultures and societies... emphasizing the use of documentary and field materials and historiographic and anthropological approaches" (Ethnohistory, 1985). A retrospective search was conducted of documents contributing to the methodological development of ethnohistory as well as research publications in which the ethnohistorical method was utilized. From these resources, central issues were identified and an analysis was undertaken of the impact of these issues upon the viability of ethnohistory as an alternative method for textiles and clothing researchers.

Two issues were identified. A primary debate concerns the conceptual development of ethnohistory in relation to its two root disciplines. The author found that anthropology and history are perceived by some scholars as being in opposition in subject, method, and epistemology. The debate regarding the oppositional nature of anthropology and history is further accentuated by ongoing controversies within the two disciplines regarding the humanistic or scientific nature of each. While these questions appear in documents on ethnohistory, disciplinary polemics can be avoided by textiles and clothing researchers who will not fear identity loss or experience disciplinary jealousy through the use of the ethnohistorical method.

A second issue in the development of ethnohistory concerns academic preparation. The multiplicity of source materials (historical documents, ethnographic studies, artifacts) is widely affirmed as necessary to provide balance and to avoid the acceptance of biased or erroneous data. Personal experience in cross-cultural fieldwork is considered invaluable to the ethnohistorian in conceptualizing and conducting ethnohistorical research, but is not considered imperative. However, the decision to undertake ethnohistorical study demands appropriate academic preparation in both ethnographic and historiographic methods and materials, and the textiles and clothing scholar must be prepared to obtain these competencies. The author found ethnohistory to be a viable method for pursuing research on the cultural aspects of textiles and clothing. Resources for use in ethnohistorical research are noted and topics for ethnohistorical study are proposed.

References


Dress As a Symbolic Reflection of Social Reality:
A Cross-Cultural Perspective

James W. Hamilton - University of Missouri-Columbia
Jean A. Hamilton - University of Missouri-Columbia

One of the most intimate manifestations of self-in-society is the presentation of the body through dress. Douglas (1974) asserts that the human body is always treated as an image of society and notes that "there can be no natural way of considering the body that does not involve at the same time a social dimension" (p. 98). Hence, dress becomes a material symbol, which, when combined with ritual, has the capacity to "convert the obligatory into the desirable" (Turner, 1964, p. 32), that is, to make that which is implicitly or covertly required by one's cultural system that which is preferred or wanted. Finally, the importance of dress in the dual-sided process of social differentiation and integration, a process represented and exhibited through "things," is suggested in the work of Csikszentmihalyi and Rochberg-Halton (1981).

Traditional anthropological participant-observation can provide insights into the relationship of dress to other human behaviors that more expedient methodologies may ignore. This analysis focuses on the Karen, a tribal ethnic group in northwest Thailand, and analyzes data collected over a two-year period in this village of 198 people, 115 of whom were female.

For the Karen, women's dress is a metaphor of the social world of family and community and may take only two narrowly circumscribed forms: unmarried female dress or married female dress. Unmarried females wear the same one-piece white cotton sack dress with minimal decoration. If a female never marries, she lives out her life with this dress as representative of the childlike, non-adult status with which she is always treated. By contrast, the heavily decorative dress of the married woman consists of a wrapped skirt and blouse.

Karen women's dress serves as a kind of collective representation, creating group solidarity; at the same time, it is a reflection of internal social differentiation. It reflects the extreme importance and identification of role and status of women in particular in this matrilineal society and is, therefore, a nearly perfect mirror of this importance, a way of presenting the body as a social entity with cultural meaning.

Ritual, symbol, and material artifact all interact to provide a metaphor of Karen family life, community relations, and cultural continuity. The interaction of the ritual (social event), the artifact (dress) and symbol (abstract idea) all merge at the occasion of the ceremonial event of a Karen marriage. Thus, the social-symbolic importance of dress for the Karen suggests that as part of human material and behavioral culture in a panhuman context, dress may be an overt symbolic, ritualized way of expressing and reinforcing subtle values, relationships and meanings in human culture.


A PARTIALLY MINERALIZED FABRIC FROM ETOWAH AS INDICATOR OF CULTURAL PROCESSES

Lucy Roy Sibley - The Ohio State University

Virginia S. Wimberly - The Ohio State University and Kathryn A. Jakes - University of GA

Characterization of a partially mineralized and intricately patterned structure from Burial 57, Etowah Mound C, provides the basis for its examination as an indicator of selected social and economic cultural processes. Recovered in 1957, the fabric survived in all likelihood because of its close association with large copper plates placed in the grave. Etowah is located in northwest Georgia on the Etowah River and constitutes one of the major centers of the prehistoric Mississippian culture of North America. The fabric, Inventory Number 840 (here-with EMC #840), acts as an indicator of resource control and related technology to achieve differentiation.

The purpose of the research was to explore the use of an archaeological fabric as an indicator of selected social and economic processes. Objectives included: (1) characterization of fabric by a variety of analytical procedures, (2) analysis of burial context, (3) review of compiled data for indication of social and economic cultural processes involved. Cultural process, defined herein, is the set of human actions relating to the function of a product within a cultural system. Trade, warfare, and cloth manufacture are examples of cultural processes.

Three postulates controlled the study: (1) A fabric is a product of interrelated decisions (Wallace, 1975); (2) The interrelated decisions/choices reflect function and initiate three sets of behavior. (Sibley, Jakes, Larson, 1985); (3) Data obtained from a variety of analytical procedures provide evidence of cultural decisions and these represent cultural processes.

Data collection involved compilation and synthesis of evidence obtained from analytical procedures (e.g. SEM, XRD, stable isotopic ratio determinations), replication studies and visual technical analyses, and burial records. The results were used to identify decisions necessary to accomplish fabrication. The decisions were examined for relation to cultural processes.

Analysis of EMC #840 confirms its use as an indicator of selected cultural processes. That the fabric's bast fibers are members of the Urticaceae (nettle) family (Jakes, 1986), which is widely available in eastern North America, precludes it as a trade item. It does, however, indicate control of raw materials necessary for obtaining fibers for production of the fabric. Burial 57 has been recognized as high status burial as evidenced by the burial offerings of copper ceils, conch shell bowls, copper plates, and ear spools. The fabric's placement in this burial as well as its complexity further confirms its use as an indicator of differentiation. Only a few fabrics from Mound C have the same structural complexity. The intricate patterning of EMC #840, involving four different areas of design, indicates a burgeoning craft specialization.


Fashion authorities have recognized that social change and fashion change are related. Their basic viewpoint is that fashion, a social behavior, is related to the setting in which it occurs. On the other hand, Young (1937), a chief proponent of the independence of fashion, maintained that changes in fashion occur inexorably and are not determined by external events. Young's thesis was that women's fashions moved through a series of recurring cycles lasting about 33 years each and that during each cycle the annual changes were variations or modifications from one central fashion type. Only three visible fashion silhouettes (tubular, bell-shaped and backfullness) have existed and have succeeded one another in an unchanging sequence from 1790-1937.

This research study was designed to examine the yearly changes in women's fashions from 1938-1985 in a systematic way and to analyze changes which did occur. The objectives were to determine (1) if fashion moves through predictable cycles as indicated by Young and (2) if external events influenced fashion change. Young's demarcation of periods of popular fashion silhouettes was the basis for defining fashion periods in the current study.

In order to prove or disprove Young's thesis of recurring cycles of fashion, a pictorial review of popular fashions from 1938-1985 was done. A sample was drawn from periodicals available near the university. Two criteria were used in selecting the illustrations. These included (1) full-length figures shown in a front or back view and (2) highest quality available in terms of amount of visible detail and size. Care was taken in selecting the most prominent fashion silhouettes for each year. Ten illustrations were selected for each year, totaling 470 in all. A data recording form was developed to assist in quantifying the data for analysis. Frequency counts and ratio testing of characteristics for each year were done to identify patterns of change. Frequency occurrences were also plotted on a timeline. Chi-square contingency tables were used to assess changes within the fashion periods.

The analysis of changes in women's fashions from 1938-1985 showed that the recurring cycles do exist. However, the cycles did not flow from one accepted silhouette into another as Young claimed. Transition years, in which more than one popular silhouette was seen, appeared between cycles. The years 1938-1946 seemed to be transition years, 1947-1971 showed the bell-shaped silhouette (the next silhouette according to Young) and 1972-1984 were again transition years. If current fashions are an indication of the next silhouette, it could be in fact another backfullness (back-interest) cycle. This would again agree with Young's thesis. Findings also indicated that changes in women's fashions were, to some extent, influenced by external events.

Brides in Mourning: An Inquiry Into the Use of Popular Literature to Explain Behavior at the Intersection of Two Social Rituals: 1880-1910

Louise Wehrle - University of Maryland
Jo B. Paoletti - University of Maryland

This paper has a two-fold purpose. First, to describe what was considered by authors of etiquette manuals and magazine advice columns proper wear for weddings when the bride or her guests were in a period of mourning; and to see if that prescribed wear was being adopted by society. Second, since studies in behavioral and material culture have sometimes derived their central theme from using popular literature of the period, to investigate whether these sources can be considered valid, either wholly or in part.

Both questions were explored using popular magazines; advice columns and etiquette manuals and newspapers. From the advice columns and etiquette manuals, a list was compiled of prescribed apparel suitable for wear at a wedding when either of the families participating was in mourning. The New York Times for the same period was read and wedding announcements having a description of dress were analyzed. Those which had no evidence of mourning were merely counted; those having bride or groom listed as daughter or son of "the late..." were listed as well as those where the bride was a widow. The death dates of the person referred to as "the late..." were looked up in the New York Times Obituary Index to see if the death had occurred recently enough to have the family still in mourning. Those which stated directly that the family of the bride or groom was in mourning were also listed, if there was a description of dress.

At the same time, a background search into the competencies of the etiquette writers was conducted, as well as an inquiry into the copyright law of the period. It was found that outright plagiarism was apparently the norm among writers of etiquette. The copyright law did not appear to cover matters which were considered in the public domain; both gossip and historical matters fell into this category. Only original works of fiction, art, music, and the like were copyrightable. Etiquette manuals fell into none of these copyright categories. Some sections of copyright law held that it could only be called plagiarism if a substantial portion of the work was copied, a ruling which may account for some similarity in advice given by different authors.

Prescribed behavior in the matter of dress worn at weddings during periods of mourning as found in the magazines and books was compared to examples of wedding wear described in wedding announcements found in reading the New York Times. Similarities and differences were noted. It was discovered that whereas some advice was followed, some was completely ignored; as for example, dicta from Mrs. John Sherwood and her many co-pilfers concerning the wearing of cardinal red to weddings as an alternate to the standard black mourning dress. It is therefore suggested that any study or thesis formulated solely on a study of popular advice literature of a period should not be extrapolated to cover actual behaviors of the general populace. Unless some corroborative evidence can be found, such as that in newspapers or personal journals of the period under study, there is no way of ascertaining whether or not the etiquette manuals and advice columns reflected the actual behavior of a society.
Knowledge of late-19th century construction techniques may help in dating women's outerwear and guiding restoration or reconstruction of garments. Existing research Arnold (1972) describes techniques in individual British garments; this research summarizes techniques in several U.S. garments and described in contemporary U.S. periodicals.

The objective was to identify, describe, and interpret construction techniques used in women's dresses and wraps between 1870 and 1899 by studying surviving garments and published instructions for assembling garments. Using specially prepared charts, the researcher wrote descriptions of construction techniques used in 67 garments from 6 collections in Iowa, Missouri, and Connecticut. She photographed all garments for documentation. She also recorded instructions on techniques given in fashion columns of selected issues of Godey's Lady's Book, Peterson's Magazine, Harper's Bazar (sic), and Delineator, for each year from 1870 through 1899.

Most techniques described in periodicals were used in the garments examined. Methods of fabric manipulation and garment support are summarized here. Hems and seams, especially those in bodices, were carefully finished to extend the life of garments. Ten seam finishes appeared in garments or periodicals. Difficulties in ironing garments influenced the choice of some techniques: gathers rather than pleats in washable dresses, slit peplums rather than pleated ones in wool or silk ensembles. In the 1880s and 1890s the outer bodice was often shaped by pleats, gathers, shirring, or bias cut, but the underlining continued to have darts or vertical seams. Shirring was often made by inserting cords in narrow folds and pulling them tight.

Tapes, ribbons, and strips of elastic were used to pull or gather skirt fullness into the desired shape or to control skirt pleats. Bustles made of cotton batting, haircloth, or wire fluctuated in fashionability between 1870 and 1899. In some styles, the texture, volume, and manipulation of fabric alone produced a bouffant effect. Boning and wires stiffened bodices, collars, revers, sleeve tops, and skirt hems. Various weights of interfacing or underlining also added crispness to parts of garments. True linings in skirts and bodices appeared mostly in the 1890s; earlier, underlinings predominated.

Some construction techniques help to date garments, for example: Garments with extensive shirring dated ca. 1879-1885. Bodice seams notched to lie flat date 1884 or later. Contoured hem facings appear in the late 1890s. Flat wire "steels" form bustles or other skirt support between ca. 1881 and 1895. Skirt hems are wired to hold their shape between 1895 and 1899. After about 1892 commercially-made stays of wires encased in fabric replace the old whalebones or flat metal stays.

Arnold (1972) reported far fewer techniques in her sample of garments from 1870 to 1899. For instance, there was no report of commercial stays, of wire to support skirt hems, or of using steels to make bustle. British methods and U.S. ones seem to differ in many respects. The specific techniques used to make U.S. costumes can help in their dating especially in cases of unusual styling or mixed features of different styles.

Apparel Maintenance in Missouri: 1850-1860 and 1900-1910

Joann Gregory Ritter - Columbia College, Columbia, Missouri

Betty Feather - University of Missouri - Columbia

An increased awareness in historical artifacts and their use in daily living has led researchers to examine garments in a broader context of how these items were designed, constructed, and maintained. This research compared and contrasted apparel maintenance practices of upper, middle, and lower socioeconomic classes of urban and rural Missouri women in two decades, the 1850's and the 1900's. Apparel maintenance processes included: laundering, drycleaning, wetcleaning, rejuvenation, and storage. Maintenance processes, products, and technologies were identified and defined as they affected: 1) attitudes of household members; 2) apparent standards of cleanliness; and 3) fashions worn in each decade.

This research is valuable because it 1) addresses nineteenth and early twentieth century apparel maintenance; 2) provides a historical perspective on a traditional household task; 3) is of interest to students of costume history, material culture, and social history.

Employing historiographical research methods, the researcher consulted diaries, letters, census records, periodicals, and domestic manuals from each decade as primary source materials. Secondary sources included histories of household equipment, furnishings, housework, and household and farm laborers.

By 1900, a heightened awareness of hygiene developed as civic and agricultural institutions educated urban and rural residents in the recommended treatment and disposal of sewage. The results of technology provided more homes with running water, thereby resulting in a greater usage of water for cleaning, bathing, and laundering. Advertising of manufactured laundry products encouraged the concept that cleanliness was desirable. These combined factors appeared to improve cleanliness standards.

Maintenance techniques remained basically unchanged by 1910, although advancements in technology and products were noted by domestic advisors for The Ladies Home Journal and The Farm Journal. Women continued to care for clothing in much the same manner as their predecessors.

Attitudes regarding apparel maintenance remained unchanged, although The Farm Journal and a diary revealed that rural men appeared to participate more readily in laundrywork which involved mechanized washing equipment. Fashions remained largely unaffected; however, certain wetcleaning processes necessitated dismantling the garment which frequently resulted in alterations or re-designing.

This research has implications for a broader study of apparel maintenance in the twentieth century and the historical relationship between technology and social attitudes. These findings will provide documentation for maintenance processes and technologies as depicted in living history sites.
The research traced the origins of American sportswear by looking at the two very different types of clothing used by middle class American women, that for sport, representing the public sphere of women's lives, and that for physical education, representing the private.

Costume historiography has tended to ignore the use of the Bloomer costume during the 40 years between its appearance and its reappearance in the form of a bicycling suit of the 1890s. Its use as bathing dress has been described, but its continuous use as well as gymnastic costume has generally been overlooked. The research identified it in the cloistered environment of women's higher education, and credited to it the introduction of functional garments for women, unhampered by constricting underwear, clothing that offered freedom of movement to American women of the latter half of the nineteenth century. The second half of the study dealt with women's participation in sport over the same period, and found the clothing used there was fashionable and constricting, quite contrary to the fashionable garments of physical education.

The two types of clothing, that for segregated women's education, undertaken completely away from men, and that for sport with its observed purpose of allowing acceptable interaction with the opposite sex, were very different. Men's presence or lack of it influenced clothing usage to a marked degree.

The research showed that sportswear, an American phenomenon, grew out of both clothing usages. Neither alone was strong enough to be regarded as sportswear's precursor: sport offered fashionability, physical education practicality. The 80 years between the earliest mass involvement of women in gymnastics and outdoor sports in the 1860s and the acceptance of abbreviated active wear in a public environment in the late 1930s saw the blending together of the two separate streams of dress into a unified style.

Research employed history and art history methodology. Primary sources came from the archives of two Eastern women's colleges significant in the development of various aspects of physical education for women in this country, and archival materials from other universities. Contemporary photographs provided visual proof of usage. Collections were visited, but these were of lesser importance because the garments themselves cannot show how the clothing was worn, how it fit the body, how other garments worn as accessories or under the collected pieces affected their fit. Other contemporary sources were women's magazines of the nineteenth and early twentieth centuries, primarily Godey's Ladies' Book and The Ladies' Home Journal. Secondary sources came from the fields of women's history and of physical education to give insight into women's lives in the United States during the period under study.
It is taken for granted by most people that women were the spinners and weavers of family clothing and household textiles. Written evidence, too, suggests that women did spinning and weaving for the family (Johnson, 1937), but questions about how much handweaving was done and who did it have been largely unanswered.

The objective was to discover women's roles in domestic textile production through an investigation in ownership of textile production equipment found in all the nineteenth century probate records and wills of three selected counties in central North Carolina. The objective can be best stated through the null hypothesis: There was no difference in male or female ownership of textile production equipment listed in probate records and wills of selected counties in North Carolina.

Content analysis of estate records and wills was done. Additional qualitative data which provided more information about women's role in textile production was also collected. The instrument used was a form in which the following information was listed: date (of death), name of the decedent, sex of decedent, type of record containing references about textile production, list of textile production equipment, fiber, or fabric. Uncommon information about textile production was photocopied for the qualitative section of the study.

Chi square statistics were done. It was found, for ownership of spinning wheels listed in sales accounts, the null hypothesis was accepted for five and rejected for five of the decades with women having more wheels than men. For loom ownership determined by sales accounts, the null hypothesis was accepted for seven decades and rejected for three. Men owned more looms in two decades and women owned more in one.

For estate inventories the null hypothesis was accepted in every decade for spinning wheels and for eight decades for looms. Men owned more looms in the two decades for which the null hypothesis was rejected. This data showed trends that indicated a significant role for women in spinning and was somewhat inconclusive about women's role in weaving. However, the data from the wills showed that in 86% or more cases, women were the recipients of textile production equipment including looms. The qualitative data also indicated that women had a significant role in weaving. This research helped uncover why some beliefs about the role of women in handweaving are commonly held.

EARLY FRANCHISES

Clarita Anderson and Steven M. Spivak

University of Maryland

After 1820, many hand weavers survived the onslaught of mechanization by weaving fancy goods that could not be produced by power looms. Ingrain carpets and "figured and fancy" coverlets were two such products. The loom plans and/or the loom attachments required to weave these goods were originally smuggled into the United States from England. However, United States Patents were obtained for improvements to these looms. Carpet and coverlet weavers were weaving these fancy textiles, but how they purchased or acquired the equipment has remained a mystery.

The purpose of this research was to establish how individual hand weavers in rural areas obtained this special equipment. It is the authors' belief that the looms used for carpet and coverlet weaving were not manufactured and distributed by commercial companies. Extant evidence indicates that this method of manufacturing and distribution of looms did not begin until the 1850's. It is our hypothesis that prior to then, the patentees sold the weavers exclusive rights to the patents by geographic area. This could be considered a very early form of franchising.

Contemporary city directories and lists of manufacturers were searched for possible sources of the weaving equipment. This yielded no manufacturers prior to 1850. A search was made through the patent records for the sources of equipment. Records of other looms and loom improvements which did not receive patents are scant or non-existent. The study focused on loom and loom improvements that were either advertised in contemporary newspapers or received United States patents. Such equipment was capable of weaving "figured and fancy" carpets and coverlets.

The U.S. Patent Office burned on December 15, 1836 and all records were lost. Following the fire, a reconstructed inventor's "Name-and-Date" file was established. Resubmitted patents were checked against The Journal of the Franklin Institute for the inventor's full name and location. County records were then searched for the possible sale of patent rights, while the newspapers were searched for advertisements.

Advertisements and bills of sale indicate that individual inventors sold the exclusive geographical rights to their invention to a specific weaver in a specific location. Advertisements also indicate that some inventor-weavers provided the loom equipment and materials in return for a royalty.

These early franchises provide evidence as to how 19th Century American artisans were able to purchase the necessary equipment to remain self employed as weavers until the Civil War.
OLDER ADULTS FIBER AND CLOTHING PREFERENCES
FOR COLD WEATHER

Lydia L. Roper, The University of Alabama
Samina A. Khan, Texas Tech University

Environmental temperatures have significant effects on the capacity of human beings to function effectively; particularly the elderly are susceptible to extreme temperature changes. Consequently, they suffer from hyperthermia and hypothermia more frequently than younger individuals. Albeit several unrelated research investigations have identified clothing problems of the elderly, scant attention has been paid to the clothing practices of this particular group to achieve thermal comfort and the perceived fiber preferences for indoor clothing in cold weather. Therefore, a research study was undertaken to determine the clothing and fiber preferences of older consumers specifically during the winter.

The specific objectives of the study were as follows: (1) determine the elderly consumers clothing practices in cold weather to maintain thermal comfort; (2) determine fiber preferences for particular clothing items; (3) investigate the attitude of elderly consumers towards natural and synthetic fibers; (4) analyze tactile selection of fabric samples suited to particular end use items; and (5) investigate relationships between selected clothing preferences, fiber selection, and demographic variables.

A purposive sampling plan was devised to secure responses from older adults in northwest Texas, Alabama, and Maryland. At the three locations, 450 questionnaires were administered. A total of 249 usable questionnaires was obtained.

The self-administered questionnaire included items related to: (1) fiber preferences for selected garments that would be worn indoors during cold weather, (2) clothing worn in winter at home, (3) clothing and combinations worn on a very cold day in winter, (4) attitudes toward fibers, and (5) demographics.

Frequencies, percentages, mean scores and standard deviations were calculated for various segments of the instrument. Data were also analyzed with one-way analysis of variance and post hoc analysis using Tukey's test of significance. Level of significance was set at 0.05 probability level.

While the majority of the respondents perceived the fiber content of garments worn indoors on a cold day to be synthetic, they actually selected 100% worsted wool fabric when giving preference based on tactile response. They perceived wool to be preferable in providing thermal comfort without being heavy. Age, income, education and location were significant in determining the older consumers attitude toward wool. Data also reveal that the respondents believed the thickness of the garments along with layering to be important in providing body insulation. A significant number (92%) described clothing for indoors as comfortable, followed by washable and fashionable.

Data on fiber preferences and suitability of warm clothing for the older consumer can be instrumental in providing pertinent information for thermal comfort. Research on the clothing needs of older adults presents evidence to manufacturers and retailers on the relevance of this rapidly growing group as a target market.
A TYPOLOGY OF INFORMATION SEARCH PATTERNS:

APPAREL SELECTION OF EMPLOYED WOMEN

Soyeon Shim, Colorado State University

Mary Frances Drake, The University of Tennessee, Knoxville

Recent consumer researchers suggest that the frequency and intensity of information search at retail can serve as a base for market segmentation strategies, that is, approaches to dividing a potential market into distinct subsets of consumers and selecting one or more segments as a market target to be reached with a distinct marketing mix (Schiffman & Kanuk, 1983). This study was designed to: (1) identify segments displaying different information search patterns among employed purchasers of apparel; and (2) to determine the consumer situational, product and market characteristics that correlate with each segment.

A random sample of 5,000 names from a sublist of 370,000 was purchased from the Lifestyle Selector, Denver, Colorado, which is a division of National Demographics and Lifestyles. The sample included females, ages 25-44, representing various occupations. Data was collected via a ten page questionnaire mailed to the sample of 3,000 during July of 1984. Forty-seven percent of the cross-national sample returned usable questionnaires (n=1410). Only employed women (n=1034) were used in this research, while the unemployed women will be used in a larger study.

As a result of Principle Components Factor Analysis with Varimax Rotation, five factors were extracted representing different types of patterns underlying the information search activities used by employed women for the selection of employment apparel. The types of consumers included print oriented, audio-visual oriented, store intensive, professional advice, and pal advice searcher. By utilizing Multiple Regression Analysis, profiles of the five information search pattern groups of the employed women were generated by capturing the characteristics of consumer, product, and situation.

Employed women formed five distinct groups based on their search in the selection of employment apparel. By developing profiles of each search pattern, the research provided a basis for theorizing about the determinants of search strategies among apparel consumers. The findings suggest that marketing managers need to segment employed female consumers on the basis of their information search patterns employed and to develop marketing strategies to match the target consumer's search pattern.

Three broad sets of implications result from the findings of the study based on where information should be provided (based on information search pattern), what types of information should be provided (based on evaluative criteria), and how information might best be provided (based on lifestyle dimensions). Some of the implications are as follows: Since audio-visual searchers were more likely to be socially directed, the presentation format of information can be by brand or store name emphasizing prestige. For professional advice searchers, department stores and specialty stores are encouraged to form new systems to meet the need of a newly emerging market segment. A sincere and regular effort to present attractive displays of employment outfits would be a worthwhile store investment to serve the intensive store searcher. Marketing strategy to pal advice searchers probably means directing marketing and sales efforts at significant others such as friends, colleagues, family or relatives.

REFERENCE

Consumers' Attitudes and Practices Towards the Purchase of Indoor Sportswear for Warmth

Elaine L. Pedersen, University of Nevada Reno

Nan Lenhart, University of Nevada Reno

The purposes of this research were to investigate consumers consideration of warmth and energy conservation in purchasing indoor sportswear and to test the reliability and construct validity of an instrument designed to ascertain consumers' attitudes toward the purchase of indoor sportswear for warmth (Francis & Butler, 1984). Valid and reliable instruments are critical to the validity of research findings.

Interviews were conducted with 102 individuals randomly selected from telephone books in Spring, 1984. Subjects were asked seven questions about their attitudes toward purchasing indoor sportswear for warmth and questions about home energy consumption practices.

Construct validity can be examined by looking at the degree of association between variables. Factor analysis is one such method. Initial factor analysis produced 10 factors; four were determined to be true factors using eigenvalues and the Screetest. A second factor analysis forced the items to four factors with eigenvalues greater than one. All four factors had factor loadings of at least .35. Five of the seven items on purchasing clothing for warmth loaded on the fourth factor. The reliability alpha score of the "warm clothing" factor was .71.

Visual analysis of the data indicates a difference between men and women of the criteria used in buying indoor sportswear for warmth. Fiber content was less important and garment fit was regarded to warmth was more important to the subjects in the present study as compared with the subjects in the Francis and Butler (1984) study. Warmth was considered, however, garments' ability to provide warmth was not asked when subjects selected indoor sportswear. Study participants reported adoption of clothing strategies for energy conservation.

Reliability and construct validity have been demonstrated for these five items. Future research should investigate whether consumers can make accurate choices about the warmth of wearing apparel.

Table 1 Criteria Important When Purchasing Indoor Sportswear for Warmth

<table>
<thead>
<tr>
<th>Concerned with</th>
<th>1984 Study&lt;sup&gt;a&lt;/sup&gt; Women</th>
<th>Present Study Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber</td>
<td>82 %</td>
<td>68 %</td>
<td>69 %</td>
<td>69 %</td>
</tr>
<tr>
<td>Cut/Style</td>
<td>75 %</td>
<td>75 %</td>
<td>67 %</td>
<td>74 %</td>
</tr>
<tr>
<td>Fit</td>
<td>69 %</td>
<td>86 %</td>
<td>77 %</td>
<td>83 %</td>
</tr>
<tr>
<td>Fabric</td>
<td>61 %</td>
<td>57 %</td>
<td>47 %</td>
<td>52 %</td>
</tr>
<tr>
<td>Ask about warmth&lt;sup&gt;b&lt;/sup&gt;</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Consider warmth&lt;sup&gt;c&lt;/sup&gt;</td>
<td>- -</td>
<td>75 %</td>
<td>76 %</td>
<td>76 %</td>
</tr>
</tbody>
</table>

<sup>a</sup> Francis & Butler (1984), <sup>b</sup> did not load on any factor, <sup>c</sup> was not reported by Francis & Butler (1984).

Reference

THE INFLUENCE OF FEMALE CONSUMERS' DEMOGRAPHICS ON LIFESTYLE AND EVALUATIVE CRITERIA OF APPAREL

Nancy L. Cassill - North Texas State University
Mary Frances Drake - University of Tennessee Knoxville

An important uniqueness of merchandising programs is the understanding of human behavior in the marketplace. The merchandising curriculum in Colleges of Home Economics includes the study of the consumption process, the social-psychological implications of apparel, and merchandising. This research addressed further integration of these areas with direct application to apparel merchandising.

Retailers are aware that today's operating environment is different from that of a decade ago due in part to ever-changing demographics. Today's educational attainment, increased age, increased affluence, and increased mobility. The merchandiser needs to ascertain how these demographic changes translate into consumer behavior.

The purpose of the research was to investigate the influence of female consumers' demographics on lifestyle and evaluative criteria used in the selection of apparel. Five demographic variables chosen for examination were: educational level, age, annual amount spent on apparel, urbanization, and geographic region of country.

The survey research method was used and a commercial mailing list composed of a large cross-national population was purchased. A random sample of two thousand female consumers ages 25-44 was drawn April, 1985, resulting in 842 usable questionnaires (45% return rate).

To establish basic underlying dimensions of lifestyle and evaluative criteria, factor analysis was performed on the 98 lifestyle statements and the 18 apparel evaluative criteria items. Use of the General Linear Model (GLM) with Analysis of Variance (ANOVA) resulted in significant relationships between the demographic variables and lifestyle and apparel evaluative criteria factors. Type III Sum of Squares were employed to determine significance. Least Square Means were used to plot significant relationships of demographic variables on lifestyle and apparel evaluative criteria factor score variables.

Significant differences were found between the levels of the five demographic variables and lifestyle and apparel evaluative criteria factors. Generally as education increased, women were more self-confident, travel prone, mobile, and impulsive; in addition, they were less traditional and less price conscious in purchasing apparel. As age increased, women were more likely to have traditional views and least likely to be mobile and impulsive. As amount spent on apparel increased, women became more interested in physical attraction and fashionable clothing and were more satisfied with life. Most suburban women liked to feel attractive to members of the opposite sex and felt that dressing well was an important part of their lives. The South, the geographical region with the lowest income, was the most price conscious geographical region when selecting clothing. The demographic profile provided a clearer and more complete picture of the female consumer by combining intangible variables of lifestyle and apparel evaluative criteria with demographics.

Consumers can be segmented into different groups in a way that will allow the retailer to ascertain the characteristics of targeted consumers, thereby enabling them to better meet their needs. Also, the results will benefit marketing specialists in planning product promotion strategies and aid educators in planning educational programs.
Predicting Consumer Response to Fashion Apparel

Marilyn DeLong  Bettie Minshall

University of Minnesota

Predicting a consumer's apparel purchases could allow manufacturers and retailers greater control over their inventory. Fishbein developed a Behavioral Intentions Model (Ajzen and Fishbein, 1980) based upon the theory that intention to buy a product is a function of a consumer's attitude toward purchasing the product and the normative influence of the consumer's reference groups. The model was originally developed as an attitude measure for use in social psychological research. Utilizing such a model is of particular importance in studying consumer response to products for which social approval plays a role in purchasing, as in fashion apparel.

The objective was to explore the application of Fishbein's Model in measuring consumer response to fashion apparel. The relationships between consumer attitudes toward purchasing specific examples of fashion apparel, attitudes toward purchasing from a general category of apparel, intention to purchase an item within a two month period of time, and actual purchasing behavior were examined. Big sweaters were selected as a timely product. Ninety-four females between the ages of 18 and 25 participated in the first administration of the questionnaire designed to collect information on their attitudes and willingness to comply with their reference groups. Sixty-eight participated in the follow-up in which purchasing information was collected.

Correlation and regression analysis were used to test the relationships between the components of the theoretical model. The relationship between intention and actual behavior was examined by logistic regression. A maximum likelihood test was completed to determine if the coefficients of the Behavioral Intentions Model differed for three specific sweaters.

Behavioral intentions were found to be closely related to a combination of attitudes toward purchasing each of the three sweaters and motivation to comply with reference groups. The coefficients in each of the three equations did not differ, suggesting that a single equation might be used to predict purchasing intentions. The variables "attitude toward purchasing" and "motivation to comply" were both highly significant in their contribution to the predictive ability of the model; however, the attitude measure produced the greatest reduction in variability. Although purchasing intention relative to each of the sweaters was highly correlated with intention to purchase within the more general category (p<.01), the correlations were not as strong. Analysis of the model indicated that motivation to comply did not contribute significantly to predicting purchase from the general category. This suggests that reference groups influence the purchase of specific items of apparel but not the contemplation of purchase from a general apparel category. A significant statistical relationship occurred between general purchase intentions and actual behavior (p<.05) but the relationship was not as strong when considering purchase of specific apparel.

Predicting consumer response to fashion apparel is possible utilizing the Fishbein Behavioral Intentions Model. When Fishbein Behavioral Intentions Model. When Fishbein Behavioral Intentions Model. When Fishbein Behavioral Intentions Model. When Fishbein Behavioral Intentions Model.
Profiling the Quality Oriented Apparel Consumer:
Demographic, Lifestyle, and Apparel Value Perspectives

Michelle A. Morganosky - University of Illinois

The term "quality" has taken on newfound significance in the marketplace. Manufacturers and retailers alike sense the importance of the quality concept but many times are hindered when it comes to translating it into a meaningful marketing strategy. Evidence from the Profit Impact of Market Strategies (PIMS) project indicates that high quality leads to both high return on investment and high market share (Buzzell, 1978).

The purpose of this research was to investigate differences between quality oriented apparel consumers and quantity oriented apparel consumers on demographic, lifestyle, and apparel value variables. It was hypothesized that there would be significant differences (p<.05) between quality and quantity oriented consumers on demographic, lifestyle, and apparel value variables.

A sample of 702 mothers who met the criterion of having at least one child under 19 years of age was drawn on the basis of a self-weighted systematic probability sample of households in a large, demographically diverse midwestern state. Statistically this sample provided data at the 95 percent level of confidence within a maximum sampling error of 3.5 percent. Following a pretest, 609 telephone interviews (87% response rate) were obtained by trained professional interviewers.

The independent variables consisted of (1) demographics, (2) lifestyle variables, and (3) apparel values based on the theoretical framework as developed by Stampfl (1982). Quality oriented consumers were defined as those that agreed or strongly agreed with the statement "I would rather buy myself one good shirt than two less expensive shirts." Quantity oriented consumers were defined as those respondents that disagreed or strongly disagreed with the statement.

Using t-tests to analyze the data, it was found that quality oriented apparel consumers were significantly more likely than quantity oriented consumers to be more highly educated and to contribute a higher percentage to the overall household income. In relationship to the lifestyle variables, quality consumers were significantly more likely than quantity consumer to agree that a woman can work outside the home even if she has small children and still be a good mother, that her family is the single most important thing to her, and that she prefers spending a quiet evening at home rather than going out to party. Quality consumers were also significantly different from quantity consumers on three apparel values: preference for functional attributes rather than fashion attributes; convenience rather than cost; and want rather than need.

Findings suggest that quality oriented apparel consumers can be profiled and segmented based on a combination of demographic, lifestyle, and value variables. Thus, the implication is that apparel manufacturers and retailers could use these results to better market their products and services toward the quality oriented apparel consumer.

Recent research examined product quality and product image advertisements for non-apparel products and found that an individual's level of self-monitoring predicts which type of strategy will appeal to them. It was found that individuals high in self-monitoring reacted more favorably to image oriented ads and were willing to pay more for non-apparel products if they were advertised with an image orientation. Also individuals low in self-monitoring were more favorable to product quality ads and were willing to pay more for non-apparel products advertised with product quality orientation.

This research was undertaken in an attempt to extend these findings to apparel products. The first objective of this research was to determine if an individual's level of self-monitoring would predict the type of advertising strategy most effective for apparel products. Because self-monitoring and fashion opinion leadership have been found to be correlated, a second objective of the research was to determine if an individual's level of fashion opinion leadership might enhance the effect of self-monitoring on advertising effectiveness for apparel products.

Three sets of apparel ads were developed. Each set contained two identical ads for each apparel product except that one ad contained a slogan which was an appeal to image, while the other ad had a slogan which was a claim about quality. Specifically advertised were a Pendleton sweater, Guess jeans, and a Jordache jacket.

Subjects for Study 1 were 88 female undergraduates. An index of favorability toward the ads was developed and scores on this index were analyzed by analysis of variance with self-monitoring as the between subjects variable and apparel product as the within subjects variable. Results revealed significant main effects for both self-monitoring and apparel products. High self-monitors were much more favorable toward the image oriented ads, while low self-monitors were more favorable toward the quality oriented ads. Also over all subjects, people were more favorable to image ads for the Guess and Jordache products and were more favorable to quality oriented ads for the Pendleton product.

Subjects for Study 2 were 48 female undergraduates. The design was a 3 (Apparel product) by 2(Self monitoring) by 2(Fashion opinion leadership) by 2(Ad type) complete factorial with repeated measures on Apparel product. The dependent measure was the amount each person was willing to pay for the apparel product. These amounts were entered as standardized scores into the analysis of variance. Results revealed three significant interactions: apparel product by self-monitoring, apparel product by self-monitoring by fashion opinion leadership, and apparel product by self-monitoring by fashion opinion leadership by ad type. Simple interaction tests revealed that self-monitoring affected subjects' willingness to pay more for a product, but only for the Guess and Jordache products. For individuals high in fashion opinion leadership this effect was stronger. These effects occurred primarily when the ad's message addressed product image. Evidently the type of fashion apparel product is also an important variable to consider and this should be kept in mind for further research.
CLOTHING PREFERENCES AND SHOPPING BEHAVIOR OF
MALE HOMOSEXUAL AND HETEROSEXUAL COLLEGE STUDENTS

Louann A. Snezek, Mercyhurst College (Erie, PA 16546)
Nancy Ann Rudd, The Ohio State University (Columbus, OH 43210)

Typically, clothing research has viewed the male population as a whole, but not the subgroups within the male population, particularly male homosexuals. Stabiner (1982) suggested that male homosexuals are an untapped market segment consisting of approximately 11 to 14 million men with a high buying potential. The purpose of the study was to discern differences between male homosexual and heterosexual shopping behavior, clothing style preference, and cologne usage and preference in order to provide implications and suggest recommendations for retailers of men’s apparel and cosmetics. Directional hypotheses were stated for each aspect.

The design for the study was descriptive-survey and ex post facto. Independent variables were sexual preference/behavior, shopping behavior, and demographics. Dependent variables were clothing style preference, cologne usage, and cologne preference. Data were obtained by randomly giving a questionnaire, developed by the researcher, to 47 homosexual males and 48 heterosexual males attending a large midwestern state university.

Findings indicated that both groups enjoy shopping; however, homosexuals enjoy shopping and looking for new ideas without intention of buying while heterosexuals do not. Homosexuals spend more time shopping than heterosexuals, and homosexuals shop for different reasons, including shopping when depressed because shopping makes them feel better. Both homosexuals and heterosexuals indicated they shop in department, specialty and off-price stores; homosexuals also shop in vintage/antique stores and trendy boutiques while heterosexuals also shop in sporting good stores and mass merchandise stores. Homosexuals indicated they spend more money on clothing than heterosexuals. With regard to style preference, overall the homosexuals did not prefer more trendy, innovative styles than the heterosexuals, yet some distinct differences existed. Both groups wear cologne; however, the homosexuals differ from heterosexuals in extent of cologne usage, number of colognes owned, and preference for scent categories. Heterosexuals showed a clear preference for the colognes classified as woody/green while homosexuals showed a clear preference for colognes classified as either floral/sweet or Oriental/spicy.

Because there are differences between the two groups with respect to each variable, retailers need to be made aware of these differences so that they can market more effectively and specifically to each target group. The homosexual market should be viewed as a viable market segment with different shopping behavior and preferences than the heterosexual market. This preliminary investigation supports the viability of this market segment and suggests further areas of marketing research.

Reference
Increased income levels, higher education levels and technological advances are factors contributing to the profound changes occurring in consumer values. The purpose of this study was to examine consumer values and their relationship to aesthetic and utilitarian qualities valued in clothing. The specific objectives included: 1) identification of consumers' personal and general clothing values; 2) identification of consumers' values regarding aesthetic and utilitarian qualities of two clothing items, as indicated by the dollar amount consumers were willing to spend for those items; 3) examination of the relationship between consumers' personal values and the importance placed on aesthetic and utilitarian qualities of the selected items, and 4) examination of the influence of demographic variables on consumer preferences for the selected items.

Morganosky's Model of Clothing Value (1984) was the basis for measuring the aesthetic and utilitarian qualities of the two selected items, handbags and swimsuits. The Rokeach Value Survey (1968) and the Creekmore Clothing Value Survey (1965) were the basis for measuring values. The mall intercept method was used to survey 136 women. Chi square, analysis of variance and step-wise regression were used for data analysis.

Results of consumers' preference rankings indicated that consumers preferred the high aesthetic, high utility handbags and swimsuits and were willing to pay for these items. Aesthetic factors were primarily responsible for consumer swimsuit preference and utilitarian reasons were cited for their first and second handbag choices. Age, race, marital status and number of children were significant demographic variables influencing preferences for handbags and swimsuits. Instrumental values did not significantly influence consumers' preferences. Of the three categories of clothing values studied, social, aesthetic and utilitarian, consumers reported placing the most importance on utilitarian clothing values. The clothing item itself and utilitarian clothing values were the best predictor variables for the dollar amount the consumer was willing to spend. These findings suggest that the qualities valued in a product vary by the product and the consumer demographic profile.

CONSUMER PATRONAGE OF DISCOUNT STORES FOR APPAREL AND SOCIOECONOMIC PRODUCT RISK

Teresa A. Summers, Mary Beth Dawes, and Patricia Wozniak

Louisiana State University

The demand for low-priced apparel goods by price-conscious consumers has made the discounting of clothing and accessories one of the fastest growing segments of retailing today in both urban and rural markets. Prasad (1975) noted that consumers in different socioeconomic segments differ in their patronage of discount stores for some types of apparel products but not for others based on the level of socioeconomic risk associated with each apparel item. Consumers tended to patronize discount stores for products with low social risk, but patronage levels declined as product social risk increased. The economic risk of an item was not a factor in consumer patronage decisions.

The purpose of this study was to further Prasad's investigation of consumer patronage of discount stores, and to determine if consumer patronage preferences had changed over time. Patronage preferences of consumers for selected apparel items were hypothesized to be different as a result of differing demographic characteristics such as income, education, employment, and age. Each of the 17 apparel items was assigned to one of three socioeconomic risk groups: low social, low economic; high social, low economic; high social, high economic.

A questionnaire was developed to determine patronage attitudes and to secure selected demographic information. Respondents were asked to rate their willingness to purchase each item in a discount store on a rating scale using the categories of "prefer to buy", "may buy", or "never buy". Of the 1500 questionnaires mailed to urban and rural female consumers, 468 were completed and returned, and 183 were returned as undeliverable. Data were analyzed by analysis of variance with a completely randomized design using all main effects and all two way interactions.

Results of this study tend to verify Prasad's earlier work. Significant differences were found in consumer patronage of discount stores for the 17 apparel items which were classified into the three socioeconomic risk groups. Most of the respondents indicated they would prefer to buy or may buy items with low social, low economic risks such as sleepwear and undergarments and items with high social, low economic risks such as costume jewelry and actionwear at discount stores. A majority of consumers answered they would never buy items in the high social, high economic risks group such as fine jewelry and men's sportcoats at discount stores. Consumer locale (rural vs. urban), marital status, education and income significantly affected the patronage preferences of respondents.

While the success of discount stores has continued to increase during the last 10 years, consumer patronage of these stores for specific apparel items has changed little. Results of this study could assist both discount and traditional retailers to better understand their consumers and more effectively promote their merchandise. Educators could use patronage information to better assist consumers in improving their shopping skills to get the most for their shopping dollar.

SWEATING, COMFORT, AND MANUAL DEXTERITY PERFORMANCE

AS INFLUENCED BY CHEMICAL-PROTECTIVE GLOVE LINERS

*Donna H. Branson, Carolyn Hoener, Oklahoma State University

Lynda Abusamra, Sandy Rice, Natick Research, Res. Dev. and Eng. Center

The U. S. Army has found that hand sweating while wearing chemical protective gloves is a problem in terms of performance and overall comfort. To alleviate the problem, lightweight, stretchable, knitted cotton gloves are worn under standard butyl rubber chemical protective gloves to absorb moisture. Since replacement of the Army glove liner is under consideration, this study was designed to evaluate the differential effects of four glove liners worn beneath chemical protective gloves. The research objectives were to determine 1) sweat rate and skin temperature of the nondominant hand, 2) manual dexterity performance, 3) perceived hand temperature, thermal comfort, and liner comfort, and 4) moisture take-up of the test glove liners.

Sixteen male military volunteers, ranging in age from 18 to 25 years with a mean of 21.1 years, participated as subjects. The four glove liners included a standard Army 100% cotton liner, an Air Force 100% cotton liner, a 100% cotton candidate liner, and a 50/50% cotton/acrylic candidate liner.

A repeated measures Latin Square design was used with subjects being tested in pairs for the 32 two-hour test sessions. Skin temperature and sweat rate were recorded every five minutes. A battery of manual dexterity tests were given at the beginning and end of every test session. Classic ASHRAE seven-point rating scales measured thermal sensation and comfort. A liner comfort instrument was developed. Pre- and post-test weights measured moisture take-up of the liners.

ANOVA results showed no significant differences by liner for dexterity performance, skin temperature, and sweat rate. A significant time effect was found. Regardless of the liner worn, subjects' skin temperature and sweat rate increased over time. There was a consistent trend for sweat rate to be lowest when subjects wore the standard Army liner and highest for the cotton/acrylic liner. Significant weight differences were found with the Air Force glove exhibiting the greatest absorption of sweat. ANOVA results for thermal temperature and sensation were found for time but not for liner. Significant differences were found for the liner comfort descriptors, snug, heavy, and roughness. Thus, significant differences in perceived comfort of clothing can be detected even when objective measures of variables related to comfort do not clearly reveal differences.
EVALUATION OF THE SOLAR OPTICAL PROPERTIES OF INTERIOR WINDOW TREATMENTS

Marie N. Carver
Rutgers, The State University of New Jersey

The high cost of operating heating and/or cooling systems in the home have provoked a movement toward energy-efficient designs. Since substantial heating and cooling losses occur through windows, window coverings can reduce energy consumption. Several window treatments are commercially available and utilize various textile materials. In an attempt to compare the solar reflectance, transmittance and absorption of textile materials for such use, no appropriate or standardized testing procedures were found. Thus the consumer has no valid basis on which to make comparisons of the effectiveness of the various window treatments. The ideal summer window covering would reflect a large portion and absorb a small portion of the solar spectrum. At least part of the solar input should be transmitted for interior lighting purposes.

This paper presents procedures for measuring the solar optical properties of summer window treatments in the home environment and for determining the resulting solar heat load of a home. Any optical measurement of a textile product will involve diffuse, non-specular scattering due to the morphology of textile materials. Thus a measurement of reflectance from and transmittance through a window covering must integrate light scattered into all directions from the surface being measured. This can be done with one measurement using a handheld integrating sphere, coated on its inner surface with a highly reflective, diffuse layer of barium sulfate. Using the sun as a light source, the sphere was used to measure the directional-hemispherical reflectance and transmittance of window treatments throughout the visible and near infrared spectral ranges. Several window treatments were measured, each differing in fiber content, color/pattern and/or structure. The treatments were organized into the following five categories: draperies, curtains, shades, blinds/woven woods, and quilted types. Measurements were taken during both the morning and afternoon hours.

The results indicated that the solar reflectance ranged from 10% to 84%. This large variation in reflectance correlated with differences in color/pattern, weave, density, and layering technique. Shading coefficients, from manufacturer's specifications, were found to vary substantially from reflectance values. This difference may be due to the fact that absorption within the window treatment contributes to a reduction in interior lighting but actually heats the home instead of rejecting energy to the outdoors. Thus solar reflectance measurements are far more appropriate than shading coefficients in calculating the solar-thermal load of a home. Once the influence of window coverings on the thermal load is known, the impact on a consumer's utility bill can be calculated.
Dutch Costume in Paintings by Dutch Artists:

A Study of Women's Clothing and Art From 1600 to 1650

Dana L. Chapman, Ph.D., The University of Akron

An historical investigation was conducted to document and interpret the costume worn by Dutch women as portrayed by Dutch painters between 1600 and 1650. Data were collected from 76 original paintings housed in Dutch and American museums.

Information was compiled concerning the history of the Netherlands, the Dutch culture, and innovations in Dutch painting to aid in the interpretation of the costume data. Costumes were categorized and described according to an objective system. Four forms of dress were identified: Dress Form A (bodice and skirt), Dress Form B (bodice, skirt, and sleeveless overgown), Dress Form C (bodice and split skirt which revealed an underskirt), and Dress Form D (jacket, skirt, and apron). Augmentative units and accessories were also observed.

Data were content analyzed according to five variables: the women's social class, subject's age, the situation depicted, the artists, and the artist's training. Findings indicated that young women were typically depicted in Dress Forms A and C in merry company genre paintings. Middle aged and elderly women appeared in Dress Forms B in portraits and D in landscapes. A predominance of bourgeois subjects reflected the essentially middle class nature of Dutch society, although the middle class was unprecedentedly wealthy.

Major historical and cultural events were identified and used to establish four subperiods within the 50 years examined. Typical costume attributes were determined for each Dress Form in each subperiod so that costume changes could be studied in association with events that occurred in the subperiods. Dress Forms A and C were the most sensitive to changes in circumstances, the most significant of which was a change in stadholder, a position of somewhat centralized political leadership. Dress Form B showed remarkable consistency which was attributed to its association with members of a particularly conservative group. The stable appearance of Dress Form D reflected the utilitarian nature of work clothes and a generic depiction of the commoner class, the only group seen to wear Dress Form D.

Some variation in artists' individual style of painting was noted. Forms of dress which tended to predominate in particular types of paintings (portraits) did not appear in other types of paintings (genre). Most clothing was observed in special, not casual situations. However, the depiction of some aspects of costume the depiction of some aspects of costume was seen to vary depending on whether a portrait or genre painting was examined.

The results of the present study implied that the cultural analysis of Dutch costume was enhanced since the nature of seventeenth century Dutch painting was understood. Such understanding requires the examination of a variety of types of paintings by a variety of artists to insure an accurate and well supported analysis of costume. Studying costume in paintings places the costume into temporal, cultural, and artistic perspectives which, when emphasized, can enhance the bases for costume research.
ACQUISITION AND PROVISION OF CLOTHING SERVICES

Marilyn R. Duke - Central Michigan University
Janis M. Voege - Central Michigan University

This study provided for an examination of the actual and desired acquisition and provision practices of a random sample of adults in a mid-western university community relative to specified clothing services available through intra-household, inter-household, or market exchanges. Relationships between these practices and certain demographic variables were explored. The following null hypotheses were tested:

For each clothing service
1) there will be no difference between the actual and desired provision of that clothing service.
2) there will be no difference between the actual giving of that clothing service through intra-household, inter-household or market transaction.
3) there will be no difference between the desire to give that clothing service through intra-household, inter-household or market transaction.

A survey instrument was designed to gather the data needed to test the hypotheses and to describe the sample. Demographic characteristics examined included gender, age, number of household members, employment status and socioeconomic status. A series of questions about the acquisition and provision of five specific clothing services through intra-household, inter-household, or market exchanges was repeated for each of the clothing services. Clothing construction was an example of a service related to acquiring clothing. Disposing of clothing was an example of a service related to discarding clothing. Laundering, altering, and mending/repairing represented the much larger set of services related to maintaining clothing. A random set of local phone numbers was computer generated. Each nth number was systematically chosen to provide a sample of 81. Trained research assistants conducted the interviews and recorded responses. Chi-Square tests were used to determine whether there were differences between groups based on their patterns of clothing services provision and acquisition. The characteristics of the sample were summarized using frequencies and percentages.

Following are the major findings:
1) The largest discrepancy between both actual and desired receipt and actual and desired provision of a clothing service was found in the case of clothing construction. 2) Alterations were given less often by intra-household exchange and more often by market exchange than other clothing services. 3) Overall, the sample members preferred to give and to receive clothing services in intra-household exchanges rather than in either inter-household or in market transactions.

This study has implications for both theory and practice. Results of the study may contribute to the refinement of theories about preferred and actual economic exchange patterns and about personal attributes of persons who choose or do not choose to participate in acquiring or providing clothing services. Results could benefit those who provide clothing services by contributing insight into the acquisition process. Implications could also be of value to individuals involved with the production, distribution and consumption of clothing; professionals involved in assisting families in decision making regarding the management of clothing services; and educators involved in program development and/or instructional design.
CONSUMER INVOLVEMENT: A COMPARISON OF MEASUREMENT TECHNIQUES

Ann E. Fairhurst, Indiana University, Bloomington, Indiana 47405
Linda Good, Oklahoma State University, and James Gentry, U. of Wisconsin

Consumer involvement has become an important construct in consumer behavior by providing additional means of segmenting retail markets. Involvement profiles which include not only the levels of consumer involvement, but lifestyle and demographic characteristics, provide a rich data base for today's retailers. In addition, consumers at different levels of involvement may place varying importance on salient store attributes. The conceptual statement which guided this research was that consumers vary across a broad continuum of product involvement.

While the concept of involvement has been identified as a useful variable in explaining consumer behavior by numerous researchers, its measurement has included a wide variety of approaches and instruments. Zaichkowsky (1985) presented a standardized, general, valid, multiple-item measure of the involvement construct. The purpose of this study was to further investigate the use of the Personal Involvement Inventory (PII) for one product (women's fashion apparel) across two relatively fashion-oriented groups. In addition, investigation of the measure's convergent validity was made through comparisons with responses to a fashion involvement index, and with responses to fashion-related lifestyle measures.

Two studies were conducted, each having respondents complete the three involvement measures and an evaluation of eight store attributes. The first study was a national mail survey of 220 women's apparel specialty store customers while the second one involved 113 students in consumer studies classes at a large state university. Items on both questionnaires consisted of previously tested, reliable, and valid instruments.

The mean PII score for the customer sample was 113.9 while the mean for the student sample was 126. Scores ranged from a low of 28 in the customer sample to a high of 140 in the student sample to a high of 80 in the student sample to a high of 140 for both groups. The student sample was significantly more involved (p < .01) than the customer sample, indicating that involvement does vary across groups.

All three measures were correlated significantly (p < .01) among themselves in both studies. Thus, the PII had convergent validity since the results indicated that three independent methods measured the same construct. The fashion involvement measures were also correlated with the eight store attributes. While most of the correlations were statistically significant, in most cases the involvement measures explained only 10-20 percent of the variance in the importance of the store attribute. These results indicated that the PII performed as well as the more product-specific measures in terms of explaining the importance of store attributes, verifying the scale's construct validity.

Results of these studies, in conjunction with the rigorous development procedures of the PII indicate that the PII is both a reliable and valid measure of the involvement construct. Since the general involvement measure performs comparable with product-specific measures, its general nature allows researchers in the apparel retailing area the flexibility of broadening the scope of their research (i.e., to compare across generic product choices which may be competing with apparel for the consumer dollar).

REFERENCE
TV INFLUENCE ON ELEVENTH GRADE LOW-INCOME BLACK GIRL'S CLOTHING

Vermell Mack-Keels, Oakland Unified Schools, Oakland, California 94601

Judith Cardona Forney, San Francisco State University, California 94132

By the time high school students graduate, they have been exposed to and influenced by hundreds of hours of TV programs and commercials. Low-income Blacks have been considered generally to be heavy TV viewers as well as fashion conscious. Thus, TV can be either an inexpensive or a devastating fashion influence for low-income Blacks since many can not afford the clothing they view on TV. The purpose of this study was to investigate the influence of TV on eleventh grade low-income Black girl's clothing practices.

Independent variables included: 1) TV use and 2) TV commercial and pay program preferences: situational comedies, drama, soaps, music video, first run movies, fashion shows, and sports channel. The dependent variable was clothing style practiced: 1) punk, 2) fashionable, 3) personal, 4) conservative, or 5) eclectic.

Data were gathered on two instruments. Subjects responded to a TV Practices Instrument which included three sections: 1) TV viewing practices and sources of ideas on what to wear, 2) frequency of viewing selected commercial and pay TV programs, and 3) head of household, work status, and ethnic background. A second instrument, the Fashion Observation Schedule, was developed and pretested by the researchers and used to identify the clothing style practiced by each subject.

The sample was a homogeneous group of 64 low-income eleventh grade Black girls enrolled in English classes in a California co-ed high school. This school was selected because of its small unique size and a 93.1 percent Black student population with an average family income of $9,301.

Descriptive data included frequencies, percentages, and means for TV program preferences and clothing styles. Total daily TV viewing hours were categorized into three levels: low, medium, and high. Analysis of Variance measured differences between level of TV viewing hours and clothing style practice. The Tukey Range Test was used for post-hoc analysis. The Chi-square statistic compared TV program preferences with clothing style practice.

The data showed student's mean daily TV viewing hours at 3.85. The largest number of students watched TV with their brother(s)/sister(s) followed by watching TV alone. The majority of students, 64.1 percent, choose self over TV, friends, parent(s), and brother(s)/sister(s) as their source of ideas on what to wear. Sixty-one percent of the sample lived with their mother only and only 12.5 percent of the students worked.

The highest frequency of clothing style over all levels of TV viewing was conservative; however, the largest percentage in the high viewing group for music video wore fashionable clothing styles. A significant difference was found for punk clothing style and level of TV viewing but not for any other clothing style. The post-hoc analysis revealed students who wore punk styles were more likely to be high TV viewers than low or medium TV viewers. No significant Chi-square results were found for TV program preference and clothing style.

It was concluded that the amount and type of TV viewing is not an important influence on clothing style practices of all low-income Black girls; however, it could be for those who are considered fashion innovators, i.e. punk. Further research might investigate other age groups and specific TV programming, i.e. music videos were viewed more by fashionable students.
TRADITIONAL WOMEN'S DRESS
IN CONTEMPORARY SAUDI ARABIA

Judith C. Forney, San Francisco State University, California 94132

Nancy J. Rabolt, San Francisco State University, California 94132

The Islamic religion is a major influence in the world today with many Moslems striving to retain or return to more traditional religious practices including patterns of dress. Recognizing dress patterns which evolve from religion and custom can foster sensitive and appropriate interactions across cultures as individuals, businesses, and governments interact in the global marketplace. This research explored the continued importance of traditional women’s dress in Saudi Arabia in addition to identifying clothing information sources and influences on their dress.

The following demographics were investigated: 1) age, 2) marital status, 3) work outside the home, and 4) travel in western countries. In addition, the incidence of the following variables was determined: 1) style of outer garment worn, 2) wearing the veil, 3) traditionalism in dress by situation, and 4) information sources for contemporary dress. Interview techniques were used to gather data from a sample of 60 Saudi women who were either receiving care or care providers at a major hospital in Riyadh, Saudi Arabia. Analyses included descriptive data for all variables and the Chi-square statistic which compared dress styles with demographics.

The incidence of wearing traditional styles of outer clothing was high. When outside the home, 78 percent wore the abaya with 73 percent preferring to wear the abaya and veil. Almost 80 percent began wearing the veil at age 14 or younger and 63 percent described their veil as opaque while 27 percent wore a sheer veil. Religion, tradition or both were the reasons why most women wore the veil. Most women wore traditional outer clothing in the following situations:

- at home entertaining with men present, at hospital visiting, at work, shopping, at restaurants, at religious services, and traveling within the Kingdom. There was a higher incidence of wearing western style outer clothing when the women were at home or with family, visiting with female friends, or traveling outside the Kingdom. Women gained information about clothing most often from boutique clothing displays followed by department store displays, American fashion magazines, European fashion magazines, local newspapers, and video tape movies. No significant Chi-square results were found for dress styles and demographics since such a high percentage wore the abaya.

It was concluded that traditional outer dress is retained and preferred by women in Saudi Arabia and is reflected in the style of dress worn in different situations. Local sources seem to be used most to gain information on clothing; however, Saudi women do use western information sources such as magazines and video tape movies.
Understanding perceptions of comfort/discomfort due to fabrics may be enhanced by investigating changes in skin such as water content, water vapor emission, capillary blood flow, and surface structure. In this experiment, changes in water content at the outer layer of skin (the stratum corneum) and evaporative water loss off the skin surface due to placement of fabric on skin were studied.

Two fabrics were selected that differed in moisture regain but were closely matched in thickness and air permeability. A microwave probe was used to assess stratum corneum water content; an Evaporimeter for evaporative water loss at the skin and fabric surfaces. Water content in fabrics was assessed gravimetrically. Triacetate and polyester fabrics were placed on the skin with and without a covering of plastic film; i.e., unoccluded and occluded. Measurements were made prior to placing a treatment on the skin and at the end of a specified time interval. Nine subjects ranging in age from 20 to 40 participated. All measurements were taken in a controlled environment room maintained at 22°C. Subjects were sedentary. Three-way analyses of variance were calculated for stratum corneum water content, water evaporation from skin after fabric removal, and water evaporation at the fabric surface. Two-way analyses of variance were calculated for uptake of moisture by fabric.

Placement of either fabric alone (unoccluded) on the skin surface for periods of 3 to 120 minutes did not cause significant change in stratum corneum water content or in evaporative water loss.

Evaporative water loss from the fabric surface was greatest immediately after fabric was placed on the skin and rapidly decreased with time. Initial water loss was greater for triacetate than polyester. After about 9 minutes no significant differences in evaporative water loss due to fabric type were found; the rate of water loss after nine minutes was similar to water loss at the skin surface before the fabric was applied. These results suggest that the heat of the body was sufficient to drive off moisture contained in the conditioned fabrics. Gravimetric measurements confirmed that both fabrics when unoccluded lost weight (moisture) when in contact with skin.

Plastic film caused the greatest hydration of stratum corneum. Presence of either fabric under the film significantly decreased hydration. Although hydration was generally greater with polyester than with triacetate, the difference between the effects of the two fabrics was not statistically significant. Change in evaporative water loss after patch removal was greatest for the plastic film alone at all time intervals. Presence of fabric under the film lessened the effect. The increase in evaporative water loss was significantly greater for polyester than triacetate. The ability of the fabrics to take up moisture as it was generated by the body probably accounts for the significant decrease in hydration and evaporative water loss under the occluded treatments as compared to the plastic film alone. The rate of increase was greater for triacetate than for polyester.

Since unoccluded fabrics produced no detectable change in skin hydration or evaporative water loss at the skin surface, consumer intolerance to fabrics similar to those in this study worn under non-sweating conditions may not result from skin moisture conditions. For heavier or more occlusive fabrics this conclusion may not hold.
IMPORTED VERSUS DOMESTIC APPAREL: ARE ATTITUDES AND BUYING BEHAVIOR RELATED?

Susan B. Hester - Cornell University

Imported textile and apparel products are subject to both tariffs (averaging 22%) and quantitative restrictions; yet, despite these protectionist policies, textile and apparel imports from all countries into the U.S. reached $21.3 billion in 1985, an increase of 124% in just five years. Estimated 1984 costs to consumers for this protection were 19 billion dollars for tariffs and 4.4 billion dollars for Multifiber Arrangement (MFA) - related quota restrictions.

While the possible economic effects on consumers may be evident, consumers' ability to influence the adoption or modification of public policies related to trade issues is much less obvious. In an effort to mobilize government support, recent studies, many sponsored by the Crafted With Pride in the USA Council, have attempted to measure consumer attitudes. These studies have concluded that U.S. citizens are influenced by a garment's country of origin, prefer American-made apparel, and find it to be of superior quality. The dramatic increase in imported apparel during the past several years gives rise to questions about these conclusions.

The goal of this study was to test the assumption that consumer attitude is reflected accurately in consumer behavior. The original study was conducted in July 1984 and replicated a year later. During 1986 the study was extended to the Eastern United States, and data were collected at nine sites in six states.

Intercept surveys were conducted at shopping malls with consumers who had just purchased clothing. They were questioned about their attitudes toward domestic versus imported clothing, their awareness of the country of origin of their purchase, and their awareness of the Crafted With Pride in the USA campaign.

Results from this sample of almost 4,000 consumers and the two previous studies vary widely from those obtained in consumer attitude surveys not directly related to the actual purchase of an apparel product. Consumers who indicated that they knew where their purchase had been manufactured ranged from less than 19% to 44%. This number was consistently less than the number of consumers who said they cared whether their garments were made in the USA. Knowledge of the Crafted With Pride campaign was related to caring about location of manufacture, but was not related to awareness of where the particular garment purchased had been made. Consumers who both knew where their garment had been made and were concerned that it was domestically produced ranged from 12% to 41%

The results of this research suggest that information on consumer attitude is not sufficient for making purchase assumptions. These findings have implications for manufacturers, retailers, government policy makers, and the Crafted With Pride in the USA Council. Raising the level of concern of apparel consumers may be a step in the right direction, but until this concern is translated into awareness at the time of purchase, domestically produced domestically produced over imported apparel. These results suggest that at the point of purchase numerous other variables take precedent over the garment's country of origin.
Controversy surrounding the role of Roman Catholic priests has generated controversy regarding what a priest should wear. In the mid-twentieth century many changes occurred within the Catholic Church. These changes led to confusion about what the actual role for Catholic priests should be. This confusion seems to be reflected in disobedience to rules established by the Catholic Church that prescribe dress for priests and that were accepted by most priests throughout much of the history of the Catholic Church. The issue of priests' dress was addressed at the Second Vatican Ecumenical Council in 1962-65. However, the issue was not resolved at the second Vatican Council. Instead it lingered on with some priests choosing to follow rules established by the Catholic Church for dress while others openly disregarded the rules. This apparent confusion within the priesthood about the "appropriate" dress for the priest may be tied to confusion about what the actual role of the priest is. The problem that was examined was whether priests who choose to follow church regulations for dress differ from those who do not.

Seven hypotheses were developed:

1) Priests who held "traditional" beliefs about the role of the priest were more likely to conform in dress than those with "modern" beliefs. 2) Priests who favored reform in church policy, practice, and organizational structure were less likely to conform in dress than those who did not favor reform in church policy, practice, and organizational structure. 3) Priests who planned to resign from the priesthood were less likely to conform in dress than those who planned to stay. 4) Priests who had higher ranks in the hierarchy of the Catholic Church were more likely to conform in dress than those in lower ranks. 5) Priests who assumed more socially visible roles in the priesthood were more likely to conform in dress than those who assumed less socially visible roles. 6) Older priests were more likely to conform in dress than younger priests. 7) Priests who worked in rural areas were more likely to conform in dress than those who worked in urban areas.

Data taken from a national sample of American Catholic priests, collected in 1969-70, were examined. The sample included 5,475 priests. Correlation coefficients and multiple regression analysis were used to determine the results. The findings of the study indicated, that priests who held "traditional" beliefs about the roles of priests were more likely to wear the traditional Roman collar and prescribed vestments for the Mass. Those with "modern" beliefs wore lay dress and varied from prescribed dress at Mass. Priests who wanted reform in the Catholic Church expressed this opinion through their rejection of traditional dress as did priests who planned to leave the priesthood. Priests who were of higher rank within the hierarchy of the Catholic Church and those who were older were more likely to hold to traditional dress than those of lower rank or younger age. However, it was found that dress did not convey information about where priests worked or whether priests held socially visible roles within the priesthood.

To conclude the study a path model was constructed which indicated that when all other variables were controlled for, priests' beliefs about their role in the priesthood was the most powerful indicator of their conformity in dress. Overall, dress was shown to be an influential symbol that allowed priests' to present their role within the Catholic Church.
THE EFFECTS OF DRESS, COSMETICS, ASSAULT TYPE
AND SEX OF SUBJECT ON ATTRIBUTIONS TO A VICTIM

La Cinda Lewis-Arizona State University
Kim Johnson-North Texas State

Only two studies (Scroggs, 1976; Terry & Doerge, 1979) have examined dress and its influence on attributions of responsibility to a rape victim. More specifically, Scroggs (1976) tested the effects of “provocative” dress and pregnancy as a result of the rape on attributions to victim. The findings indicated that the subjects tended to assign the “provocatively” dressed victim more responsibility for the rape, though the results did not reach statistical significance. More recently, Terry and Doerge (1979) examined the effects of appearance on the subjective probabilities of rape by varying the dress, posture, and physical setting. The results indicated that a woman who is outside wearing seductive clothes (hip-hugger jeans and a tight midriff top) and appearing in a non-aggressive posture is perceived as a likely target of a rape attack. Due to the ambiguity of these results, the need to further explore the issue of dress and assault was evident. Thus, the objective of this study was to improve upon the studies of the past by further exploring the effects of dress, and by focusing on the possible impact of cosmetics, two types of assault, and sex of the subject on attributions of responsibility for the assault.

The experiment took the form of a 3 x 2 x 2 x 2 factorial design, with three levels of dress: most provocative (a "see-through" mesh dress), provocative (a floral print mini dress), or least provocative (a bulky sweater and jeans), two levels of cosmetics (cosmetics or no cosmetics), two types of assault (physical or sexual), and sex of the subject (male or female).

A sample of 610 university students served as subjects. Each subject was randomly assigned to one of the 12 experimental conditions. A photograph was used to systematically vary the dress and cosmetics variables. A vignette was used to vary the type of assault. A modified version of a victim responsibility scale (Stilwell, 1980) measured victim responsibility (α=.78). Data were analyzed using analysis of variance. The results indicated that there exists a significant main effect for dress (F(1,581) = 87.3; p<.05) and sex of the subject (F(1,581) = 41.0; p<.05). These findings reveal that the more provocatively the victim was dressed the more responsibility was attributed to her. Also, male subjects tended to attribute more responsibility to the victim than did female subjects.

The findings will further knowledge on the effects of an assault victim's appearance relative to the type of assault on attributions of responsibility to a victim. The results may prove to have implications for professionals dealing with the assault victim and for the legal profession in the prosecution of assault trials.

REFERENCES


**This study has been partially funded by the Graduate Student Association Research Fund at Arizona State University.**
Sex Typing in Dress: A Developmental Approach

Susan B. Kaiser

University of California, Davis

Developing perceptions of the linkages between clothing style and sex typing may be studied within a contextual framework integrating cognitive-developmental and symbolic-interactionist perspectives. Cognitive developmental theory predicts that children will internalize cultural stereotypes related to gender roles in an oversimplified manner before they will develop the cognitive maturity to realize the inherent ambiguities in these roles. A symbolic-interactionist approach stresses the importance of ambiguity in dress symbolism as a precursor to the context-specific interpretations of the multidimensional meanings associated with sex-typed cues. The present, two-part study sought to (1) examine age as a factor in young girls' associations of dress with play activities, employing both cross-sectional and longitudinal methodologies, and (2) explore personality traits associated with dress.

The first phase of the study was conducted in 1981, among 95 girls in three different age categories: (a) 3 to < 5 years, (b) 5 to < 7 years, and (c) 7 to 10 years. The Measure of Attitudes toward Clothing for Play was administered in individual interviews. This measure consisted of a line drawing of four clothing styles, ranging from unisex (jeans and a T-shirt) to feminine (a frilly dress). The girls were asked to select the clothing style that a preschool girl would be most likely to wear while engaging in each of 20 play activities, depicted in separate drawings. The three age groups differed significantly in their responses to most of the play behaviors. Linear logistic analysis revealed an inverse relationship between age and the degree of femininity in the clothes associated with a range of play activities.

The second phase of the study was conducted in 1985, when 43 of the above girls were interviewed again to obtain longitudinal data. Comparative t-tests were used to evaluate individual differences in perceptions as a function of age. The data were supportive of the trend identified in the cross-sectional study—that is, an increased preference with age for pants.

Additional data obtained with the 1985 sample on trait associations related to dress provided insight on the girls' interpretations of dress symbolism. Instrumental and aggressive traits such as strength and bravery were associated with pants, while expressive traits such as appearance-consciousness and popularity were often associated with dresses. Comments provided by the girls displayed tendencies to qualify stereotypical responses and to reveal awareness of ambiguity in trait inferences. For example, the frilliest dress was described as typical of either spoiled, whiny girls or pleasant, sweet girls.

These findings may be interpreted within a contextual framework. The girls' increasing preference for pants for more active contexts, especially beyond the preschool years, is consistent with the cognitive-developmental expectation of a decreased need for the sex-role reinforcement provided by dresses, and a concomitant tolerance of gender-related ambiguity. The increased appreciation during middle childhood for the flexibility afforded by pants may be contrasted with the symbolic interpretations of frilly, feminine styles as physically inactive although potentially powerful in a stereotypically feminine sense.
USE AND MANUFACTURE OF PREHISTORIC TEXTILES

AS EVIDENCED IN MISSISSIPPIAN PERIOD FABRIC IMPRESSED POTTERY

Jenna Tedrick Kuttruff
The Ohio State University

Few actual examples of textiles made and used by the prehistoric peoples of the Southeastern United States have been preserved in archaeological context. Therefore, it is necessary to examine other types of existing fabric evidence to increase our knowledge of the manufacture, use, and cultural significance of textiles in this portion of the New World. Impressions of textiles preserved on some types of pottery from the Mississippian Culture are an important source of textile information. This research is based upon the fabric impressed pottery sherds recovered during archaeological investigations at the Middle Mississippian period site of Mound Bottom, Tennessee, a regionally important civic-ceremonial and habitation center which was occupied from 900 to 1250 AD.

Textile attributes were considered as evidence of the techniques used by their makers to achieve particular characteristics of utility in the finished textile. Textile manufacture entails a minimum of three interrelated levels of decision making which relate to fiber, yarn, and fabric. The purpose of this research was to examine the collection for evidence that would indicate these levels of decision making, the resulting characteristics of the fabrics, and the use of the textiles. Impressions on the ceramics were examined for attributes of manufacture including fiber selection and processing, yarn construction, and fabric structure. Indicators of textile use which were looked for included joints, repairs, and evidence of fabric wear such as broken or missing elements. Results of fabric manipulation such as distortion and layering were also noted as evidence of the use of the textiles as implements or tools in the manufacture of fabric impressed pottery.

Analysis was facilitated by the use of positive casts of the negative fabric impressions on the pottery sherds. These positive casts, which were made of non-hardening clay, were then examined under a stereo microscope and the fiber, yarn, and fabric attributes including measurements were recorded.

Fabric structures were identified for 345 or 68 percent of the total of 510 sherds examined. The three basic twined fabric structures identified are 1) spaced 2-strand S-twist weft twining, 2) spaced 2-strand S-twist alternate pair weft twining, and 3) possibly compact 2-strand twining. A fourth category included complex or combined fabric structures.

Fabric elements or yarns were all composed of fibers of limited length and were classified as combined not spun, single spun, and plied spun. All of the plied yarns were S-plied and the angles of ply twist ranged from 15 to 35 degrees from the vertical axis of the yarn.

This study deals only with textiles which were used in the manufacturing process of large, utilitarian pottery vessels. Therefore, certain fabric characteristics such as high levels of flexibility, strength, and durability would be desirable while others would be avoided. Although only a portion of the total Mississippian textile complex may be represented, the study of textile impressions contributes significantly to our present knowledge of Mississippian textiles.
COLORS REPRESENTED IN PRE-COLUMBIAN PERUVIAN TEXTILES

Susan Voso Lab

The University of Alabama

The purpose of this research was to bridge the gap between past pre-Columbian Peruvian textile color research methods and present, more precise levels of color identification. Specific objectives were to: (1) analyze specimen surface color according to the Maerz and Paul and the Munsell color systems, and (2) itemize frequencies, locations, and uses of color. Frequency distributions and crosstabulations described color characteristics and hue groups in both color systems.

The 139 Carter Collection specimens yielded 550 different Maerz and Paul colors and 508 Munsell colors. All hue groups were represented with over 80% in the red, orange, and yellow range. Maerz and Paul color value percentages showed 36.8 light, 15.3 medium, and 47.9 dark while Munsell color value percentages revealed 29.6 light, 48.0 medium, and 22.4 dark. Color system internal organizations varied color identifications.
AN ANALYSIS OF FACTORS INFLUENCING
RETAIL BUYERS' PERCEPTIONS OF IMPORTED APPAREL

Marianne Y. Mahoney, Bonnie D. Davis, Sheila Tolbert, Brenda Sternquist

Michigan State University

In recent years, differences between the proportion of imported versus domestically produced apparel consumed in the United States has narrowed. Domestic manufacturers are hurt by this increased competition while retailers benefit from price differentials.

The purpose of this study was to investigate factors which may influence retail buyers perceptions of domestic and foreign manufactured merchandise. A random numbers table was used to select 100 specialty stores, 100 department stores, and 100 discount stores located within the United States. Using three directories, The 1984 Directory of Department Store, Directory of Discount Department Stores and Women's and Children's Wear Buyers, 482 buyers were randomly selected to participate in the survey. After adjusting for questionnaires which were undeliverable, the 15.4% return rate resulted in a sample of 69.

Using a seven point scale anchored at strongly disagree (1) and strongly agree (7), retail buyers were asked to indicate the perceived characteristics of imported merchandise. Additional questions dealt with the buyers responsibilities and demographic information.

Questions which dealt with the buyers attitudes toward domestic and imported merchandise were factor analyzed. Two factors, entitled Pro-American and Pro-Import, were developed. Using Pro-American and Pro-Import as dependent variables, two stepwise regression analyses were conducted. The independent variables for each analysis included the number of years the buyer held their current position, annual sales volume responsible for, number of stores included in that sales volume, percent of foreign manufactured merchandise purchased, age and education.

Using Pro-American as the dependent variable, all six variables were significant predictors of Pro-American attitudes. Number of years in their current position and annual sales volume the buyer was responsible for was the best one and two term models (p<.05). Percent of foreign manufactured merchandise purchased was the best three term model (p<.01). Age and education of the buyer also influenced the dependent variable (p<.05). When Pro-Import was used as the dependent variable, none of the independent variables proved to be significant predictors when utilizing a stepwise regression analysis.

Results of the study reveal that the buyer's responsibilities, age and education influence attitudes toward American made merchandise. These same factors however do not influence their perceptions of foreign manufactured merchandise.
PUBLIC, PRIVATE, AND SECRET SELF: A MULTIDISCIPLINARY APPROACH TO THE STUDY OF DRESS AND BODY MARKINGS

Susan O. Michelman, University of Minnesota

John D. Michelman, M.D., University of Minnesota

This paper combines approaches from two disciplines: Textiles and clothing and child psychiatry. Recent examples of textile and clothing research have increased our understanding of social and cultural roles expressed through dress. In contrast, psychiatric studies often emphasize individual and unconscious motivations for attire.

The senior author is currently researching ethnic expressions of dress, adornment, and body form of the Kalabari people of Nigeria. The co-author studies American adolescents in psychiatric treatment. By merging concepts related to both disciplines, a more comprehensive understanding may be reached. This conceptual approach also has practical and relevant psychiatric application.

The concepts of self and identity have been developed in both the social psychology of dress and psychiatry. Our first objective was to apply the concept of public, private, and secret self (Eicher, 1982) to our respective research areas. We discovered parallel findings and decided to pool our approaches. This resulted in therapeutic help for the co-author's psychiatric patients.

This exploratory study combines an analytic and visual approach. Selected cases of Kalabari young adults and American psychiatric patients are presented. Slides will illustrate these comparisons.

I. PUBLIC SELF:
Individual dress is a Kalabari method of communication that exhibits a highly developed ethnic and personal identity. It is prescribed in a manner determined by age, sex, status, and tradition. In contrast, American adolescent psychiatric patients have a much less clear public self. Immaturity and personal problems interfere and public expectations often challenge the adolescent's tentative identity. Transient styles may reflect more rebellion than an integrated image.

II. PRIVATE SELF:
Kalabari women pass through rites of passage, or Iria that create a smooth transition between physical maturation of adolescence and public recognition of becoming a Kalabari woman. The dress of young Kalabari men also communicates their changing status obtained through achievement. The main presentation of American adolescent psychiatric patients: Self-applied tattoos, interpretive dress, and symbolic jewelry, often create anxious or confused reactions in the observer. These indications of adolescent private self are often not accepted by others in their family and society.

III. SECRET SELF:
Kalabari data in this area is scanty. Secret self image is a basis of psychiatric analysis. American psychiatric patients often express secret self imagery in dress. A private "shrine" of clothing and other idiosyncratic images were photographed and studied in psychotherapy when the formerly psychotic patient had returned to reality thinking. Insights discovered in this process were therapeutic. The possibility exists that where clear cultural expectations exist for age and gender, as in Kalabari traditional society, they are expressed clearly in dress. Confusion develops in a changing society and the conflicts of gender and age are expressed in dress for troubled adolescents.

CLOTHING COSTS OF WOMEN WHO EARN INCOME AT HOME VERSUS AWAY FROM HOME

Joyce Smith, The Ohio State University
Kathryn Stafford, The Ohio State University
Joan Gritzmacher, The Ohio State University
Joan Koonce, The Ohio State University

Much attention has been directed toward professional dress in recent years; however, little data on actual expenditures for work related apparel exist. The Bureau of Labor Statistics reports that 5.5 percent of total family spending is allocated for apparel and related services. Approximately $617 per person was spent on clothing and shoes in 1985 ("Recent Trends," 1986). A 1977 survey of Retail Week attempted to profile the working woman versus the career oriented woman. Both groups reported the same percentage of their take home pay (9%) on clothing or an average of $960 for working women and $1460 for career women ("Working Women," 1987).

The purpose of this paper was to examine the influence of employment characteristics on wardrobe expenditures by child care providers, seamstresses, secretaries, and professionals (accountants, actuaries, engineers and home economists). The sample for the study was drawn from association membership lists, registration or certification lists, and help available classified ads in four metropolitan areas of Ohio - Toledo, Cleveland, Columbus and Cincinnati. Mail questionnaires were sent to 400 women - 50 home based women and 50 outside based women in each of the four occupational groups. A response rate of 48% included 177 home based and 116 outside based employed women. The geographic distribution was based on the proportion of names obtained from each area.

Both linear and logarithmic wardrobe expenditure functions were estimated by ordinary least squares regression. Total wardrobe expenditures were the sum of annual dollars spent on apparel items, clothing maintenance, and personal grooming. Employment characteristics included location of employment, success in business, occupation, and professional commitment. Personal characteristics were controlled using the variables family income and age. Expenditure was regressed on family income, age, location of employment, success in business, occupation, and professional commitment. Using a 10 percent significance threshold, family income and business success affected each type of expenditure. Expenditures increased with income and decreased with success in business. Women employed at home spent less money on clothing maintenance and therefore less on wardrobe. Consulting professionals spent more on apparel and therefore more on total wardrobe. As age increased, so did grooming expenditures and total wardrobe expenses.

The total findings suggest that increased clothing expenditures may be related to initial costs in establishing a business or new career. Older women dissatisfied with outside employment opportunities start home based businesses. Fewer children at home creates greater disposable income for grooming aids and total wardrobe. Casual dress by individuals employed at home may require less drycleaning and therefore lower clothing maintenance expenditures.

Extreme variability of expenditures within the sample suggest that further study of home based versus outside based employed women be limited to one occupational group. A limitation of this study was the purposive sample and difficulty in identifying individuals employed at home.

Recent trends in clothing and textiles. Family economics review, 2, 17.

TRENDS IN AGGREGATE CLOTHING EXPENDITURES
IN THE U.S., 1929-1984

Geitel Winakor
Iowa State University

Aggregate clothing and shoe expenditures (CSE) in the U.S. increased about 1,400% from 1929 to 1984, but fell from just under 12% of total personal consumption expenditures (PCE) in 1929 to about 6% in 1984. PCE grew more than twice as fast as CSE during the 56-year period, according to aggregate data published by the U.S. Commerce Department. A similar trend was seen in family expenditure data from the Labor Department. Relative declines in clothing expenditures also occurred in other developed nations (Organisation for Economic Co-operation and Development, 1983).

Why has clothing's share of the expenditure pie decreased? Data from the Survey of Current Business were examined by using graphic techniques and Box-Jenkins univariate models. Two series were analyzed: total CSE and CSE as a percentage of PCE, all in current dollars.

CSE rose at an increasing rate beginning about 1960. Range-mean plots showed that CSE should be transformed to natural logs for time series analysis, but no transformation was indicated for CSE as a percent of PCE. Both series were fitted with greatest parsimony, among models tested, by an AR1 model (autoregressive with one time lag). Time lags longer than one year and cyclical patterns were found in neither series. The trend in CSE as a percent of PCE appeared to be a random walk—i.e., this year's figure is a function of last year's figure plus a random factor; the percentage does not seem to move toward a mean value. World War II was the major disturbance in the series; CSE peaked at nearly 14% of PCE in 1945. Many hypotheses have been proposed and discarded for the downtrend in CSE as a percent of PCE. E.g., could the trend be due to a change in the slopes of Engel curves for clothing (the functional relationship between family clothing expenditures and total family spending within given years)? This hypothesis was not supported for the years 1929-1958 nor for 1972-73 (Dardis, Derrick, & Lehfeld, 1981; Winakor, 1962).

Graphing suggested that aggregate CSE rose less rapidly than PCE because clothing prices rose less than consumer prices in general from the late 1940s on, especially after 1970. Adjusted for price changes, CSE actually rose as a percent of PCE beginning about 1970 and, by 1984, was over 9% of PCE. Thus, since 1970, people have purchased larger amounts of clothing and shoes while relatively lower prices for clothing allowed them to shift a portion of their clothing expenditures to other commodities. This finding agrees with independent evidence that the demand for clothing is inelastic with respect to price. In 1945, when many goods were unavailable, CSE peaked relative to PCE; after World War II, as new products came on the market, clothing expenditures declined relatively even as relative clothing prices declined.

References cited


Computer technology has been utilized in the apparel industry for the past two decades with the general intent of improving productivity to remain competitive in the marketplace. Currently, computerization of the following operations are becoming more common: apparel design through the use of CAD systems, pattern making, pattern layout, fabric cutting and some routinized sewing operations. Further ways to utilize computer technology are constantly being explored.

Heisey (1984) notes: the ultimate in flexible response would be to produce a garment upon the individual consumer's demand, that is individualized production. She then lists the advantages of this type of system for both the producer and the consumer, but laments the fact that individualized fitting cannot be automated in its present form. One of the latest computer innovations, however, addresses many of the comments and concerns of Heisey and permits custom tailoring by precision measurement using a computer. This system was developed by Custom Cut Technologies in Cleveland, Ohio, and is used by Fittings in Cincinnati. The system uses a measuring device to take 62 individual measurements (accurate to within .01 inch) and to save them on a disk. These data are then transmitted along with fabric and clothing style preferences to another computer which then grades a pattern to size and cuts the fabric via laser. A custom 80 percent hand tailored garment is produced within three weeks and is guaranteed to be 98% accurate in fit.

It is predicted that within 10 years or less this method of production will be the way everyone buys clothing. If indeed the adoption of this system will be this rapid, then it is imperative for educators to learn everything possible about its operation. The teaching aid developed concerning this system is a slide presentation of the production process from initial measurements of the consumer to the finished garment. This visual aid brings the components of the system into the classroom and allows analysis of this system's implication for the following stakeholders: individual consumers, apparel production managers, apparel production workers and retailers.

The development of this system is a manifestation of one of the megatrends identified by Naisbett (1982): the melding of a high tech development (computerized measurement and production) with a high touch development (the involvement of the individual through the measurement process and the defining of personal preferences). While Clothing and Textiles academicians were not the developers of this system, it is our responsibility to be informed of state-of-the-art developments in industry and then to educate our students about these developments.

This system illustrates a new trend in retailing/apparel marketing and apparel production. The slide presentation brings this trend into the classroom. Futurists predict the burgeoning of computer use in the future. This teaching aid allows students to see and understand how the focus in retailing and apparel production will change in the future.

REFERENCES


GROUP PROCESS AND THE 
PROCESS OF DESIGN

Edith Berlow Gazzuolo 

Minneapolis College of Art and Design

The design process is rarely a solitary act. At the very least, a client is involved. More complex projects, such as industrial or theatrical design, are collaborations from start to finish. Yet what preparation are students given for this lifetime of group interaction? 

In our design program, students are often assigned group projects. Sometimes these efforts are models of creative interaction, but more often problems arise which have nothing to do with course subject matter or the project itself. These are problems of communication, human relations, and group dynamics. 

Therefore, when asked to teach design methodology, I decided to include some basic skills in group process. Three experiential sessions developed specifically for this course are described here. Two are integrated presentations of design methods (content) with group dynamics (process). The third is a dedicated structured experience in group design decision making. 

The first session, Session #2 in a 16-week sequence, involves techniques for interview and observation. Questioning and listening skills are presented not only as interview techniques, but also as powerful communication tools. Alternate role playing of subject, interviewer, and observer helps develop sensitivity, practical skills, and confidence as a researcher. This session also serves as an introduction to the course, setting the tone for future sessions. 

In Session #5, the methodological content is semantic differential. The group process focus is consensus building. Small groups of five or six develop semantic differential instruments by consensus. Pairs of semantic opposites are shared with the group which collectively revises and refines them. The group chooses the ten best pairs, then uses the resulting instrument to rate three categorically similar objects such as textile patterns. The data is then collated and the results used to discuss basic concepts in statistics. 

Session #15 is a structured experience of group design decision making. Designer color pack papers are used in a process of nonverbal consensus building. First, random groups of three are chosen. Each person then chooses three colors and creates a composition by overlapping the color sheets. The group task is to reach consensus on three such compositions using the group’s nine color cards in any combination. Group members take turns arranging the nine cards until all three pass, signaling that consensus has been reached. After collectively mounting these compositions, the nonverbal process is resumed to arrange them on a single board. When these have been mounted, the entire class is asked to verbally reach consensus in ranking the group boards for color choice, composition, craftsmanship, and overall quality.

Throughout the course, debriefing periods are included to verbalize the feelings, problems, and insights which have been generated by the experiential sessions. Debriefing standards are followed which emphasize the individual’s responsibility for his or her own feelings, and the sharing of these feelings without accusations or assumptions about others. 

The standards themselves are presented as techniques for sharing information and resolving conflicts. They can be used as the ground rules for any intense verbal sharing among individuals.
Because so many women list fit of pants as one of their apparel problems, the Body Graph Measuring Device which has been used successfully with bodices and skirts was adapted for pants. In order to program pant designs, vertical lines had to be used other than CP and CB locations used with the Body Graph. For computerizing irregular shapes with output compatible to a printer, the Pant Body Graph required: (1) capacity to expand or contract both horizontally and vertically to fit various body sizes and shapes, (2) numbering sequences on the device which correspond with the spacing on a printer and which can be read and recorded in coordinate numbers, and (3) a computer program to print coordinates for irregular shapes.

As with the Body Graph, the Pant Body Graph was made of strips printed with a numerical system representing the horizontal and vertical increments of a printer. The strips were assembled in such a way as to be adjustable in both width and length dimensions. The X coordinates were measured left and right from a straight line located front and back at the creaseline position while the Y coordinates were measured from the hipline and the crotch. A form was developed for measurements to be recorded on pant diagrams, front and back, in order to reduce confusion. A computer program was developed in BASIC for use with the Pant Body Graph in order to serve the broadest number of computer users.

The measuring device, recording form and computer program were introduced as an expanded use of the computer in an intermediate apparel design class Spring Semester, 1986. Fourteen students were measured. Time required for assembling the Pant Body Graph, recording data and removing the measuring device approximated 15 minutes per person. Students plotted their measurements after adding required ease. Output from the printer consisted of points which needed to be connected. Darts and curved areas needed to be trued and seam allowances added. If the crotch loop was short, the pattern was slashed in back from hipline to crotchline and spread to yield the recorded measurement plus ease. For the figure types included, at least one inch of ease was needed in the back crotchline. Also, plotting the location of the pant front dart (or darts) was necessary for a good fit. The students constructed muslin shells which were worn to identify necessary alterations.

The Pant Body Graph method of body measuring proved successful in measuring a variety of figure types encountered in school settings and in custom design applications. Since the pant pattern can be plotted as the customary front and back pieces or can be divided vertically into four sections, a small printer is adequate in width to produce most sizes. The Pant Body Graph identifies asymmetrical shapes so that problems can be solved more easily.

For those wishing to do custom designing, capital outlay and storage requirements for client data would be minimal since slopers could be stored on discs and computer equipment would serve the needs of the business. Use of such aids could make custom designing more pleasurable as well as profitable. Also, computerization of individual body measurements can increase opportunities for the domestic apparel manufacturer to serve a forgotten segment of the market.
Most students majoring in textiles and clothing are required to take at least one course in textile science and one course in basic clothing construction. However, rarely are students exposed to anything more than a brief discussion of the interrelationships that exist between these two subject matter areas. In beginning textiles courses and textbooks, clothing construction usually is mentioned only in terms of care, matching plaids, colorfastness of components, and fusible interfacings. The textile components discussed most often in basic construction courses and textbooks are fiber content and fabric construction (knit or woven).

The course described here examines the interrelationships that exist between textile characteristics and clothing construction decisions. The course is based on the belief that characteristics other than fiber content and fabric construction also are crucial when making construction decisions. Students select a fabric and identify specific textile characteristics: fiber content, yarn size and twist, fabric construction, fabric weight, shrinkage (after one and five laundering/drycleaning cycles), change in appearance following laundering or dry cleaning, bow and skew (initially, then after one and five laundering/drycleaning cycles), yarn count, colorfastness to laundering or dry cleaning, and any finishes identified on the bolt. Students then experiment with alternative seam types, interfacings, and closures. Some variables identified in seam construction are seam type, thread type and size, needle type and size, and stitch type and length. Curved and straight seams as well as seams with ease or fullness are examined. Interfacing variables include fabric type, fusible or nonfusible, and application method. Closure variables include type (zipper, buttons, snaps) and application method. Students judge the ease of performing each task on the particular fabric. Appearance of each sample is evaluated before and after laundering or dry cleaning.

During and following experimentation, students identify the fabric characteristic that seems to have the greatest influence on construction decisions. Results to date indicate that yarn size and count are the greatest determinants when selecting appropriate construction techniques.
The Textile Testing Center became a reality as a result of a recognized need identified by a Governor's task force appointed to study and make recommendations regarding the declining textile and apparel industry in Arkansas. The greatest contributor to the Textile Testing Center is Wal-Mart Stores, Inc., who needs information for making decisions in implementing their "Buy American" campaign. Wal-Mart Stores, Inc. is one of the largest discount chains in the United States, having approximately 900 stores in operation in over 20 states. Apparel buying offices and representatives are located throughout the world. In 1985 Wal-Mart Stores, Inc. sold more than $6.4 billion in merchandise with approximately 40% being textile-related items.

The Center serves two major purposes: 1) to provide a service to the textile/apparel and merchandising industry, and 2) to give students a hands-on experience in generating and analyzing information upon which major decisions are made in the industry. The center is funded by manufacturers and retailers who want this service.

Services rendered include: 1) textile testing analyses of fiber content, yarn count, fabric weight, dimensional stability, colorfastness to laundering, perspiration, crocking, bleaching and light, resistance to breaking, abrasion, pilling, air and flame, and fabric thickness; 2) preparation of Textile Testing Reports so that apparel buying decisions may be transmitted to the different vendors; and 3) preparation of Summary Reports comparing like items produced by different manufacturers so that the one best apparel item may be chosen for store stock.

The Center offers students the hands-on experience of actually assisting with laboratory testing. Also, data generated from tests are used in making decisions during the manufacturing and merchandising of apparel and other textile products. Students have the opportunity to analyze data from the textile tests and write care labels based on the findings. A "case study" type of situation allows the students to make recommendations based on decisions determined by the analysis of data generated from the laboratory tests. These data provide a criterion for decision-making in specification or private label buying of both imports and domestically produced apparel.

The ability of graduates of Fashion Merchandising to relate knowledge and skills to the environment may be an assessment of the value of our program. Today when both business executives and students are calling for more hands-on, experimental exposure to the industry sector in college courses, the Textile Testing Center offers an additional dimension to the internship program by bringing the industry to the campus. Such an emphasis is especially timely as the United States strives to re-establish a healthy textile and apparel base and where the business sector offers numerous job opportunities to our graduates.
RESEARCH AS A FOUNDATION FOR TEACHING:
CLOTHING DESIGNS FOR MASTECTOMEES

Nancy Ann Rudd, The Ohio State University (Columbus, OH 43210)

Norma D. Pitts and Esther Meacham, The Ohio State University (Columbus, OH 43210)

"Clothing Designs for Mastectomees," a research effort funded by the National Endowment for the Arts, is an example of how research can be used as a foundation for classroom teaching and extension programming. The objectives of the project were as follows: conduct a needs assessment; develop apparel design sketches in four categories of clothing (eveningwear, swimwear, suits and dresses) to accommodate needs; construct prototype garments of selected designs; adapt ready-to-wear and patterns; evaluate garments using needs assessment criteria; summarize and disseminate information to target groups.

The NEA project involved several different phases simultaneously. Initial data gathered through interviews were used to further develop an extensive survey questionnaire; data were also used by an undergraduate honor's student to develop a design project to satisfy her honor's program requirements. She developed garment criteria for mastectomees, designed ten garments to meet the criteria, and draped one prototype garment on a dress form made for a radical mastectomee.

The design phase of the NEA project incorporated original designs by one researcher and one associate, as well as designs adapted from students in two courses. Fashion design and illustration students were given research data and specifications to identify specific needs, develop twenty sketches of appropriate designs, and complete renderings of three best designs accompanied by production sketches showing details of fabrication, construction, closures, and control of ease. In a summer workshop on the needs of mastectomees, each participant designed a garment for one of three specific "cases" involving physical needs, style preferences, and end use. Approximately 80 students thus contributed design ideas to the NEA project.

Data from the pilot study and the survey questionnaire have and will be further used to expand the client-requested extension program, "A New Beginning: Your Wardrobe and You," developed by Pitts and presented to over 500 mastectomees and support people in eight Ohio locations. Program development included a resource kit dealing with medical and coping aspects of breast surgery, bras and prosthesis alternatives, and specific clothing suggestions for mastectomees. Survey findings have also been included in a special needs unit of "Clothing and Humanity," an introductory course required of Textiles and Clothing majors, and elected by students in business, allied health, and consumer services.

The statistics on breast cancer are grim. Yet through research, service and teaching we can help people accommodate needs, and improve the quality of life for women who have had mastectomies.
USE OF FASHION MUSIC VIDEOS AS AN
INNOVATIVE TEACHING TOOL

Mary Askim, University of North Dakota

Fashion videos have become one of the new tools of the fashion business. Designers use the video to sell their season lines and to present fashion information through fashion trend reports and video press kits. Retailers use them as a merchandising tool and traffic builder on the sales floor, to educate staff with video seminars, and to educate and entertain the customer. As educators, we should incorporate as many of these innovative ideas into learning opportunities for the students as we can.

As a semester project for the Visual Merchandising and Display class, the merchandising students planned, produced, and directed a fashion music video showing a segment of spring ’86 fashions. The project was a cooperative effort with a class in the University's School of Communications. All aspects of production, from conception to the taping and editing, were the responsibility of the students.

The objectives of the video project were to provide the students with opportunities to 1) become involved in a creative planning process; 2) work in a cooperative setting with retailers and other students; 3) make a statement about the current season's fashions; and 4) gain better visibility on campus and in the community.

The project took almost three months to complete, but can be adapted to a smaller time frame. Class periods were used to aid in the development of the project, but time outside the classroom was essential. Initial class periods were used to view professional fashion videos and to decide on the general theme. Students worked independently or with partners on their respective responsibilities outside the classroom and then reported to the class as a whole. Actual taping took eight hours using three cameras from which 30 hours were later spent editing the film into a video over three minutes in length.

Grading for the project was based upon 50% instructor/50% group evaluations of individual student work commitment and responsibilities. The three criteria evaluated were 1) quality of work, 2) timing of work completion, and 3) fair share/effort. All students were given base points.

Many outcomes resulted from the video project. It allowed the students to experience the commitment and responsibility to others one has when working in a cooperative setting. The evaluation process allowed each student to evaluate the performance of others as well as themselves. The video resulted in good public relations between the department, campus, retail businesses, and the community. On the day of the taping, the students were featured on the local TV news. Although the hours of work on the project were many, the students and the instructor experienced that high level of satisfaction on producing a totally creative product.
"QUICK RESPONSE" TO THE NEEDS OF THE U.S.
APPAREL INDUSTRY

Susan L. Davis, University of Rhode Island

The U.S. apparel industry is currently engaged in a dramatic battle for survival. Increasing numbers of textile and apparel imports have had a disastrous effect on the American industry. Numerous individuals have suggested solutions to the problem, but the "call to arms" which seems to have the most appeal is "quick response". The quick response technique has many applications but basically it is designed to radically reduce the long cycle time of apparel manufacturing from domestic textile manufacture to retail marketing of goods. Many manufacturers have implemented quick response through modernization and technological developments and through improvements in quality control procedures. Often the apparel design area is one which is passed over in the solicitation of contributors to quick response, but in fact design has much to contribute.

A major problem in the apparel industry is the lack of communication between the designer and the manufacturing facility. A large part of this is due to geographical separation of designer (New York) and the apparel plant, but much of it is also due to a lack of knowledge by the designers themselves about manufacturing capabilities. The scenario is this: (1) the designer designs garments/possibly makes first pattern, (2) designs sent to plant engineer or production patternmaker who explores possibility for production, and (3) designs are discarded or changes are suggested due to cost or lack of machinery to accomplish construction procedure, sent back for redesign. In many cases this last action is followed by arguments and/or temper tantrums by the "artistic" designer. The point is that all this takes time, time that a knowledgeable, more generally trained designer could eliminate. A designer who understands the plant where a garment will be produced as well as how a completed garment will be merchandised, can shave time from the design-to-consumer production chain by simply designing garments more to specification.

Fashion creativity is an obvious contributor to the quick response system; if a garment is not perceived as fresh and creative, it does not matter how quick the chain of production is. Quick response means responding quickly with the right garments that the marketplace demands and that requires creativity, something that society desires yet our educational system discourages simply by its own assembly-line style. We use the word creativity constantly but with very little understanding of its meaning; students need to be taught ways to deal with society's inadvertent stifling of less overt forms of the creative process.

This paper deals with the institution of these two contributors to quick response into the apparel design program at the University of Rhode Island. Although the design program at U.R.I. is admittedly limited, conceptually the techniques apply to programs of any size.
A METHOD FOR EVALUATING BODY PROPORTIONS

Carol J. Salusso-Deonier - Iowa State University*

Karen Lilevjen LaBat - University of Minnesota**

Body form variation as a critical factor in design, selection and interpretation of the clothed body form must be understood by textiles and clothing professionals. Many clothing selection and aesthetics courses include a body form analysis section in which proportions are calculated in head length units. The well-proportioned body form is a frame of reference for this analysis.

The authors have found that doing a head length analysis of somatographs aids students in developing an ability to visually analyze body proportions. By explaining body form variation in terms of body balances and dominances with related sex, age, and ethnic trends, students gain a general appreciation of variation in body proportion. Students usually discover their bodies are better proportioned than society has led them to believe.

Classic texts such as that written by Horn and Gurel (1981) provide an illustration of head length analysis. Because the authors found that students are unable to carry out the analysis without a step-by-step demonstration, detailed guidelines were developed. These guidelines include a modification of Douty's (1968) procedure for taking somatographs and instructions to establish head length and locate body parts. Head length unit templates are used to measure the individual's body lengths, widths, and depths which are then compared to the dimensions of same sex standard well-proportioned body forms. Proportions of body parts differing by .5 head length are considered visually obvious. Our goal is to have this analysis result in an objective understanding of body proportions. Decisions about techniques to use in modifying apparent body form through the design or selection of apparel can be based on reality rather than misperceptions.


*Currently at Montana State University.
**Currently at Minneapolis College of Art and Design.
MARKET EXPERIENCE WITHOUT RISK

STUDENT PARTICIPATION AT REGIONAL MARKETS FOR UNDERGRADUATE CREDIT

Teresa A. Summers, Louisiana State University

For many store buyers regional apparel markets have become an important alternative to New York City as sources for all types of apparel lines. Many store owners who can no longer afford to send buyers to New York depend exclusively on buying trips to regional or local markets for clothing and accessory lines for their stores.

A buyer's first experience at a regional market can be overwhelming and stressful. Entrusted with the store's open-to-buy allowance for a season, a new buyer at market has to make major purchasing decisions and deal with the chaos of a large, often bewildering, regional apparel mart.

Students in fashion merchandising frequently move directly into positions as buyer trainees after graduation and may go to market within a year of beginning their positions. Providing students with market experiences prior to graduation can give them skills and confidence that cannot be gained in the classroom.

During market week at a regional apparel mart, many sales representatives hire temporary market assistants through in-house employment agencies. These agencies are usually very informal and depend almost exclusively on "walk-ins" (individuals desiring to work at market) to fill requests by sales representatives for assistants. Once hired, assistants are trained by the sales representatives to perform multiple functions during market ranging from serving refreshments to buyers, pressing and hanging garments, to modeling, showing, and selling the lines. Salaries range from $40-75/day depending on experience and duties assigned. Even at local or small regional markets held in hotels or convention centers, sales representatives frequently hire temporary market assistants to perform many of the above described duties.

Merchandising students hired as temporary market assistants can experience all of the excitement, confusion, and hard work of a market and observe buyers performing many aspects of the buying function with none of the risks associated with a buyer's job. Markets are almost always scheduled around a weekend, thus students miss few days of class. Local and small regional markets are held in hundreds of cities several times a year. Regional apparel marts hold women's and children's and men's apparel markets five times a year. With the construction of apparel marts in many regions of the country, most students now have reasonable access to a mart. Since market experiences can provide extremely valuable information unavailable in classroom lectures or textbooks, faculty may choose to grant degree credit to students for these experiences. Undergraduate credit can be offered to students through courses combining classroom instruction and experiences at one or more markets. Students can also receive credit through independent study courses which can be structured to maximize student work experiences with market opportunities available. Giving credit for market experiences encourages students to apply for temporary market assistant positions. Market participation is a valuable resource that can be utilized to enrich the offerings of any merchandising program.
Classroom Application of the Perfect Information Frontier

To Price-Quality Product Evaluations

Pamela S. Norum, University of Missouri

The relationship between product quality and price is important to manufacturers, retailers and consumers. It is important for fashion merchandising students to understand: 1) how to evaluate the quality of textile and apparel items and 2) how to assess the relationship between overall product quality and price to determine relative "value." Information of this type is frequently covered in courses commonly referred to as "buying" courses.

Generally speaking, quality assessment, rather than the price-quality relationship is emphasized within these courses. However, it is important for both of these facets of the purchase process to be incorporated into the classroom learning experience. One framework which provides for the systematic analysis of the relationship between price and quality is the Perfect Information Frontier (PIF) framework (Maynes, 1976).

Use of the PIF requires market research to obtain ratings on specific product characteristics that are important in determining product quality, as well as the price of the item. This requires that the student determine the characteristics that are important to overall quality prior to conducting actual market research. Thus, product knowledge is an essential component of the project. An overall quality score is developed as a weighted sum of the ratings on these product characteristics. The characteristics and weights used in determining quality can be based on lecture material and textbooks such as Know Your Merchandise (Wingate et al., 1984).

The PIF for a given product is formed by developing a graph with price on the vertical axis and quality on the horizontal axis. The price-quality combination for each item evaluated in the market research is plotted on the graph. The PIF consists of those points that represent the lowest price for a given level of quality (Maynes, 1976). The presence of many points above the frontier is evidence of price dispersion which results from a low correlation between price and quality. In general, the greater the amount of price dispersion, the greater the payoff to the consumer for searching for information before purchase. It is important for the student to determine the implications of the graph for the consumer. They must consider questions such as "Does price dispersion exist? Why or why not?" "How might advertising influence the results?" "What factors would influence the potential payoff to consumers from a search?" Differences in the relationship between price and quality due to factors such as brand name, country of origin, store location and store type also need to be considered.

The use of the computer can be easily integrated into the classroom with this project. Students would develop questionnaires for obtaining ratings on relevant factors. Various PIF's can be generated on the computer, although interpretation is left to the student. Further statistical analysis can be computed and used for additional insight if appropriate to the level of the class.


Students majoring in fashion merchandising or apparel design are required to take an upper division course, Social Psychological Aspects of Clothing. Although students often found the content interesting, some had expressed doubts about its relevance to their career goals in the apparel marketplace. Thus, the term project has been restructured to place greater emphasis on marketing implications. The Lifestage Market Research Project is designed to provide an opportunity for these students to apply social science concepts to analysis of specific apparel market segments.

Each student is assigned to a small research team responsible for analyzing the clothing/adornment needed to accommodate physical conditions and facilitate social adjustments for individuals at a particular stage of the human life cycle. The broadly defined markets include pre-school children, elementary school children, teenagers, young adults, expectant mothers, overweight adults, physically challenged adults, and older adults. Students are assigned to these groups on the basis of their ranked preferences; all groups are the same size.

Independently, each student conducts an investigation of some social psychological factors related to the clothing behavior of persons in the target market. For example, sex role development in young children, social comparison among teenagers, status symbolism for young adults, and social acceptance for overweight adults, might be studied. All are required to collect original data by experiment, survey, or observations. The resulting findings must be incorporated into a short research paper, structured according to the scientific method of inquiry.

Collectively, research team members prepare a 30-minute class presentation which synthesizes the independent projects into a coherent, informative discussion. The presentation can take any form, so long as it serves to identify key social psychological aspects of clothing for the specific market.

Results of the project assignment have been gratifying. Students seem eager to collect their own data, often expending considerable time and money to distribute a questionnaire or to conduct a field experiment. The class presentation can be quite entertaining, especially when creatively developed as a television talk show, a buyer symposium, an advertising campaign, or a magazine proposal.

Perhaps the most important benefit derived from this project is the appreciation students gain for the diversity represented in apparel markets. Rather than focusing on merchandise only in terms of classifications such as children's wear or maternity wear, students develop an understanding of the consumers whose needs might be addressed by such merchandise. Thus, future buyers and designers have been sensitized to evaluate apparel in terms of social psychological factors as well as the more obvious physical aspects.
One of the most effective means of communicating information and ideas today is the visual media. The image message is both verbal and visual. Past research indicates that most learning takes place through sound (11%) and sight (83%). An individual's learning retention is increased by 20% of what is heard, and 30% of what is seen to 50% if the information is both verbal and visual. This research knowledge supports the fact that visual media technology is an innovative and effective method for teaching audiences of all ages with varied interests.

Visual media has become a widely used forum for educating the public and making people aware of services provided by various institutions, colleges and universities. There is increased involvement of individuals in education, business and industry in videoconferences and television productions (talk shows, interviews, commercials, and special programs). The use of satellites to transmit videoconferences, educational programs, and a variety of other services has intensified the need for projecting a professional image. With a set criteria, the novice involved in these media productions, can project a quality presentation, and effectively captivate a viewing audience.

A video tape "Image Message for Visual Media Productions" and a supporting publication, "Image Guidelines for Visual Media Productions" were developed by Cooperative Extension and teaching faculty at Oklahoma State University in response to requests for advice on how to prepare for video appearances. The teaching resources were designed for the general public or professionals who have questions on image projection. The video and publication discusses guidelines for the following criteria that can determine the success of the production:

1) Analysis of physical attributes and body language to project confidence and authority.
2) Projection of clear individual image through clothing, grooming, and general appearance.
3) Coordination of subject content in relation to creating verbal and visual consistency.
4) Development of production procedures including a planning guide and glossary for coordinating visual media.

Public information professionals, TV anchor persons, and production technicians willingly contributed actual experience, verified the information developed, and evaluated the video, and publication. The educational materials were evaluated through an internal cooperative extension and departmental review process. These innovative teaching/learning references are timely, effective tools for presenting visual media productions.
USING FILM CLIPS TO ENLIVEN THE STUDY OF HISTORIC DRESS

Anita Racine - Cornell University

Studying fashionable dress and the ideals of beauty in any culture becomes more meaningful when examined within the context of the arts, world events, technology and roles of people in various social classes. Carefully selected documentary and Hollywood films can be used to supplement the traditional teaching method of slide presentations and historic garment analysis in costume courses by providing an additional valuable resource of visual material for examining American dress and culture. Easy-to-use video recorders and the availability of excellent films make this a worthwhile medium for the classroom because they add depth and important dimensions to the study of historic dress. Consider the difficulty of explaining concepts like drape, volume and movement of 18th and 19th century garments with only the use of two-dimensional slides and frail historic costumes resting lifelessly on tables and the benefits derived from using film clips to enhance presentations will be evident as the luxury and opulence of gowns interpreted from the 18th and 19th centuries are enlivened with physical movement and viewed in appropriate historic settings. Two notable films that pay exceptional attention to historic costume details include Barry Lyndon (1975) and Gone With the Wind (1939), and are excellent for classroom analysis.

Besides the appreciation of costumes as fine art, clothing from the past can communicate other messages through film. For example, as students witness restricted body motion and the distorted posture and gait of women wearing corsets, side hoops and crinolines, the roles of fashionably dressed women in history become apparent. After scrutinizing film clips, they are also better able to develop an understanding of garment construction and interpret how shaping devices are used to achieve various silhouettes. The military styling of 1940's women's suits created by prominent shoulder pads and snugly contoured waists is clearly captured from all angles in films like Cover Girl (1944) and The Doughgirls (1944).

Film clips used as another method of style analysis and for observing current ideals of beauty, make-up, hairstyles, accessories and home furnishings are important to help students appreciate the meaning of fashion in the broad context. Additionally, other pertinent themes related to dress, including lifestyles, etiquette, moral conduct and changing roles of women, are all brought into focus on film and give depth to the study of historic costume.

My course on historic American dress has been enriched by this visual teaching aid. The course has grown into an attractive elective for students outside the field of Textiles and Clothing and is enthusiastically received by our majors.
Videotaped interviews were planned and developed over a two year period in order to provide students in an apparel industries course with information about careers in apparel. The objectives of the videotapes were (1) to provide students with career options information and expose them to various apparel professionals, (2) to familiarize students with some of the situations handled on a daily basis by apparel professionals, and (3) to provide students with information regarding the apparel professionals' assessment of an optimal curriculum and a recommended career path.

Before the videotapes were developed apparel careers were covered in class by reading about them. About twice per semester it was possible to arrange for a guest speaker to attend class, but it was not always possible for apparel professionals to get time off from work nor was it possible to pay them for their time. Furthermore once a good speaker was identified it was difficult to ask the individual to take off more time by attending again the next semester. The development of the videotapes was conceived of as a way to develop a permanent set of speakers, each of whom could address a different apparel career and who would not have to be asked to repeat the interviews in subsequent semesters.

A proposal was written and submitted to a campus agency for funding which supports the development of teaching materials. In the first year the proposal was funded for the taping of six interviews. These interviews took place in a large on-campus video studio and were set up with a question and answer format. A producer was assigned through the funding agency who provided invaluable instruction, advice, and helpful comments. At the end of the school year the six videotapes included interviews with (1) a fashion designer, (2) regional manager of a major apparel manufacturer, (3) owner of a specialty store, (4) buyer for a major department store, and (6) two fashion merchandising interns. The following year another proposal was written and funded, this time for five interviews. These consisted of interviews with (1) an apparel entrepreneur (2) a personnel director for a major department store, (3) a personal shopper for a major department store, and (5) an apparel manufacturer's representative. The interview with the personal shopper included a seven-minute pre-taped in-store segment which although it took 3½ hours to tape added something special to the interview.

Benefits to the students are many. A student interviewer was invited to participate with the instructor as part of the videotaped interview. Usually this was possible. During each interview session the apparel industries class was invited to attend and students often asked on camera questions at the close of the interviews. The interviews are now used each semester as part of the apparel industries course and are scheduled throughout the semester as the various component parts of the apparel industries are introduced. The value of these videotapes for a fashion merchandising program should not be overlooked. The contact with area businesses and businesspersons has led to student jobs, internships, offers by businesses to do more presentations, and suggestions for credit generating practicum experiences.
Ethical Issues Related to Field Placements

P. Ashinger

Wayne State University

Merchandising majors in field training and/or career retail positions frequently are faced with situations that can be ethically troublesome and unpleasant. Students enrolled in a field study course at Wayne State researched ethical issues that had appeared in trade publications, professional journals and the Wall Street Journal.

As part of weekly class discussion periods, students identified problems that had occurred periodically in their work situations. Once problem situations were identified, they were grouped under customer interaction (returns, pricing objections, etc.), peer interaction (scheduling, customer rotation, etc.) and management interaction (operating procedures, written communications, etc.).

The class members devised a questionnaire to determine attitudes of customers, sales associates and managers concerning these situations. Responses were to be recorded using Likert scaling of one to five, with one representing "strongly disagree" and five representing "strongly agree."

Each student interviewed customers, salespeople and management personnel in their field placement store, using the above questionnaire. The total sample represented ninety females evenly divided between management, salespeople and consumers. Over half of the management people had worked in retail five years or longer. Eighteen of the thirty sales associates had worked less than two years. Only customers who had never worked in retail were used in the consumer group. The majority of those interviewed were white and under the age of thirty-five.

From these interviews the class compiled a table of data on attitudes of the three groups. Fifteen attitude statements were used. Listed below are three examples with mean scores and standard deviations:

**Attitude Statement:** Most retail stores deal honestly with customers. (Mgt.: mean 4.0, s.d. 0.46; Sales: mean 3.6, s.d. 0.87; Consumers: mean 3.3, s.d. 0.89).

**Attitude Statement:** Commissioned salespeople tend to be more interested in serving customers than non-commissioned salespeople. (Mgt.: mean 3.7, s.d. 1.16; Sales: mean 3.4, s.d. 1.34; Consumers: mean 3.9, s.d. 0.98).

**Attitude Statement:** If an item is going on sale soon, salespeople have an obligation to tell prospective customers. (Mgt.: mean 3.3, s.d. 1.19; Sales: mean 3.6, s.d. 0.97; Consumers: mean 3.9, s.d. 0.78).

The findings were analyzed and discussed. Students listed possible reasons for the varying attitudes of the groups. Ideas included the extent and effectiveness of written policies, communications, short-term pressures for sales goals versus long range objectives of customer good will, an understanding of the marketplace, and disparity between "the customer is always right" and the profit motive.

During the remainder of the field study course, students noted such conflict situations and analyzed how they could be modified or avoided. Students were encouraged to share this information with their supervisors when appropriate.

To effectively and appropriately deal with ethical issues in the marketplace is important not only to businesses but to the general public as well. This class project helped students recognize and deal with conflict situations and develop the confidence to minimize these situations as part of the management team.
AFTER HOURS EDUCATION: CURRENT TOPICS ON A WEEKEND

Holly Bastow-Shoop, PhD, North Dakota State University

Helen Lunde, North Dakota State University

Since 1980 departments within the College of Home Economics at North Dakota State University have offered intensive short courses on weekends. The department of Textiles and Clothing has sponsored 12 weekend courses over the past five years.

Class format, which typically includes sessions Friday evening and all day Saturday, appeals to majors within the department and other university students as well as people from the community and state. There are no prerequisites to the short courses which may be taken for one quarter hour credit or audit, and are equivalent to ten 50-minute class periods. Lectures, panel discussion, video and audio tapes, teleconferences, films and slide presentations are carefully ordered to provide stimulating learning experiences. Coordinators of the weekend courses are cognizant of Bruner's recommendation to educators that learning events be sequenced and paced for optimum student comprehension (Snelbacker, 1974). Evaluation of student learning may include position papers, pre- and post-tests, and other evidence of synthesis of concepts taught.

Presenters may be nationally known professionals as well as local resource persons. Smith (1982) suggests that in the classroom a resource person becomes an acknowledged expert or distinguished scholar. Well-known "headliners" usually stimulate enrollment as well as encourage media coverage. Pre-class promotions typically include articles in campus, local, and regional newspapers, announcements in the Cooperative Extension newsletter, posters and flyers.

Topics vary in degree of specificity and breadth of appeal. Some titles of recent weekend courses include:


Enrollment for the twelve weekend courses has ranged from a low of 17 students (1981) to a high of 92 (1986). The mean and median enrollment values are 60 and 70 respectively (N=12).

Textiles and clothing faculty expect to continue offering weekend short courses for the following reasons: (1) speaker availability on weekends, (2) student willingness to commit time to short classes, (3) opportunities to focus on topics of current interest, and (4) positive effect on credit hour production.

References
THE CONSUMER SEGMENT PROMOTION PLAN

Nancy L. Cassill

North Texas State University

Demands on merchandising faculty to prepare students for employment in an increasingly competitive society are intensifying. Two teaching strategies designed to successfully meet this challenge include the 1) assimilation and 2) direct application of course content to apparel merchandising. Promotion, a key marketing component, is a subject area that is included in many merchandising curriculums. The Consumer Segment Promotion Plan provides an opportunity to incorporate marketing and apparel merchandising concepts into practical business applications and can be adapted for either merchandising graduate students (students work individually) or undergraduate students (students work in 2-3 member groups).

The purpose of the promotion plan is to identify characteristics of a selected consumer group and develop promotional strategies to target this group. Suggested segments include Career Women, Over-55 Consumers, Large Size Consumers, Contemporary Men, Adolescents, and Children. The Consumer Segment Promotion Plan for a selected segment is completed in two phases: 1) The Consumer Segment Analysis and 2) The Promotional Plan.

The Consumer Segment Analysis is research aimed at identifying a segment's current demographics and psychographics. The research consists of a thorough literature search of research, trade, and consumer publications as well as in-depth interviews and questionnaires conducted with segment members. In addition, a market analysis is conducted to determine current offerings by apparel manufacturers and retailers to meet the needs of this segment. Based on the demographic and psychographic research and the market analysis, a specialty store or a department (within a department store) is planned which includes a physical store plan and an inventory of store offerings.

Using the Consumer Segment Analysis and promotion concepts, a Promotion Plan is developed. This plan includes the following: a special event, a visual merchandising example, a newspaper advertisement, a radio and/or television script, a press release, and a direct mail pamphlet.

Successful results of the assignment have been evidenced by the creation of videos, slide presentations, renderings of store designs, pictorial illustrations of advertisements and store displays, television scripts, and direct mail pamphlets which reflect the consumer segment's demographics and psychographics. The assignment increases the students' understanding of the demographic and psychographic trends, the implications of these trends for apparel manufacturers and retailers, and allows for actual performance of skills that will be used in apparel merchandising employment.

The culmination of the Consumer Segment Promotion Plan has been the submission of consumer segment articles to trade and consumer publications increasing students' understanding of the publication arena.
Students in textiles and apparel, regardless of their concentration or major, need to understand fundamental social and economic concepts as they relate to this industrial sector. One of these basic ideas involves labor issues. An appreciation and understanding of the people who work in the textile industry, their lives, history and culture, is essential if students are to be effective designers or managers or marketers of the sector's products.

Communicating the culture of the industry through lectures and readings was ineffective with students far removed from textile production in geography and life experiences. In an attempt to correct this course weakness, I turned to Cornell's Theater-in-the-Classroom program. With the assistance of the Theater's director, an assigned reading, Hillbilly Women by Kathy Kahn, was turned into a play, which was produced and performed by students in the theater department.

The dramatization depicts the lives of seven Appalachian women who work in cotton mills. The women air their grievances, sing, laugh, cry, and talk about their husbands' work in the mines. The play allows students to identify with the people they have read about in their textbooks. As the women share the stories of their lives, the audience gains insight into the ways that work in the cotton mills impacts individuals and families.

Student evaluations were overwhelmingly positive, and the play was rewritten and produced the following year. After the second presentation, the play was videotaped so that it would be available for other classes and institutions. The vehicle of theater turned out to be an ideal way to communicate critical industry labor issues in a creative and innovative way.