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**Employee attributes for entry-level management positions
identified by apparel manufacturers in North Carolina**

Lowry, Glenda Lee, Ph.D.

The University of North Carolina at Greensboro, 1986

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EMPLOYEE ATTRIBUTES FOR ENTRY-LEVEL
MANAGEMENT POSITIONS IDENTIFIED
BY APPAREL MANUFACTURERS
IN NORTH CAROLINA

by

Glenda Lee Lowry

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

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Approved by


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APPROVAL PAGE

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LOWRY, GLENDA LEE, Ph.D. Employee Attributes for Entry-Level Management Positions Identified by Apparel Manufacturers in North Carolina. Directed by Dr. Melvin D. Hurwitz, 102 pp.

Sixty-eight North Carolina apparel manufacturers identified essential employee attributes for entry-level management positions. The attributes were derived from typical apparel manufacturers' needs for management employees and were grouped according to the following function: Marketing, Product Development, Production, Operations, and Personnel.

The group of 68 represented 24% of the available population. The background of the respondents indicated that the majority had been in the apparel manufacturing industry over ten years and had attended college. The respondents consisted of 25 large apparel manufacturers, 25 small apparel manufacturers and 18 cut/sew contractors.

No differences (.05) existed in the responses of the 25 large apparel manufacturers and the 25 small apparel manufacturers. A significant difference (.05) existed in the responses of the 50 apparel manufacturers and the 18 cut/sew contractors. A sub-group of 17 womenswear and 13 menswear manufacturers were also analyzed. Womenswear manufacturers differed significantly from menswear manufacturers in their perceptions of essential employee attributes. There was a marked difference between womenswear and menswear in the Marketing function and a moderate difference in the Product Development and Personnel function.

Nineteen employee attributes were deemed essential by the 50 apparel manufacturers. Cut/sew contractors did not deem any employee attributes of this study as essential. Nine essential employee attributes were common to the 50 apparel manufacturers and to the womens' and mens' apparel manufacturers.

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The study could not have been accomplished without the apparel manufacturers who participated in the data gathering. Their input was invaluable. Any special insight into apparel manufacturing came from the author's having spent an apparel manufacturing internship under the tutelage of Miss Michelle Jenkins; for that internship and insight the author is grateful.

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TABLE OF CONTENTS

	Page
APPROVAL PAGE.	ii
ACKNOWLEDGMENTS.	iii
LIST OF TABLES	vi
CHAPTER	
I. INTRODUCTION.	1
Statement of the Problem and Objectives.	3
Assumptions and Limitations.	4
Definition of Terms Used in this Study	5
II. REVIEW OF LITERATURE.	6
Curriculum Studies	6
Interface with Business.	8
Attributes and Competencies	9
Management Development	11
Labor Union Perspective.	11
Management Association Perspective	12
Trade Publication Perspective.	13
Education Perspective.	13
American Apparel Manufacturers Association (AAMA)	14
Structure of the Apparel Industry.	15
Hypotheses	15
III. METHODOLOGY AND PROCEDURES.	16
Sample	16
Instrument	17
Analysis of Data	18
Procedures	18
IV. RESULTS AND DISCUSSION.	20
Description of Sample.	20
Employee Attributes and Functions.	24
Apparel Manufacturers Responses by Percentages.	24
Comparisons of Apparel Manufacturers Perceptions of Essential Employee Attributes	30
Rank Order of 34 Employee Attributes	33

	Page
Significant Differences	33
Nineteen Essential Employee Attributes	38
Discussion	42
Implications	43
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	46
Summary of Findings.	47
Conclusions	48
Educational Recommendations.	49
SELECTED BIBLIOGRAPHY	51
APPENDIX A. AAMA Guidelines and Suggested Curriculum.	53
APPENDIX B. Standard Industrial Classification Group 23	57
APPENDIX C. Cover Letter and Postcard	59
APPENDIX D. Instrument.	62
APPENDIX E. Fold-over Mailer.	69
APPENDIX F. Percentages for each Employee Attribute by Size of Manufacturer and by Function.	71
APPENDIX G. Analyses of Variance.	87
APPENDIX H. Table 12 Percentage of Congruity by Apparel Manufacturers Responses and Function.	89
APPENDIX I. Summary of Comparison of Manufacturers Producing Womenswear and Menswear	91
APPENDIX J. Table 15 Apparel Manufacturers Employee Attributes - Mean Scores, Function and Size of Manufacturer.	93
APPENDIX K. List of Emenheiser's Competencies Similar to Findings.	99
APPENDIX L. Table 16 Responses from Non-respondents Interviewed by Telephone	101

LIST OF TABLES

TABLE	Page
1. Descriptive Information Pertaining to the 68 Apparel Manufacturers Participating in the Study.	22
2. Large Apparel Manufacturers Responses to Employee Attributes for each of Five Functions.	72
3. Small Apparel Manufacturers Responses to Employee Attributes for each of Five Functions.	77
4. Cut/Sew Contractors Responses to Employee Attributes for each of Five Functions	82
5. Apparel Manufacturers Responses to Employee Attributes for Marketing Function.	25
6. Apparel Manufacturers Responses to Employee Attributes for Product Development Function.	27
7. Apparel Manufacturers Responses to Employee Attributes for Production Function	28
8. Apparel Manufacturers Responses to Employee Attributes for Operations Function	29
9. Apparel Manufacturers Responses to Employee Attributes for Personnel Function.	31
10. Employee Attributes Ranked in Descending Order by 50 Apparel Manufacturers' and 18 Cut/Sew Contractors' Responses	34
11. Percentage of Congruity by Apparel Manufacturers Responses	37

TABLE	Page
12. Percentage of Congruity by Apparel Manufacturers' Reponses and Functions	90
13. Mean Scores for 19 Essential Employee Attributes by Size of Manufacturer and Function.	39
14. Nine Essential Employee Attributes Common to Large and Small Apparel Manufacturers and Manufacturers of Women's and Men's Apparel and Function.	41
15. Apparel Manufacturers Employee Attributes- Mean Scores, Function, and Size of Manufacturer.	94
16. Responses from Non-respondents Interviewed by Phone	101

CHAPTER I

INTRODUCTION

The state of North Carolina has 205,900 workers in textile mill product manufacturing and 88,700 workers in apparel production (North Carolina Department of Commerce, March 1986). The Business/Industry Development Division of the North Carolina Department of Commerce listed production by industry as a percentage of total United States production value of industry shipments in 1982. According to that listing the state of North Carolina produces: 65% of the US women's hosiery; 52% of the textile yarn; 33% of the woven cotton; 32% of the upholstered household furniture; 19% of the knit outerwear; 17% of the house furnishings; and 14% of the men's and boy's shirts and nightwear. According to the North Carolina Department of Commerce, the annual average hourly earnings of production workers in apparel are \$5.13; the textile mill workers' earnings are \$6.46. Compare those earnings with the manufacturing statewide average of \$7.29. Although those are comparatively low wages, the apparel manufacturers are having economic problems because foreign goods can still be produced at a lower labor cost.

Disruptive imports are causing more and more apparel manufacturers to sell out, seek bankruptcy, or totally dissolve assets. Miriam Williams, a retired Burlington Mills legal counselor, stated that this phenomenon is occurring because the market growth cannot support domestic and foreign manufacturers at the same time (Lecture, May 9,

1985). American apparel firms have watched their share of the domestic market fall from 70% in 1980 to 55% today ("A Common Thread," March, 1986). Thus, the larger members of the textile/apparel industry, such as Milliken, Burlington, and Blue Bell are attempting to organize and press the advantage of proximity to market over foreign imports.

If the textile/apparel industries in the United States are to grow, produce, and show a profit, future employees must be competent individuals who can assist in cost-effective management and production. Specifically, the industries must hire trained individuals (Varn, 1984) whose professional education is relevant to the marketplace and current with the times. The new management concept of "Just in Time" applies both computer technology and fabric/apparel production technology to production of goods to meet a client/consumer demand in a minimum amount of time and materials expended. The Triad Business Weekly, ("Textile Industry." February, 1986) described a situation in which a customer demand was met in a matter of days from the concept to the consumer. The entire process took less than six weeks, whereas imported goods would have taken a minimum of 26 weeks. Each individual involved in the process was a trained professional who helped to move the product expeditiously from idea to consumer. It is evident that the professional education of apparel arts graduates must be applicable to the demands of the marketplace.

Statement of the Problem and Objectives

The purpose of this study is to identify the employee attributes required by apparel manufacturers for entry-level management positions.

The objectives were as follows:

1. To determine the nature of employee attributes for entry-level management trainees as perceived by apparel manufacturers.
2. To analyze the differences in employee attributes perceived by apparel manufacturers in terms of size of manufacturing operation.
3. To propose attributes to develop for apparel arts curriculum requirements based on the findings of the study.

The research questions to be addressed were the following:

1. Do large apparel manufacturers perceive employee attributes for entry-level management positions differently than small apparel manufacturers do?
2. Do apparel manufacturers perceive employee attributes for entry-level management positions differently than cut/sew contractors do?
3. What essential employee attributes as perceived by apparel manufacturers should be developed in apparel arts curriculum for entry-level management positions?

Assumptions and Limitations

These assumptions were made regarding the study:

1. Employers' perceptions of essential employee attributes are measurable.
2. Apparel manufacturers recognize the benefits of professionally trained employees.
3. Professional programs in higher education focus on preparation of students for management level positions.

Limitations to the study were the following:

1. The population included only apparel manufacturers listed in the Directory of Manufacturers of North Carolina, 1985-86.
2. Only the Standard Industrial Classification (SIC 23) as established by the United States Office of Management and Budget and issued by the Federal Statistical Policy and Standards Office was used of which SIC numbers 2393-2399 were excluded. Apparel was the textile product emphasized (SIC numbers 2311-2389). Excluded were: textile bags, canvas and related products, pleating and stitching, automotive and apparel trimmings, Schiffli machine embroideries, and other fabricated textile products.
3. The information requested from the research instrument included individual bias.

Definition of Terms Used in this Study

1. Attribute - Any property, quality or characteristic that can be ascribed to a person or thing.
2. Essential Employee Attributes - Any knowledge or skill required for employment at entry-level management positions in apparel manufacturing.
3. Desirable Employee Attributes - For the purposes of this study any knowledge or skill recommended for employment at entry-level management positions in apparel manufacturing.
4. The Standard Industrial Classification System (SIC) - System used by the United States Department of Commerce to categorize manufacturing, wholesale, and retail trades.
5. Large Apparel Manufacturers - Plant operations employing 250 or more workers.
6. Small Apparel Manufacturers - Plant operations employing less than 250 workers.
7. Cut/Sew Contractors - As defined by Greenwood (1978), cut/sew contractors 1) cut the garment pieces using the specified pattern layout and fabric designated by the manufacturer and/or 2) sew and assemble the finished garments according to the specifications of the firm that hires them (p. 157).

CHAPTER II

REVIEW OF LITERATURE

Few academic studies have addressed apparel manufacturing attributes at the higher education level. The American Apparel Manufacturers Association (AAMA) has a suggested curriculum and guidelines for an AAMA-accredited program at the undergraduate level (AAMA, 1982). (See Appendix A for list of guidelines.) The proposed curriculum serves as a general example; it is not bound by academic constraints of budget, space, faculty or time. It does not reflect year-to-year changes of the economic and political sphere.

The literature reviewed in this chapter includes the following topics: Curriculum Studies, Interface with Business, Advisory Boards, Attributes and Competencies, Management Development, Labor Union Perspective, Management Association Perspective, Trade Publication Perspective, and American Apparel Manufacturers Association.

Curriculum Studies

Currently, several states are strong in vocational education and have instructional materials that address high school training of students at area or regional vocational schools. This training can meet the needs of entry-level unskilled and skilled labor for a given company but not that company's need for entry-level management trainees (Varn, 1982).

Notable two-year and four-year trade schools that have curricula for preparing entry-level management trainees for apparel manufacturing are the Fashion Institute of Design and Merchandising in Los Angeles, and the Fashion Institute of Technology in New York City, and six others (AAMA, 1982). These schools interface with businesses to achieve the desired results of their curriculum--an employable graduate. The employable graduate meets the curriculum requirements of the major course of study and meets the position requirements in industry. To attain this condition of meeting the job market needs, apparel manufacturers' requirements for entry-level management positions must be sought so that curricula can be written and concepts be taught that meet those requirements.

Studies have been undertaken by graduate students to survey, develop, and implement attributes into undergraduate curriculum attributes in the clothing and textiles area. Three such studies were those by Greenwood (1972), Hartman (1979), and Emenheiser (1981).

Greenwood (1972) developed and carried out a systematic, controlled approach to the evaluation of the preparation of the present fashion merchandising majors for selected positions in business. In her study, Greenwood made recommendations for developing competencies associated with the related career area with implications for optional contributions of student work experiences.

Hartman (1979) formulated guidelines and developed criteria for fashion merchandising students and employers to use in achieving relevant competencies. Emenheiser (1981) ascertained competencies for

entry-level management positions in the textile and apparel industries in order to develop an internship program.

Two masters theses which are applicable were: Wilson (1982) and Dyer (1985). Wilson surveyed Los Angeles manufacturers, identified competencies and compared them to what was available at a private institution and a community college. Needed competencies were not being taught. Dyer (1985) considered, analyzed and evaluated floor supervisory and management level retailers' perceptions of selected competencies for undergraduate fashion merchandising interns placed in retail internships. These doctoral and masters studies help form a basis for evaluating programs and curricula.

Interface with Business

To keep a curriculum relevant, the target of that curriculum must remain clear--the job marketplace. The needs and demands of the job marketplace require the educator to seek out those businesses that provide employment for graduates of apparel arts programs and invite their input. This input can provide the critical difference in whether the curriculum is current and pertinent or antiquated and irrelevant. The need for input from employers of home economics students was recognized as early as 1968 in research done by J. Cozine (1968). Gainful employment was the desirable end result for home economics students brought about by curriculum influenced through employer input.

In order to keep curricula abreast of the continually changing job marketplace, an advisory board consisting of representative businesses from the industry can benefit business oriented programs (Stull, 1983). While such an advisory board does not write curricula, it does influence the content of academic professional coursework, which theoretically results in an employable graduate. This process is mutually beneficial because the existence of a pool of employable undergraduates reduces the businesses' need to search the workforce for a suitable employee.

Attributes and Competencies

Numerous educators have researched the area of goal-oriented job preparation in which the student is exposed to a body of knowledge that results in the development of attributes which meet certain competencies necessary for a specific job performance (Chambers, 1985). Task descriptions and attributes are often confused in the literature, leading to competencies being allocated to specific courses for development. Curriculum development then becomes the sum total of learning required to develop necessary attributes by way of competencies for a given field of endeavor.

The work of Hartman (1979) and Coates (1971) has given meaning and direction to the effort of identifying attributes. Job description in the area of Fashion Merchandising, the underlying process of task analysis is none the less applicable to apparel arts. Berman and Evans in Retail Management (1979) indicated that the job, the area of responsibility or management function, must of necessity be broken down

to the necessary steps if educators are to develop programs to train people at any level. Specific attributes necessary to the apparel arts area are incorporated in the following: Management, Marketing, Product Development, Production, Operations, and Personnel. The work of Peter F. Drucker (1954) in The Practice of Management related characteristics necessary for a good manager that are applicable to the field of apparel arts. Drucker (1980) in Managing in Turbulent Times, stated that fundamental management skills are a necessary function at every phase of development, production, distribution, storage, and sales of any product.

Kotler (1983) in Principles of Marketing, stated that the fundamental requirement of personnel working in the marketing area is the ability to see the broad scope and use of the product and to keep abreast of the changing needs of the wholesale buyer and consumer. Only in this context can the marketing function remain competitive.

Kotler (1984) indicated that personnel trained in product development must be able to take creative thinking and market need and develop a product that is appropriate, cost-effective and competitive. Drucker (1974) in Management reiterated the belief that personnel in production management must have a broad understanding of product development in all its phases. This concept can be applied to the textile industry; i.e., an understanding of construction and functional characteristics of fiber, finishes, weaves, directional stability, yarns and their interrelationships are necessary in the production of garments.

Management Development

Throughout the literature it was apparent that surveys of attributes in fashion merchandising have been executed very thoroughly to provide a foundation for fashion merchandising programs at the undergraduate college level. However, surveys done in apparel arts have remained at the skilled level of factory production or been concerned with labor problems.

In June 1984, Bobbin published three articles on apparel manufacturing from the perspective of the International Ladies' Garment Workers Union (ILGWU), the Merchants and Manufacturers Association (M and M), and an apparel industry trade publication, Bobbin (Varn, 1984). Each article dealt with a specific area of interest in apparel manufacturing.

Labor Union Perspective

The ILGWU presented its perspective through Mitchell Lokiec, director of the Management Engineering Department. He focused on job descriptions as a way to "promote higher productivity and better management-labor relations" (Lokiec, 1984). His premise, "Accuracy of job descriptions would make pay rates easier to determine" (Lokiec, 1984). Management was spoken of in terms of cooperation between management and labor. The concept of training individuals for ascending the organizational ladder to entry-level management was not discussed.

Management Association Perspective

The M and M Association is a nonprofit organization of employers in the human resources field, supported by about 3,000 member companies. The M and M represents nearly every industrial and commercial activity in southern California. The involvement of the association as a third party allowed objectivity and encouraged manufacturers to share information with the association which they would not share with each other. The Bobbin published the M and M Association's results of a survey made in 1982.

This survey of job descriptions was designed for the "work to be done" rather than to reflect the idiosyncracies of an employee currently doing a particular job (Varn, 1984). When job titles considered by many apparel manufacturers as part of entry or middle management were reported--Industrial Engineer, Designer, Production Pattern Maker--the descriptions were written in such a manner as to lend them to the teaching of behavioral objectives. The job description in each title ended with the application of the training reported in terms of "typical projects, duties, responsibilities." Writing job descriptions is one method of determining what a manufacturer wants and needs in employees. A personnel director unaware of apparel manufacturing conceivably could screen applicants for specific jobs with these descriptions. Nevertheless, the area of entry-level management was done only cursorily.

Trade Publication Perspective

Carol Bell Varn (1984), reported the results of a survey that Bobbin had done with the sewn products industry and the importance that job descriptions, computerization, and automation would play in the future. Perusal of forms used by some companies revealed that entry-level management was being addressed through job descriptions with the accompanying designation of "authority" being one of the categories.

Computerization is having considerable impact on the sewn products industry. Respondents to the survey saw little change for sewing machine operators. But saw a more rapid change in middle management positions, due to technological advances, particularly in planning/scheduling, inventory and resource allocation (Varn, 1984). The Bobbin article cited one respondent as saying, "Style changes will hold automation down. We work with soft materials . . . Stiff materials lend themselves to automation much more so than textiles." Another respondent stated, "computers will lessen that element of human error" (Varn, 1984, p. 46).

Education Perspective

Hartman's dissertation (1979) referring to fashion merchandising and management and middle management, stated what most employers will be seeking of employees in both fashion merchandising and apparel arts:

Employers want to hire graduates who require only small investments in on-the-job training or money to incorporate them into the producing workforce.

It is the responsibility of the educator to provide the learning experiences which develop the social, technological, marketing and management skills that employers desire in management personnel. In order to insure employment of graduates it is recommended that institutions and others responsible for the development of Fashion Merchandising curriculum plan learning experiences which place emphasis on the competencies which employers consider the most important. (p. 74)

Emenheiser's study (1981) indicated nine competencies denoted by 75% of the respondents in her survey as essential or desirable for internships in textile and apparel businesses. These competencies were in the areas of sales, management/supervision, and design. Her study confirmed the need for a college degree as a majority of the respondents deemed it desirable for anyone entering the related careers in textiles and apparel.

American Apparel Manufacturers Association (AAMA)

To meet the needs of the job marketplace the AAMA has developed sample curricula for colleges and universities. The AAMA Education Committee whose slogan is: "Developing Tomorrows Management Today," has set four mandatory guidelines and five listed activities that are "found to be extremely effective in establishing a successful degree program" (AAMA, 1982). (See Appendix A for guidelines.) When a college or university has met the guidelines, it may be listed in the Apparel College Directory as an accredited institution offering apparel management and engineering technology curricula. Graduates from such programs would require minimal expenditures from the employer to yield a productive employee.

Structure of the Apparel Industry

The apparel industry is typically described in terms of three areas: manufacturers, contractors, and jobbers. The manufacturer controls the apparel product from concept to consumer. The contractor cuts, sews, and finishes apparel for jobbers. The jobber buys fabric, designs garments, drafts patterns, cuts fabric, and then contracts the sewing of the apparel. These businesses comprise the industry and also are involved with the sales and shipping to the retailer.

Hypotheses

A computer search of ABI/Inform and Dissertation Abstracts yielded few articles on management in the apparel arts, while a search of ERIC unearthed only secondary and postsecondary trade or skill articles. Therefore the following hypotheses were developed to be explored:

1. Differences (.05) exist in essential employee attributes required by apparel manufacturers by size of manufacturing operation - small vs. large.
2. Differences exist in essential employee attributes required by cut/sew contractors and other apparel manufacturers.
3. Differences exist in essential employee attributes required by womenswear vs. menswear.

The support or nonsupport of these hypotheses lays more foundations for development of apparel arts programs in higher education.

CHAPTER III
METHODOLOGY AND PROCEDURES

The purpose of the study was to identify employee attributes perceived as essential by apparel manufacturers for entry-level management positions. Following is a summary of the methods used in selecting the sample, developing the instrument, analyzing the data and ordering procedures used to achieve the objectives of the study.

Sample

The population for this study was the apparel manufacturers of the state of North Carolina. The sample was drawn from those listed in the Directory of Manufacturers of North Carolina, 1985-1986, (North Carolina Department of Commerce) located under the Standard Industrial Classification--SIC number 23, entitled "Apparel and Other Finished Textile Products." A count of the names included in the SIC Group 23 yielded 789, including the subheadings numbered 2311-2399. SIC subheadings in the sample were 2311-2389 (See Appendix B for complete list.) excluding 2387, Apparel Belts; 2391, Curtains and Draperies; 2392, House Furnishings except curtains and draperies; 2393, Textile Bags; 2394, Canvas and Related Products; 2395, Decorative Pleating and Novelty Stitching; 2396, Automotive Trimming, Apparel Findings and Related Products; 2397, Schiffli Machine Embroideries; 2399, Fabricated Textile Products NEC (not elsewhere classified).

The addresses of the population were computerized and duplicate plants removed as were manufacturers that had gone out of business. Companies having more than two plants received their directions, orders for production, and patterns from a central office (e.g., Hanes), were surveyed only at the central office. The procedure described resulted in the total available population of 283 apparel manufacturers. The sample consisted of sixty-eight manufacturers responding for a 24% return on the questionnaire.

Instrument

The instrument for this study was modified from one used in previous research concerning requirements for internships in the textile/apparel industries (Emenheiser, 1981). The instrument was critically previewed and pretested by five individuals who represented small and large manufacturers. Based on these reactions, a total of 34 employee attributes were organized into five categories--Marketing, Product Development, Production, Operations, and Personnel, representing management functions in the apparel industry. These were supported in the literature (Drucker, 1980; and Kotler, 1984). Other suggestions, adjusting the clarity and brevity of the statements, format, and layout, were incorporated into the final instrument. (See Appendix D for questionnaire.)

Analysis of Data

Demographic data of respondents were tabulated and the responses of manufacturers were used to rank order the attributes. Percentage responses were determined using the following scale: 5-4 Essential; 3-2 Desirable; 1-0 of no value. The sum of the 50 respondents scored for each of the 34 attributes was totaled and the percentages were derived from the total possible points (250) for each attribute. The 34 attributes were ranked in descending order by using the sum of the scores for each. Next the mean score for each attribute was calculated. The essential employee attributes were identified as those with a cumulative mean score of 4.0 or above for the total group (n=50) or the large manufacturer and small manufacturer; the combined large/small manufacturers and the cut/sew contractors; the ANOVA was also run between the womenswear and menswear manufacturers.

Procedures

The first mailing was sent to the list of 199 apparel manufacturers both large and small. Only 43 responses were received from the first questionnaire which was mailed out May 1 to be returned by May 20. The second mailing to the remaining 86 of the total sample of apparel manufacturers was sent on May 23 to be returned by June 6. Follow-up postcards were mailed on June 14. (See Appendix C, D, and E for cover letter, questionnaire, and postcards.)

Follow-up phone calls yielded a final sample of 68 apparel manufacturers: 25 large-apparel manufacturers, 25 small-apparel manufacturers, and a third group consisting of 18 cut/sew contractors. The 68 responses received prior to June 28 were used in the study.

Twenty-five nonrespondent manufacturers were telephoned and asked to respond to a modified questionnaire. Their responses agreed in general with the perceptions of the 68 apparel manufacturers; however, the data were not directly incorporated in the statistical analyses.

CHAPTER IV

RESULTS AND DISCUSSION

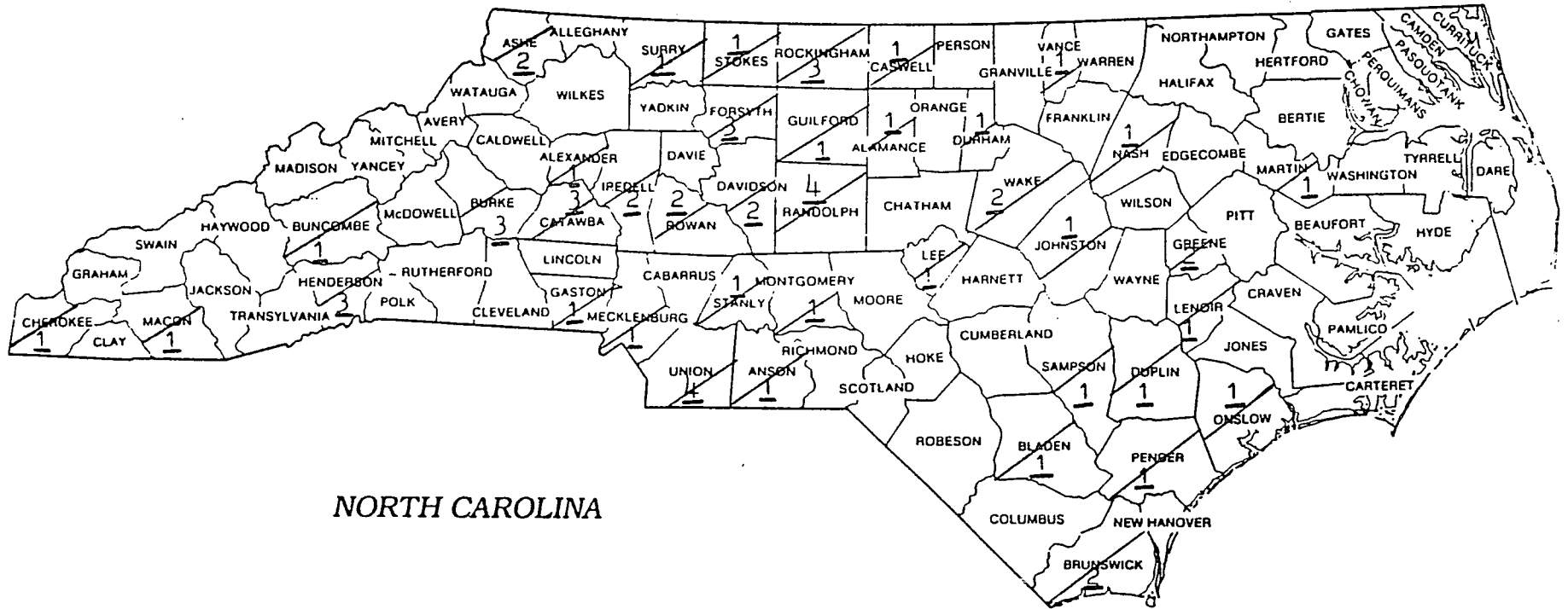
The purpose of this study was to survey apparel manufacturers and determine the employee attributes they felt were essential and desirable for entry-level management positions. The apparel manufacturers who composed the sample as respondents were affiliated with businesses listed in section 23 of the SIC codes in the Directory of Manufacturers of North Carolina, 1985-1986.

The questionnaire was sent to 283 businesses that were categorized as menswear, boyswear, womenswear, and childrenswear manufacturers. There was a 24% return on the mail questionnaire from 43 counties out of the 90 North Carolina counties that have apparel manufacturing as shown in Figure 1.

Description of Sample

Table 1 includes the descriptive information pertaining to apparel manufacturing participants in the study. Of the 68 manufacturers responding to the questionnaire, 25 were large manufacturers (36%), 25 were small manufacturers (36%), and 18 were cut/sew contractors (28%). The group of cut/sew contractors in the sample apparently were due to the inconsistency in the categorizing of the businesses in the SIC listings. These 18 respondents were included in this study for purposes of comparison.

Figure 1
 Distribution of the 68 Respondents Representing 43 Counties in North Carolina



NORTH CAROLINA

Table 1
Descriptive Information Pertaining to the 68 Apparel
 Manufacturers Participating in the Study.

Descriptive Information	n=68	Percentage of Responses
Size of operation		
Large Manufacturers		36
Small Manufacturers		36
Cut/Sew Contractors		28
Category of Manufacturing		
Menswear only		25
Boyswear only		3
Womenswear only		31
Childrenswear only		13
All Categories		17
Combinations of Categories		11
Job Title of Respondent		
President		18
Vice President		13
Plant Manager		7
Personnel Director		9
General Manager		7
Manager		44
Training and Education		
Trade School		0
College		60
College, Vo/Tech., Work Exp.		3
College, Work Experience		24
High School		6
Work Experience, On-The-Job		6
Unknown		1
Years in Apparel Manufacturing		
0-4 years		10
5-9 years		16
10-14 years		22
15-19 years		11
20+ years		41

According to SIC categories, 25% of the apparel businesses represented in the study manufactured menswear only, 31% manufactured womenswear only, 3% manufactured boyswear only, 13% manufactured childrenswear only and 17% manufactured all categories. The remaining 11% manufactured combinations of men's and womenswear, women's and childrenswear, men's and boyswear, and boys' and womenswear.

The job titles of the respondents were president (18%), vice-president (13%), plant manager (7%), and personnel director (9%); other middle and upper management job titles were mentioned singly. The training of these respondents was the following: college, 60% (all 18 cut/sew contractors were included); college plus work experience, 24%; college, vocational/technical education and work experience, 3%; high school and work experience, and On-The-Job Training were equal at 6%. In terms of years of experience in apparel manufacturing, 10% responded with 0-4 years of experience; 16% had 5-9 years; 22% had 10-14 years; 10% had 15-19 years; and 41% had more than 20 years of experience in apparel manufacturing. Some of the respondents in the +20 years category had had 30+ or 40+ years in apparel manufacturing. The composite North Carolina apparel manufacturer would manufacture womenswear, be a president or manager, have a college education, and would have 20+ years of experience in apparel manufacturing.

Employee Attributes and Functions

The 34 employee attributes were listed in five functional categories: Marketing, Product Development, Production, Operations and Personnel. The percentage ratings for each employee attribute by function for each size of manufacturer are presented in Table 2, Table 3, and Table 4 in Appendix F. The following findings compare the manufacturers (25 large and 25 small) with the 18 cut/sew contractors to employee attributes perceived as essential (5-4), desirable (3-2), or unimportant (1-0).

Apparel Manufacturers Responses by Percentages. Tables 5, 6, 7, 8, and 9 include the percentage of response ratings of each manufacturers' perceptions of employee attributes by function. This allowed a closer observation of each individual rating of the employee attributes and permitted comparisons between the essential, desirable, and unimportant ratings.

The ratings of employee attributes for the Marketing function, as shown in Table 5, indicated that the highest percentage (74%) of respondents perceived understanding the importance of achieving seasonal sales goals (no. 8) as essential. Approximately two-thirds (68%) of the apparel manufacturers also rated awareness of legislation on textile products as essential (no. 5). Sixty-three percent of the respondents rated packaging and labeling information (no. 7) as desirable. Twenty percent of the respondents considered analysis of fashion trends (no. 3) as unimportant.

Table 5
Apparel Manufacturers Responses to Employee Attributes
for Marketing Function.

Employee Attributes	Percentage of Responses					
	Essential n=50 n=18		Desirable n=50 n=18		Unimportant n=50 n=18	
1. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.	57	22	28	39	15	39
2. Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research.	35	11	37	50	18	39
3. Analyzes fashion trends, buying sources, fabric prices, and/or shipping arrangements.	48	17	32	34	20	49
4. Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications.	40	22	47	50	13	28
5. Keeps up-to-date on legislation concerning textile and/or related products.	33	12	53	55	11	33
6. Demonstrates sound judgment about consumer needs and desires in regard to the product.	68	39	22	34	10	27
7. Provides information concerning packaging and labeling of textile related products.	25	39	63	39	12	22
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.	74	34	23	33	13	33

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. n=50 Large and Small Manufacturers; n=18 Cut/Sew Contractors

The percentages of responses of apparel manufacturers for the Product Development function are included in Table 6. Employee attribute no. 14, reaction of fabric to cutting, sewing and pressing, was rated as essential by 76% of the apparel manufacturers. A desirable rating was given specialized training in the fashion arts (no. 12) by 62% of the apparel manufacturers. Respondents (46%) rated studying museums, art galleries, etc. for design ideas as unimportant (no. 16).

Percentage of responses by apparel manufacturers for the Production function in Table 7 yielded 85% of the respondents rating no. 18, production of a product as essential. Fabric inventory records no. 20 were rated as desirable by 55% of the apparel manufacturers; only 14% of the respondents indicated that selecting, ordering fabrics, trims, etc. was unimportant (no. 21).

The Operations function responses are included in Table 8. Apparel manufacturers (81%) rated as essential the smooth flow of business to consumer (no. 25), 29% of the respondents rated understanding of management systems (no. 27) as desirable. The employee attribute concerned with understanding of and distribution processes (no. 26) was rated by 53% as unimportant.

Table 6
Apparel Manufacturers Responses to Employee Attributes
for Product Development Function.

Employee Attributes	Percentage of Responses					
	Essential n=50 n=18		Desirable n=50 n=18		Unimportant n=50 n=18	
9. Demonstrates artistic ability and creative talent in designing new products.	43	22	48	50	9	28
10. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products.	59	28	31	39	10	33
11. Exhibits an understanding of principles and techniques of sketching in the fashion field.	20	6	61	39	19	55
12. Applies specialized training in the areas of graphic art, commercial art, and the fashion arts.	19	11	62	33	19	56
13. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.	58	39	35	33	7	28
14. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.	76	56	16	16	7	28
15. Knows the value and effect of the finishing processes on various fabrics.	58	39	33	28	18	33
16. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.	7	0	47	50	46	50
17. Is innovative in the approach to selection and use of fabrics.	54	23	35	50	11	27

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. n=50 Large and Small Manufacturers; n=18 Cut/Sew Contractors

Table 7
Apparel Manufacturers Responses to Employee Attributes
for Production Function.

Employee Attributes	Percentage of Responses					
	Essential n=50 n=18		Desirable n=50 n=18		Unimportant n=50 n=18	
18. Generates and/or supervises the production of a product.	85	89	15	11	0	0
19. Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers.	47	45	50	50	3	5
20. Keeps sample fabric inventory records.	36	28	55	61	9	11
21. Selects and orders fabrics, trims, colors, and/or accessories.	47	23	39	39	14	38
22. Demonstrates knowledge of pattern making, flat pattern techniques, and/or draping.	37	17	50	56	13	27
23. Exhibits a broad understanding of clothing construction techniques.	50	78	27	17	3	6
24. Coordinates the planning and creation of a product according to the specifications of the manufacturer.	81	72	16	17	3	11

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. n=50 Large and Small Manufacturers; n=18 Cut/Sew Contractors

Table 8
Apparel Manufacturers Responses to Employee Attributes
for Operations Function.

Employee Attributes	Percentage of Responses					
	Essential n=50 n=18		Desirable n=50 n=18		Unimportant n=50 n=18	
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.	81	56	15	28	4	16
26. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.	71	61	23	16	6	23
27. Understands management systems and their suitability for particular operations.	67	61	29	22	4	17
28. Communicates with marketing, production and manufacturing personnel, fabric houses and/or buyers.	66	73	28	5	6	22

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. n=50 Large and Small Manufacturers; n=18 Cut/Sew Contractors

The percentage of responses from apparel manufacturers for the Personnel function are shown in Table 9. Two employee attributes concerned with personnel duties (no. 29) and effective human relations (no. 32) were rated equally essential by 81% of the respondents. Twenty-five percent of the apparel manufacturers considered evaluation of subordinates (no. 30) and training employees to achieve goals (no. 31) as desirable employee attributes. Five percent of the respondents rated the understanding of personnel policies and union contracts (no. 33) as unimportant.

Comparisons of Apparel Manufacturers Perceptions of Essential Employee Attributes. The 25 large apparel manufacturers perceived employee attributes differently than the 25 small manufacturers or the 18 cut/sew contractors as depicted in Figure 2. A larger percentage of the small manufacturers than large manufacturers indicated that two employee attributes (nos. 6, 7) in the Marketing function were essential. Fewer cut/sew contractors perceived employee attributes in the Marketing (nos. 1-8), Product Development, (nos. 9-17) functions as essential as those in the Production (nos. 18-24), Operations (nos. 25-28) and Personnel (nos. 29-34) functions. Over 90% of the large manufacturers considered two employee attributes (nos. 17 and 25) as essential.

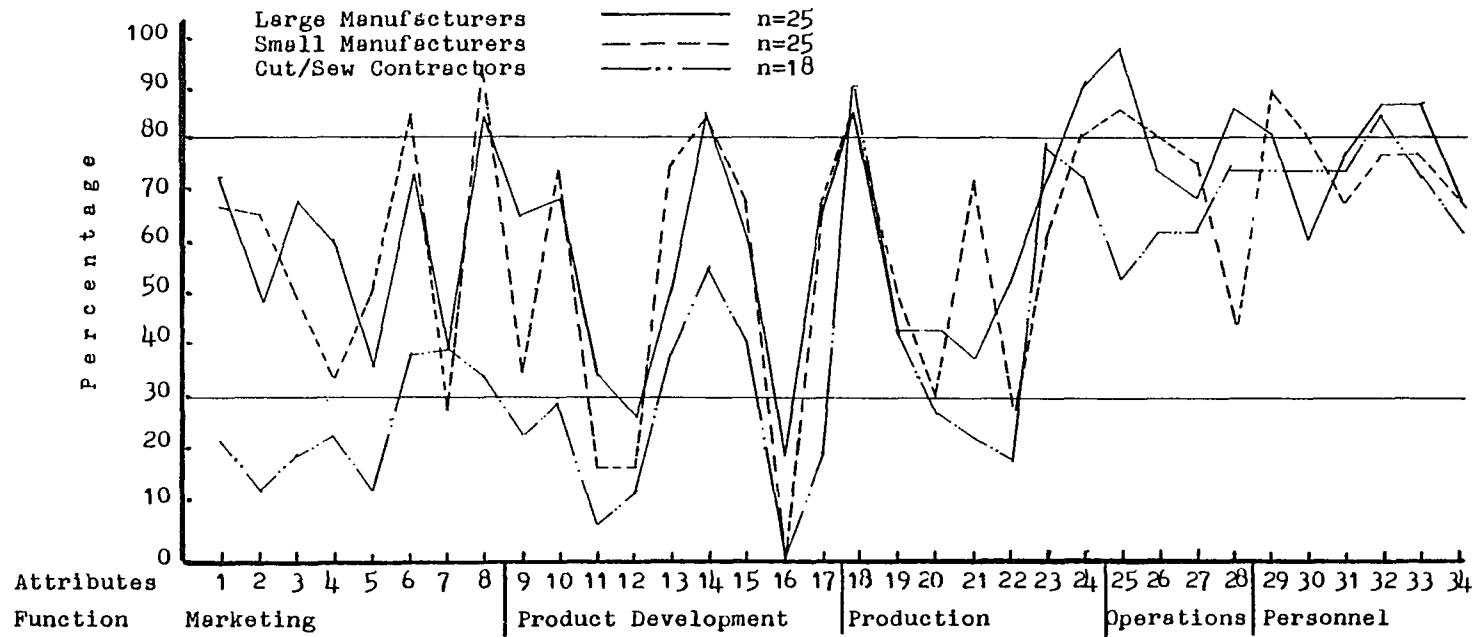
Table 9
Apparel Manufacturers Responses to Employee Attributes
for Personnel Function.

Employee Attributes	Percentage of Responses					
	Essential n=50 n=18		Desirable n=50 n=18		Unimportant n=50 n=18	
29. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.	81	72	16	23	3	5
30. Participates in the evaluation of subordinates.	71	72	25	17	4	11
31. Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management.	72	72	25	22	3	6
32. Demonstrates effective human relations both with employees and the consumer/client served.	81	83	16	11	3	6
33. Understands personnel policies and union contracts.	78	73	17	16	5	11
34. Maintains an up-to-date knowledge of subject matter through reading, classes/seminars, and interaction with technical and professional personnel.	66	61	11	33	3	6

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. n=50 Large and Small Manufacturers; n=18 Cut/Sew Contractors

Figure 2

Comparison of Apparel Manufacturers Perception of Essential Employee Attributes
by Function and Size of Apparel Manufacturer.



Rank Order of 34 Employee Attributes. Frequencies of responses were run for the 34 employee attributes perceived as essential, desirable and unimportant by the apparel manufacturers. The employee attributes were rank ordered by frequency totals. The results of the rank order of employee attributes were recorded in Table 10. The top ten employee attributes in descending order, for the total group of 50 apparel manufacturers included two in the Marketing function (nos. 6, 9), one in Product Development (no. 4), two in Production (nos. 1, 3), two in Operations (nos. 2, 10), and three in Personnel (nos. 5, 7, and 8). The four employee attributes ranked lowest were in the Product Development and Production functions. The cut/sew contractors ranked no. 1 the same employee attribute as the 50 apparel manufacturers. However, they differed in their ranking of the other employee attributes.

Significant Differences. The analysis of variance indicated that there was a significant difference (.05) between the group of 50 apparel manufacturers and the group of 18 cut/sew contractors identified among the 68 respondents. Also there was a significant difference (.05) between the womenswear and menswear manufacturers responding to the study. The ANOVA calculations for these groups are in Appendix G.

Table 10

Employee Attributes Ranked in Descending Order by 50 Apparel
Manufacturers' and 18 Cut/Sew Contractors' Responses

n=50 ^a Descending Order	Employee Attributes	n=18 ^b Descending Order
1.	Generates and/or supervises the production of a product. (18, Production)	1.
2.	Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer. (25, Operations)	11.
3.	Coordinates the planning and creation of a product accord- ing to the specifications of the the manufacturer. (24, Production)	7.
4.	Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes. (14, Product Development)	14.
5.	Recruits, interviews, hires, directs/supervises, and/or dismisses personnel. (29, Personnel)	4.
6.	Understands the importance of achieving seasonal sales goals in relation to production and profits. (8, Marketing)	20.
7.	Demonstrates effective human relations both with employees and the consumer/client served. (32, Personnel)	3.
8.	Understands personnel policies and union contracts. (33, Personnel)	6.
9.	Demonstrates sound judgment about consumer needs and desires in regard to the product. (6, Marketing)	18.
10.	Exhibits an understanding of the manufacturing and dis- tribution processes relating to textiles and clothing. (26, Operations)	12.
11.	Understands management systems and their suitability for particular operations. (27, Operations)	13.
12.	Maintains an up-to-date knowledge of subject matter reading, classes/seminars, and interaction with technical and professional personnel. (34, Personnel)	10.

(Table continues)

Table 10 (Continued)

n=50 ^a Descending Order	Employee Attributes	n=18 ^b Descending Order
13.	Communicates with marketing, production and manufacturing personnel, fabric houses, and/or buyers. (28, Operations)	9.
14.	Participates in the evaluation of subordinates. (30, Personnel)	8.
15.	Studies the market by shopping, reading trade publications, trade publications, attending trade/fashion shows, and/or discussing needs and ideas with garment designers. (1, Marketing)	24.
16.	Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products. (10, Product Development)	23.
17.	Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes. (13, Product Development)	17.
18.	Exhibits a broad understanding of clothing construction techniques. (23, Production)	2.
19.	Knows the value and effect of the finishing processes on various fabrics. (15, Product Development)	19.
20.	Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management. (31, Personnel)	5.
21.	Is innovative in the approach to selection and use of fabric. (17, Product Development)	26.
22.	Selects and orders fabrics, trims, colors, and/or accessories. (21, Production)	28.
23.	Demonstrates artistic ability and creative talent in designing new products. (9, Product Development)	25.
24.	Analyzes fashion trends, buying sources, fabric prices and/or shipping arrangements. (3, Marketing)	30.
25.	Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research. (2, Marketing)	29.

(Table continues)

Table 10 (Continued)

n=50 ^a Descending Order	Employee Attributes	n=18 ^b Descending Order
26.	Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers. (19, Production)	15.
27.	Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications. (4, Marketing)	21.
28.	Keeps up-to-date on legislation concerning textile and/or related products. (5, Marketing)	27.
29.	Demonstrates knowledge of pattern making, flat pattern techniques, and/or draping. (22, Production)	22.
30.	Provides information concerning packaging and labeling of textile related products. (7, Marketing)	31.
31.	Exhibits an understanding of principles and techniques of sketching in the fashion field. (11, Product Development)	32.
32.	Applies specialized training in the areas of graphic art, commercial art, and the fashion arts. (12, Product Development)	33.
33.	Keeps sample fabric inventory records. (20, Production)	16.
34.	Studies museums, art galleries, libraries, and old publications for the origination of ideas for design. (16, Product Development)	34.

^an=50 Large and Small Apparel Manufacturers

^bn=18 Cut/Sew Contractors

A quantitative number was derived to give a percentage of congruity to the apparel manufacturers responses. Table 11 depicts the results of the derivation. The higher the percentage the more applicable the attributes were to that category of manufacturing; the lower the percentage the less applicable. Thus the essential employee attributes derived from the survey were less applicable to the cut/sew contractors. (See Appendix H, Table 12, for percentage of congruity for each function.)

Table 11
Percentage of Congruity by Apparel Manufacturers Responses

<u>Number of Responses</u>	<u>Percentage of Responses</u>
n=68 (included entire sample)	72
n=50 (included large and small apparel manufacturers)	77
n=25 large (included only large apparel manufacturers)	74
n=25 small (included only small apparel manufacturers)	73
n=18 (included only cut/sew contractors)	59
n=17 (included only manufacturers of women's apparel)	78
n=13 (included only manufacturers of men's apparel)	72

Nineteen Essential Employee Attributes

Criteria for selecting the 19 essential employee attributes included means of 4.0-5.0 for the total group of 50 manufacturers or for the 25 large apparel manufacturers or the 25 small manufacturers as separate groups. Mean scores for the 19 essential employee attributes by size of manufacturer (excluding cut/sew) are included in Table 13. The first 14 essential employee attributes were identified by the total group mean 4.0 or above and included only two essential attributes (nos. 6, 9) related to the Marketing function; four essential attributes (nos. 2, 10, 11, 13) were concerned with the Operations function; two (nos. 1, 3) in the Production function; one (no. 4) in the Product Development function; and five in (nos. 5, 8, 12, 14) the Personnel function. Six of the 19 essential employee attributes had a mean score below 4.0 for the large manufacturers (nos. 9, 10, 11, 15, 17, 19), while four different employee attributes were below a mean of 4.0 for small manufacturers (nos. 12, 14, 16, 18). Although the last five essential employee attributes did not have a total mean score of 4.0 or above, they met the criteria by having a mean of 4.0 or above in either the large manufacturer group or the small manufacturer group.

In regard to the five functions, three of the 19 essential employee attributes were in Marketing, three in Product Development, four in Production, four in Operations, and five in Personnel. No cut/sew contractors were identified by these criteria.

Table 13
Mean Scores for 19 Essential Employee Attributes by
Size of Manufacturer and Function.

Employee Attributes	Total ^a	Large ^b	Small ^c	Function ^d
1. Generates and/or supervises the production of a product.	4.4	4.4	4.4	Prod.
2. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.	4.4	4.4	4.3	Oper.
3. Coordinates the planning and creation of a product according to the specifications of the manufacturer.	4.3	4.4	4.2	Prod.
4. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.	4.3	4.1	4.6	P. D.
5. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.	4.3	4.3	4.3	Pers.
6. Understands the importance of achieving seasonal sales goals in relation to production and profits.	4.2	4.1	4.4	Mark.
7. Demonstrates effective human relations both with employees and the consumer/client served.	4.2	4.4	4.1	Pers.
8. Understands personnel policies and union contracts.	4.2	4.4	4.0	Pers.
9. Demonstrates sound judgment about consumer needs and desires in regard to the product.	4.1	3.9	4.2	Mark.
10. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.	4.0	3.9	4.2	Oper.
11. Understands management systems and their suitability for particular operations.	4.0	3.9	4.1	Oper.

(Table continues)

Table 13 (Continued)

Employee Attributes	Total ^a	Large ^b	Small ^c	Function ^d
12. Maintains an up-to-date knowledge of subject matter through reading classes/seminars, and interaction with technical and professional personnel.	4.0	4.3	3.8	Pers.
13. Communicates with marketing, production and manufacturing personnel, fabric houses, and/or buyers.	4.0	4.2	3.7	Oper.
14. Participates in the evaluation of subordinates.	4.0	4.0	4.0	Pers.
15. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.	3.9	3.8	4.2	Mark.
16. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products.	3.9	4.0	3.8	P. D.
17. Selects and orders fabrics, trims colors, and/or accessories.	3.7	3.4	4.0	Prod.
18. Exhibits a broad understanding of clothing construction techniques.	3.9	4.3	3.7	Prod.
19. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.	3.9	3.7	4.1	P. D.

^an=50^bn=25^cn=25^dFunction--Mark. - Marketing; P. D. - Product Development;
Prod. - Production; Oper. - Operations; Pers. - Personnel.

It is of interest to note that only nine of the 19 employee attributes considered essential by the total group (50) were perceived as essential by both the womenswear and menswear groups (See Table 14). However, the 18 cut/sew contractors did not rate any of the employee attributes as essential. The mean scores for each of these groups are in Table 15 in Appendix J.

Table 14

Nine Essential Employee Attributes Common to Large and Small Apparel Manufacturers and Manufacturers of Women's and Men's Apparel and Function.

<u>Employee Attributes</u>	<u>Function</u>
1. Generates and/or supervises the production of a product.	Production
2. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.	Operations
3. Coordinates the planning and creation of a product according to the specifications of the manufacturer.	Production
4. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing process.	Product Development
5. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.	Personnel
6. Understands the importance of achieving seasonal sales goals in relation to production and profits.	Marketing
7. Demonstrates effective human relation both with employees and the consumer/client served.	Personnel
8. Understands personnel policies and union contracts.	Personnel
9. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.	Operations

Discussion

The majority of the 68 respondents to the employee attributes questionnaire had been in business 10 years or more, and nearly two-thirds, including all 18 of the cut/sew contractors had college backgrounds. This may account for the fact that almost half of the respondents were managers of the firms represented and almost one-third were either president or vice-president.

It would appear that the perceptions of employee attributes reported in this study are those of the persons most involved with the direction and supervision of employees, and those most concerned with the college preparation of future employees in the North Carolina apparel manufacturing industry.

The perceptions of employee attributes differed among the 68 respondents in the study. However, significant differences were not found between the responses of the 25 large apparel manufacturers and 25 small apparel manufacturers; the composite groups of 50 apparel manufacturers did differ significantly from the cut/sew contractors, and also differed between womenswear and menswear manufacturers. However, 19 of the 34 employee attributes were perceived as essential by the 50 apparel manufacturers. Eleven of the 19 essential employee attributes were similar to those found by Emenheiser (1981), as listed in Appendix K. The cut/sew contractors rated none of the employee attributes as essential; only 14 of the 34 employee attributes were rated as desirable. Based on these responses, the cut/sew contractors did not perceive the essential employee attributes of this study as important

requirements for entry-level management positions, although, interestingly enough, the 18 cut/sew contractors had college backgrounds. Thus, consideration can be given to the 19 essential employee attributes in the evaluation and development of curriculum requirements for college students pursuing careers in apparel manufacturing in North Carolina.

Educational Implications

Administrators and faculties responsible for curricula at the higher education level can utilize the findings of this study. Following is a summary of essential findings related to the five functions considered in this study.

1. Three essential employee attributes associated with the Marketing function were concerned with consumer needs and desires, seasonal sales goals and profits, and studying the market.
2. The three attributes related to the Product Development function were related to the understanding of fabric reactions to cutting, sewing, pressing; application of elements and principles of design applied to clothing; and characteristics and properties of fibers, yarns, and fabric finishes.
3. Four essential employee attributes concerned with the Production function were involved in the supervision of production; the creation of products according to specifications; selection and ordering fabrics, trims, colors,

accessories; and the understanding of clothing construction techniques.

4. The four essential employee attributes involved in the Operations function included planning and directing the flow of business from manufacturer to consumer; understanding manufacturing and distribution processes; understanding of management systems suitable for particular operations; and communications with marketing, production personnel, fabric houses, and buyers.
5. The five essential employee attributes related to Personnel involved skills in recruiting, interviewing, hiring, directing, supervising and dismissing personnel; evaluation of subordinates; effective human relations with employees, consumers, and clients; understanding personnel policies and union contracts; and maintaining up-to-date knowledge in the subject matter by contact with professionals in the field, etc.

A systematic evaluation of existing clothing and textiles courses based on the 19 essential employee attributes identified in the study could reveal inadequacies in present curricula in terms of the preparation of students for careers in apparel production management. Greenwood (1972) proposed a process of systematic evaluation of career-oriented programs in clothing and textiles. The expansion and redirection of curriculum requirements in clothing and textiles could involve changes such as the revision of existing courses, the addition

of a course focused on apparel production management and processes, and field experiences and increased exchange of expertise between education and industry. In agreement with Stull (1983) business-oriented programs, such as the apparel arts concentration would benefit from an advisory board consisting of representatives from related industries.

A curriculum update for the 1990's could evolve from consideration of the 19 essential employee attributes identified in this study. Thus, professional programs in higher education could provide better prepared future entry-level management employees for apparel manufacturers in North Carolina.

Twenty-five non-respondents were contacted by telephone and administered a modified questionnaire. It consisted of the highest rated employee attribute and the lowest rated employee attribute in each function. These ratings had been determined by the tabulations of the responses from the sample. Appendix L, Table 16 displays the results of those telephone interviews. The individuals contacted were in agreement with the sample of 68 respondents.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of the study was to identify management-level employee attributes as perceived by apparel manufacturers in the state of North Carolina and to analyze differences in the perception of essential employee attributes by size and type of operation. A brief summary of the design of the study and the findings follows along with recommendations for further research.

The literature reviewed by the researcher, in order to plan, organize and conduct the study, included data describing the North Carolina apparel industry in regard to classifications, size, and products manufactured; employment positions and job descriptions; existing information on curriculum studies and business needs; attributes and competencies for job placement in the apparel industry; and current issues and problems including labor union concerns.

The sample of 283 drawn from the Directory of Manufacturers in North Carolina, 1985-1986, included the names of companies listed as apparel and other finished textile products according to Standard Industrial Classification--SIC number 23. The instrument developed for the purpose of the study was a modified version of one used in previous research (Emenheiser, 1981). The selected employee attributes were revised and verified based on critical review and pretested by five representatives of small and large apparel manufacturers currently in the industry in North Carolina.

Summary of Findings

The 68 apparel manufacturers responding represented 24% of the available sample. The background of the respondents indicated that the majority had been in the apparel business over 10 years and were college-trained presidents, vice-presidents, or managers of the firms represented.

The frequency and percentage calculations indicated some different responses to those employee attributes considered essential by the 25 large manufacturers, 25 small manufacturers, and the 18 cut/sew contractors. Thus, the following hypotheses were tested using analysis of variance (ANOVA).

Hypothesis 1. Differences (.05) exist in minimum employee attributes required by apparel manufacturers by size of manufacturing operation--small vs. large.

No significant difference in the responses of the 25 large and the 25 small apparel manufacturers were revealed and therefore the hypothesis was rejected.

Hypothesis 2. Differences exist in minimum employee attributes required by cut/sew contractors and apparel manufacturers.

A significant difference at the .05 level was evident between the total group of 50 apparel manufacturers and the 18 cut/sew contractors responding to the questionnaire. Therefore, Hypothesis 2 was accepted.

Hypothesis 3. Differences exist in minimum employee attributes required by menswear manufacturers as opposed to womenswear manufacturers.

A significant difference at the .05 level appeared between the 13 menswear manufacturers and the 17 womenswear manufacturers participating in the study Table 12, Appendix H. Therefore, Hypothesis 3 was accepted.

The mean ratings of responses calculated for each of the 34 employee attributes identified 19 essential employee attributes based on the responses of the 50 apparel manufacturers. None of the 34 employee attributes was considered essential by the 18 cut/sew contractors, although the three highest means for the desirable rating were included in the 19 employee attributes identified as essential by the 50 apparel manufacturers.

Conclusions

Based on the hypotheses formulated for the study the following conclusions were drawn. Thirty-four employee attributes were evaluated by 50 apparel manufacturers and 18 cut/sew contractors. Nineteen of the 34 employee attributes were perceived to be essential for management-level positions. Although there were differences in ranking of the employee attributes, there were no significant differences at the .05 level between the responses of the 25 large and the responses of the 25 small apparel manufacturers. However, the cut/sew contractors perceived none of the 34 employee attributes as essential; they ranked as desirable 4 of the 19 employee attributes considered essential by the 50 apparel manufacturers. Womenswear manufacturers differed significantly

(.05) from menswear manufacturers in their perceptions of essential attributes.

Recommendations

Research recommendations formulated as a result of the study related to the preparation of college students for management positions in apparel manufacturing.

1. Implement the systematic evaluations of clothing and textiles curricula and revise and redirect course requirements for apparel arts management students.
2. Develop and validate a precareer placement test based on the essential employee attributes identified in this study. Use this placement test during the first semester of the senior college year by students desiring to enter the apparel manufacturing field at management level.
3. Establish a separate advisory board for the apparel arts concentration or have specialized subgroups within existing clothing and textiles advisory boards.
4. Monitor pre- and posttest student performance based on the 19 essential employee attributes.
5. Conduct clothing research in the area of consumer involvement and purchase behavior.
6. Initiate a follow-up study to evaluate job satisfaction of college graduates in management-level positions and replicate the present study.

7. Conduct an in-depth study of management-level employee attributes essential for womenswear manufacturers compared to menswear manufacturers.
8. Conduct research to validate the employee attributes related to the functional areas used in the present study: Marketing, Product Development, Production, Operations, Personnel.
9. Investigate further the differences in the employee attributes perceived as essential by cut/sew contractors.
10. Explore the differences in the perceptions of essential employee attributes and the preparation of management-level employees.

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APPENDIX A

APPAREL COLLEGE GUIDE

The following are the requirements by the Education Committee of the American Apparel Manufacturers Association for listing in the AAMA College Directory.

- (1) Conduct and submit to Education Committee of AAMA an industry survey to determine the educational needs in your area. This survey should establish whether or not there is good enough apparel industry to support your curriculum and the specific jobs available for future graduates.
- (2) The educational institution must establish an industry advisory board. This support is essential, as local industry backing is necessary for the success of any program and to assure the curriculum meets industry needs. The advisory board must consist of a least five (5) members from the apparel industry in your area, of which, at least two (2) must be members of the American Apparel Manufacturers Association (AAMA).
- (3) Submit to the Education Committee of AAMA, the complete curriculum with an outline on each apparel oriented course and a list of laboratory equipment to be used.
- (4) Submit to the Education Committee of the AAMA, at least three (3) dates on which member(s) of the Education Committee could meet on your campus with school officials. The purpose of this meeting will be to review all aspects of the proposed degreed program.

The four (4) steps above are mandatory. Below is a list of other items found to be extremely effective in establishing a successful degreed program.

- (1) Visit other participating colleges or universities to review their program.
- (2) Enlist assistance from a member(s) of existing programs to help in your start-up.
- (3) Seek to employ only those instructors with a minimum of three (3) years of industry experience in those areas you plan for them to teach.
- (4) Establish a student Co-Op program with industry.
- (5) Establish a student exchange program with participating colleges for dual degree possibilities.

APPAREL MANUFACTURING - FOUR YEAR BASIC COURSE
DEPARTMENTAL COURSE LISTING AND SUPPLEMENTAL DATA

DEPT/COURSE	HOURS/WEEK		CFED HRS	OFFERED		COURSE DESCR REF. NO.	
	CLASS	LAB		YR	QTR		
APPAREL ENGINEERING							
AE 101	Apparel Eng. - Work Meas, Wage Plans	4	3	5	1	3	3-3
AE 109	Apparel Quality Assurance	5	0	5	2	3	7-1
AE 201	Apparel Eng. - Layout, Costing	5	0	5	3	1	8-4
AE 205	Basic Stitchology	3	2	3	2	2	6-1
AE 308	Advanced Work Measurement	3	2	3	3	2	9-3
AE 309	Advanced Computer Mechanics	3	2	3	3	3	10-2
AE 401	Advanced Computer Applications	3	2	3	4	1	12-2
AE 403	Intro. to Operations Research	4	2	5	4	1	12-3
APPAREL MANUFACTURING							
AM 101	Apparel Mfg. Processes-Survey	5	0	5	1	1	2-2
AM 102	Apparel Mfg. Proc.-M/U, Markers, Cutting	4	2	5	1	3	3-4
AM 109	Merchandising, Design, Fit, Patterns	2	2	3	1	2	3-2
AM 201	Apparel Mfg. Proc.-Sew, Fin, w/Equip	4	2	5	2	2	5-4
AM 202	Production Planning	3	2	5	2	1	4-2
AM 203	Apparel Mfg. Proc.-Line Setups, Control	5	0	5	2	3	7-3
AM 205	Distribution Center Operations	2	0	2	2	2	6-3
AM 207	Purchasing and Inventory Control	3	0	3	3	3	11-2
AM 208	Apparel and International Business	3	0	3	4	2	12-3
AM 210	Applied Apparel Mgt. Decisions	4	5	5	3	2	9-2
AM 401	Apparel Mfg. 10 Wk Practical			6	3	Summer	11-3
AM 403	Business Planning Processes	3	2	3	4	1	12-1
AM 307	Alt. Garment Mfg. Techniques	2	2	3	4	2	11-1
AM 410	Comb. Apparel Applications	4	4	6	4	3	14-1
CHEMISTRY							
CH 104	General Chemistry	4	3	50	1	2	2-5
HISTORY							
HS 107	Dev. of N. Civilization	3	0	30	2	3	7-2

APPAREL MANUFACTURING - FOUR YEAR BASIC COURSE
DEPARTMENTAL COURSE LISTING AND SUPPLEMENTAL DATA

DEPT/COURSE	HOURS/WEEK		CRED HRS	OFFERED		COURSE DESCR REF. NO.	
	CLASS	LAB		YR	QTR		
TEXTILE							
TX 101	Textile Proc.-Yarn, Cloth Fabrication	4	3	5	1	1	1-3
TX 201	Textile Designs & Quality Grading	3	2	4	2	1	4-3
BUSINESS							
BS 102	Business Law	3	0	3*	2	2	5-3
BS 204	Probability & Statistics	3	0	3*	2	1	5-2
BS 305	Modern Ind. Health & Safety Factors	3	0	3*	3	1	8-2
BS 315	Industrial Security	2	0	2*	3	1	8-3
ACCOUNTING							
AC 101	Accounting Concepts	3	0	3*	1	2	2-3
AC 204	Applied Finance	3	0	3*	3	1	5-5
MATH							
MA 101	Algebra-No cred. Req unless passed entr exam	(5)	0	0	1	1	1-1
MA 103	Advanced Business Math	3	0	3*	1	1	1-2
MA 203	Computer M.I.S. Applications	3	2	3	1	3	4-1
MA 209	Computer Mechanization	3	2	3	2	2	4-2
ENGLISH							
ES 102	English Composition	3	0	3*	1	2	2-4
ES 102	Technical Writing	3	0	3*	1	2	7-5
ES 105	Public Speaking	3	0	3*	1	1	2-1
ES 312	Adv. Communication Techniques	3	0	3*	3	2	9-1
ES 205	Speed Reading	1	0	1*	2	1	4-4
INDUSTRIAL RELATIONS							
IR 105	Participative Management	3	0	3*	1	2	3-1
IR 205	Human Resources - Personnel	3	2	5*	3	2	10-1
IR 207	Human Resources - Labor Rel., MEO	3	0	3*	2	3	4-4
IR 115	Organization-Industrial Psychology	3	0	3*	3	1	8-1
IR 310	Stat. Applic. To Human Resources	3	2	4*	4	1	11-4

APPENDIX B

APPAREL AND OTHER FINISHED TEXTILE PRODUCTS
 MAJOR GROUP 23

Code	Standard Industrial Classification
2311	Men's and boys' suits and coats
2321	Men's and boys' shirts and nightwear
2322	Men's and boys' underwear
2323	Men's and boys' neckwear
2327	Men's and boys' separate trousers
2328	Men's and boys' work clothing
2329	Men's and boys' clothing, nec.
2331	Women's and misses' blouses and waists
2335	Women's and misses' dresses
2337	Women's and misses' suits and coats
2339	Women's and misses' outerwear, nec.
2341	Women's and children's underwear
2342	Brassieres and allied garments
2351	Millinery
2352	Hats and caps, except millinery
2361	Children's dresses and blouses
2363	Children's coats and suits
2369	Children's outerwear, nec.
2371	Fur goods
2381	Fabric dress and work gloves
2384	Robes and dressing gowns
2385	Waterproof outergarments
2386	Leather and sheep lined clothing
2387	Apparel belts
2389	Apparel and accessories, nec.
2391	Curtains and draperies
2392	House furnishings, nec.
2393	Textile bags
2394	Canvas and related products
2395	Pleating and stitching
2396	Automotive and apparel trimmings
2397	Schiffli machine embroideries
2399	Fabricated textile products, nec.

Source: Standard Industrial Classification Manual. The Statistical Policy Division (Superintendent of Documents). Washington, DC: U. S. Government Printing Office, 1972.

APPENDIX C

The University of North Carolina
at Greensboro

School of Home Economics
Department of Clothing and Textiles
(919) 379-5250
May 22, 1986

You have been selected as one of the 100 North Carolina manufacturers to assist in the identification of specific capabilities needed to qualify for entry level management training. The objective is to up-date the curriculum for Apparel Arts students at the University of North Carolina Greensboro. The reactions and comments of current employers in the industry are vital to this study.

The attached questionnaire should be completed by the appropriate official in your firm and returned to us by June 6. Please indicate the name and address of that person on the enclosed postcard and return it to us as soon as possible. The responses will be held in confidence and we will provide a summary of the results of the research upon request. The information requested will help us to improve the preparation of our graduates and thus provide a pool of qualified employees for future management in the apparel industry of our state.

We greatly appreciate your assistance in this curriculum update and thank you for your time.

Yours very truly,

Glenda Lowry
Principal Investigator
(O) 919 379-5250
(H) 919 852-3431

Enc. 2

PLEASE CHECK:

_____ We will participate in the curriculum up-date. The contact person in my firm is:

Name _____

Job Title _____

Address _____

Phone _____

_____ We want a summary of the results of the study.

_____ We do not wish to participate.

Firm _____

Please indicate a convenient time for you to be interviewed by phone.

AM: 9-12 _____ PM: 1-4 _____ M T W T H F

APPENDIX D

THIS QUESTIONNAIRE SHOULD TAKE APPROXIMATELY 20 MINUTES OF YOUR TIME.

Plant Name _____ Address _____

I. Is this plant one of several in the company? yes no (please circle)

If yes, how many plants are there in North Carolina? _____

Do you receive your directions, instructions, production orders, specification sheets, patterns/slopers/markers from a central office or headquarters? yes no (please circle)

If yes, where is the central office located? Address:

II. How many workers are located at this plant location? (please check)

Less than More than
_____ 250 workers _____ 250 workers

III. For what category do you manufacture at this plant? (please check those that apply)

_____ Menswear _____ Boyswear _____ Womenswear _____ Children (girls,
(miss, junior, etc) infants, toddler)

_____ Other (please specify) _____

IV. Functions performed at this plant include: (please check those that apply)

Marketing:

_____ Merchandising
_____ Selling

Product Development:

_____ Designing
_____ Pattern Making
_____ Grading

Production:

_____ Cutting
_____ Sewing
_____ Quality Control

Operations:

_____ Accounting/Credits
_____ Purchasing
_____ Warehousing
_____ Shipping

Personnel:

_____ Time/Motion
_____ Pay Rate

Other: (Please List)

V. Who hires the entry level management/trainee for the functions checked above:

Name _____ Telephone _____

Job Title _____

University of North Carolina
Greensboro

General information:

1. Name of respondent _____

Job Title _____

Address _____ Phone _____

2. What is your training?

_____ Trade School _____ High School Vocational-Technical

_____ College (community or _____ Experience - on-the-job
4 year program)

_____ Other (Please specify) _____

3. How many years have you been in apparel manufacturing?

(Please check) _____ 0-4 years _____ 5-9 years _____ 10-14 years

_____ 15-19 years _____ 20+years

4. What, if any, additional training do you provide entry level management employees?

5. Please read the instructions and complete the following questionnaire regarding attributes needed for entry level management/trainee.

QUESTIONNAIRE FOR ATTRIBUTES

Definition: Attribute - a quality, property, or characteristic that can be ascribed to a person; developed or acquired proficiency or mastery.

General Directions: How important are the attributes listed below for people working in the apparel industry? Circle the number that represents the importance you give to each particular attribute in the list below. If you feel unsure about an attribute, please estimate and comment on that skill. In the spaces provided at the end of each section please add any additional attributes or comments about attributes from your experience.

KEY: 5 - Essential, required for employment
3 - Desirable, recommended for employment
1 - Unimportant, of no value

Employee Attributes I. Marketing	Management and Supervision				
1. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.	5	4	3	2	1
2. Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research	5	4	3	2	1
3. Analyzes fashion trends, buying sources, fabric prices, and/or shipping arrangements.	5	4	3	2	1
4. Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications.	5	4	3	2	1
5. Keeps up-to-date on legislation concerning textile and/or related products.	5	4	3	2	1
6. Demonstrates sound judgment about consumer needs and desires in regard to the product.	5	4	3	2	1
7. Provides information concerning packaging and labeling of textile related products.	5	4	3	2	1
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.	5	4	3	2	1

Other (please list)

Employee Attributes II. PRODUCT DEVELOPMENT	Management and Supervision				
9. Demonstrates artistic ability and creative talent in designing new products.	5	4	3	2	1
10. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products	5	4	3	2	1
11. Exhibits an understanding of principles and techniques of sketching in the fashion field.	5	4	3	2	1
12. Applies specialized training in the areas of graphic art, commercial art, and the fashion arts.	5	4	3	2	1
13. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.	5	4	3	2	1
14. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.	5	4	3	2	1
15. Knows the value and effect of the finishing processes on various fabrics.	5	4	3	2	1
16. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.	5	4	3	2	1
17. Is innovative in the approach to selection and use of fabrics.	5	4	3	2	1

Other (please list)

III. PRODUCTION					
18. Generates and/or supervises the production of a product.	5	4	3	2	1
19. Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers.	5	4	3	2	1

Employee Attributes III. PRODUCTION Continued	Management and Supervision				
20. Keeps sample fabric inventory records	5	4	3	2	1
21. Selects and orders fabrics, trims, colors, and/or accessories.	5	4	3	2	1
22. Demonstrates knowledge of pattern making, flat pattern technique, and/or draping.	5	4	3	2	1
23. Exhibits a broad understanding of clothing construction techniques.	5	4	3	2	1
24. Coordinates the planning and creation of a product according to the specifications of the manufacturer.	5	4	3	2	1
Other (please list)					

IV. OPERATIONS					
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.	5	4	3	2	1
26. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.	5	4	3	2	1
27. Understands management systems and their suitability for particular operations.	5	4	3	2	1
28. Communicates with marketing, production and manufacturing personnel, fabric houses, and/or buyers.	5	4	3	2	1
Other (please list)					

Employee Attributes V. PERSONNEL	Management and Supervision				
29. Recruits, interviews, hires, directs/super- vises, and/or dismisses personnel.	5	4	3	2	1
30. Participates in the evaluation of subordinates.	5	4	3	2	1
31. Trains employees in order to achieve a prede- termined goal of job satisfaction to both self and employees--motivation management.	5	4	3	2	1
32. Demonstrates effective human relations both with employees and the consumer/client served.	5	4	3	2	1
33. Understands personnel policies and union contracts.	5	4	3	2	1
34. Maintains an up-to-date knowledge of subject matter through reading, classes/seminars, and interaction with technical and profes- sional personnel.	5	4	3	2	1

Other (please list)

UPON COMPLETION PLEASE FOLD AND INSERT IN THE SELF-ADDRESSED STAMPED ENVELOPE. PLEASE POST THE QUESTIONNAIRE FOR RETURN TO GREENSBORO BY MAY 20.

THANK YOU VERY MUCH FOR YOUR HELP!!!!

APPENDIX E

June 18, 1986

Dear Apparel Manufacturer:

On May 1 and May 23 an envelope containing a cover letter, questionnaire, self-addressed stamped envelope, self-addressed stamped postcard were mailed to apparel manufacturers listed in the Directory of Manufacturers of North Carolina, 1985-86. The envelope was addressed to the attention of the production manager. As of this date neither the questionnaire nor the postcard has been received. It is most important that your response be received so that the study will truly reflect the North Carolina apparel manufacturers wants in entry-level management and that UNCG can realistically update Clothing and Textiles curriculum.

If you still have the packet containing the materials, please complete it and and mail it at your earliest convenience. If the packet got lost please indicate on the enclosed postcard a time the appropriate person in your firm would be available for me to interview by phone. The questionnaire takes approximately 20 min.

Results of the survey will be available Labor Day and will be sent to those requesting the findings.

Yours very truly,

Glenda Lowry
Principal Investigator

APPENDIX F

Table 2
Large Apparel Manufacturers Responses to Employee Attributes
for Marketing Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
1. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.		48	24	16	0	0	12
2. Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research.		20	28	36	0	8	8
3. Analyzes fashion trends, buying sources, fabric prices, and/or shipping arrangements.		36	32	16	4	4	8
4. Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications.		24	36	28	0	4	8
5. Keeps up-to-date on legislation concerning textile and/or related products.		12	24	36	20	0	8
6. Demonstrates sound judgment about consumer needs and desires in regard to the product.		48	24	16	4	0	8
7. Provides information concerning packaging and labeling of textile related products.		12	24	40	16	0	8
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.		56	28	4	4	0	8

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 2 (Continued)
Large Apparel Manufacturers Responses to Employee Attributes
for Product Development Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
9. Demonstrates artistic ability and creative talent in designing new products.		36	28	16	20	0	0
10. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products.		44	24	20	12	0	0
11. Exhibits an understanding of principles and techniques of sketching in the fashion field.		12	24	36	20	8	0
12. Applies specialized training in the areas of graphic art, commercial art, and the fashion arts.		0	28	36	28	8	0
13. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.		20	32	44	4	0	0
14. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.		44	40	12	4	0	0
15. Knows the value and effect of the finishing processes on various fabrics.		16	44	32	4	4	0
16. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.		0	20	20	12	44	4
17. Is innovative in the approach to selection and use of fabrics.		16	48	28	0	8	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 2 (Continued)
Large Apparel Manufacturers Responses to Employee Attributes
for Production Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
18. Generates and/or supervises the production of a product.		52	32	16	0	0	0
19. Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers.		24	20	40	12	4	0
20. Keeps sample fabric inventory records.		16	28	40	12	4	0
21. Selects and orders fabrics, trims, colors, and/or accessories.		16	24	52	8	0	0
22. Demonstrates knowledge of pattern making, flat pattern techniques, and/or draping.		16	40	28	8	8	0
23. Exhibits a broad understanding of clothing construction techniques.		36	36	24	4	0	0
24. Coordinates the planning and creation of a product according to the specifications of the manufacturer.		56	32	12	0	0	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 2 (Continued)
Large Apparel Manufacturers Responses to Employee Attributes
for Operations Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.		48	48	4	0	0	0
26. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.		16	56	28	0	0	0
27. Understands management systems and their suitability for particular operations.		24	44	32	0	0	0
28. Communicates with marketing, production and manufacturing personnel, fabric houses and/or buyers.		40	44	16	0	0	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 2 (Continued)
Large Apparel Manufacturers Responses to Employee Attributes
for Personnel Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
29. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.		52	28	16	4	0	0
30. Participates in the evaluation of subordinates.		36	24	40	0	0	0
31. Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management.		24	52	12	12	0	0
32. Demonstrates effective human relations both with employees and the consumer/client served.		52	32	16	0	0	0
33. Understands personnel policies and union contracts.		60	24	12	4	0	0
34. Maintains an up-to-date knowledge of subject matter through reading, classes/seminars, and interaction with technical and professional personnel.		48	20	32	0	0	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value.

Table 3
Small Apparel Manufacturers Responses to Employee Attributes
for Marketing Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential 5	4	Desirable 3	2	Unimportant 1	0
1. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.		40	28	24	8	0	0
2. Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research.		28	36	20	12	4	0
3. Analyzes fashion trends, buying sources, fabric prices, and/or shipping arrangements.		28	20	36	8	8	0
4. Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications.		16	16	60	4	4	0
5. Keeps up-to-date on legislation concerning textile and/or related products.		8	44	36	12	0	0
6. Demonstrates sound judgment about consumer needs and desires in regard to the product.		44	40	12	4	0	0
7. Provides information concerning packaging and labeling of textile related products.		0	28	60	12	0	0
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.		52	40	4	0	4	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 3 (Continued)
Small Apparel Manufacturers Responses to Employee Attributes
for Product Development Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
9. Demonstrates artistic ability and creative talent in designing new products.		24	12	56	4	0	4
10. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products.		24	48	20	4	0	4
11. Exhibits an understanding of principles and techniques of sketching in the fashion field.		0	16	64	16	4	0
12. Applies specialized training in the areas of graphic art, commercial art, and the fashion arts.		8	8	60	20	4	0
13. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.		36	40	20	4	0	0
14. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.		52	32	16	0	0	0
15. Knows the value and effect of the finishing processes on various fabrics.		28	40	24	8	0	0
16. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.		0	0	20	40	40	0
17. Is innovative in the approach to selection and use of fabrics.		8	56	32	0	4	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 3 (Continued)
Small Apparel Manufacturers Responses to Employee Attributes
for Production Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential 5	4	Desirable 3	2	Unimportant 1	0
18. Generates and/or supervises the production of a product.		56	28	16	0	0	0
19. Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers.		12	40	36	12	0	0
20. Keeps sample fabric inventory records.		20	12	44	12	12	0
21. Selects and orders fabrics, trims, colors, and/or accessories.		32	40	24	0	4	0
22. Demonstrates knowledge of pattern making, flat pattern techniques, and/or draping.		20	12	52	8	8	0
23. Exhibits a broad understanding of clothing construction techniques.		32	28	24	12	4	0
24. Coordinates the planning and creation of a product according to the specifications of the manufacturer.		48	32	16	4	0	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 3 (Continued)
Small Apparel Manufacturers Responses to Employee Attributes
for Operations Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.		48	36	16	0	0	0
26. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.		44	36	16	4	0	0
27. Understands management systems and their suitability for particular operations.		48	28	24	4	0	0
28. Communicates with marketing, production and manufacturing personnel, fabric houses and/or buyers.		32	12	52	4	0	0

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 3 (Continued)
Small Apparel Manufacturers Responses to Employee Attributes
for Personnel Function.

Employee Attributes	n=25	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
29. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.		52	36	8	0	0	4
30. Participates in the evaluation of subordinates.		32	48	16	0	0	4
31. Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management.		16	52	28	0	0	4
32. Demonstrates effective human relations both with employees and the consumer/client served.		48	28	20	0	0	4
33. Understands personnel policies and union contracts.		44	32	12	8	0	4
34. Maintains an up-to-date knowledge of subject matter through reading, classes/seminars, and interaction with technical and professional personnel.		28	40	24	4	0	4

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value.

Table 4
Cut/Sew Contractors Responses to Employee Attributes
for Marketing Function.

Employee Attributes	n=18	Percentage of Responses					
		Essential 5	4	Desirable 3	2	Unimportant 1	0
1. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.		11	11	39	0	17	22
2. Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research.		11	0	28	22	17	22
3. Analyzes fashion trends, buying sources, fabric prices, and/or shipping arrangements.		0	17	28	6	27	22
4. Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications.		11	11	39	11	11	17
5. Keeps up-to-date on legislation concerning textile and/or related products.		6	6	44	11	17	16
6. Demonstrates sound judgment about consumer needs and desires in regard to the product.		22	17	17	17	11	16
7. Provides information concerning packaging and labeling of textile related products.		6	33	28	11	22	0
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.		28	6	22	11	11	22

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 4 (Continued)
Cut/Sew Contractors Responses to Employee Attributes
for Product Development Function.

Employee Attributes	n=18	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
9. Demonstrates artistic ability and creative talent in designing new products.		11	11	22	28	11	17
10. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products.		6	22	33	6	16	17
11. Exhibits an understanding of principles and techniques of sketching in the fashion field.		0	6	28	11	39	16
12. Applies specialized training in the areas of graphic art, commercial art, and the fashion arts.		0	11	11	22	39	17
13. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.		11	28	33	0	11	17
14. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.		50	6	11	5	11	17
15. Knows the value and effect of the finishing processes on various fabrics.		22	17	17	11	16	17
16. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.		0	0	28	22	33	17
17. Is innovative in the approach to selection and use of fabrics.		6	17	22	28	11	16

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 4 (Continued)
Cut/Sew Contractors Responses to Employee Attributes
for Production Function.

Employee Attributes	n=18	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
18. Generates and/or supervises the production of a product.		50	39	6	5	0	0
19. Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers.		6	39	28	22	5	0
20. Keeps sample fabric inventory records.		6	22	39	22	11	0
21. Selects and orders fabrics, trims, colors, and/or accessories.		6	17	22	17	22	16
22. Demonstrates knowledge of pattern making, flat pattern techniques, and/or draping.		6	11	50	6	17	10
23. Exhibits a broad understanding of clothing construction techniques.		67	11	17	0	0	0
24. Coordinates the planning and creation of a product according to the specifications of the manufacturer.		50	22	17	0	0	11

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 4 (Continued)
Cut/Sew Contractors Responses to Employee Attributes
for Operations Function.

Employee Attributes	n=18	Percentage of Responses					
		Essential		Desirable		Unimportant	
		5	4	3	2	1	0
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.		50	6	17	11	0	16
26. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.		39	22	16	0	6	17
27. Understands management systems and their suitability for particular operations.		28	33	22	0	0	17
28. Communicates with marketing, production and manufacturing personnel, fabric houses and/or buyers.		67	6	5	0	6	16

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value. (Table continues)

Table 4 (Continued)
Cut/Sew Contractors Responses to Employee Attributes
for Personnel Function.

Employee Attributes	n=18	Percentage of Responses					
		Essential 5	4	Desirable 3	2	Unimportant 1	0
29. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.		61	11	17	6	0	5
30. Participates in the evaluation of subordinates.		50	22	17	0	0	11
31. Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management.		44	28	22	0	0	6
32. Demonstrates effective human relations both with employees and the consumer/client served.		61	22	11	0	0	6
33. Understands personnel policies and union contracts.		56	17	16	0	5	6
34. Maintains an up-to-date knowledge of subject matter through reading, classes/seminars, and interaction with technical and professional personnel.		39	22	22	11	0	6

KEY: 5-Essential, required for employment; 3-Desirable, recommended for employment; 1-Unimportant, of no value.

APPENDIX G

Analyses of Variance (ANOVA)

F
0.02

Large Apparel Manufacturers

vs.

Small Apparel Manufacturers

LEVEL	N	MEAN	STDEV
C1	34	3.7471	0.5417
C2	34	3.7265	0.6032
POOLED STDEV =		0.5733	

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

-----+-----+-----+-----+-----+
 (-----*-----)
 -----+-----+-----+-----+-----+
 3.60 3.72 3.84 3.96

F
12.92

Apparel Manufacturers

vs.

Cut/Sew Contractors

LEVEL	N	MEAN	STDEV
C2	34	3.7265	0.6032
C3	34	3.0500	0.9166
POOLED STDEV =		0.7759	

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

-----+-----+-----+-----+-----+
 (-----*-----)
 -----+-----+-----+-----+-----+
 2.80 3.20 3.60 4.00

F
3.97

Womenswear Manufacturers

vs.

Menswear Manufacturers

LEVEL	N	MEAN	STDEV
C1	34	3.5853	0.6858
C2	34	3.8824	0.5340
POOLED STDEV =		0.6146	

INDIVIDUAL 95 PCT CI'S FOR MEAN
BASED ON POOLED STDEV

-----+-----+-----+-----+-----+
 (-----*-----)
 -----+-----+-----+-----+-----+
 3.40 3.60 3.80 4.00

APPENDIX H

Table 12

Percentage of Congruity by Apparel Manufacturers Responses
and Functions.

Function	Percentage of Responses						
	n=68 ^a	n=50 ^b	n=25L ^c	n=25S ^d	n=18 ^e	n=17 ^f	n=13 ^g
Marketing	67	75	70	74	45	81	66
Product Development	66	73	60	61	46	71	64
Production	73	76	76	67	66	78	72
Operations	79	82	82	81	70	83	82
Personnel	81	82	83	80	80	79	84

^an=68 All respondents

^bn=50 Large and small apparel manufacturers

^cn=25L Large manufacturers more than 250 workers

^dn=25S Small manufacturers less than 250 workers

^en=18 Cut/Sew contractors

^fn=17 Women's apparel manufacturer

^gn=13 Men's apparel manufacturer

APPENDIX I

COMPARISON OF WOMENSWEAR AND MENSWEAR

Summary of Comparison of Manufacturers Producing Womenswear and Menswear

Comparison of Essential Employee Attributes (mean score 4.0-5.0) for Womenswear vs. Menswear for each Function:

a. Marketing Function

Four of the 8 employee attributes for the Marketing function were perceived as essential for the womenswear group (see nos. 1, 3, 6, 8). Only one (no. 8), importance of achieving seasonal sales goals was considered essential for the menswear group, womenswear group, and total 50, cut/sew. Only two of the four essential employee attributes for the womenswear group were considered essential by the total group of apparel manufacturers (see nos. 6, 8).

b. Product Development Function

Four of the 9 employee attributes for the Product Development function were perceived as essential for the womenswear group (see nos. 3, 9, 10, 14, 15). Only one (no. 14) was perceived as essential by all three groups (no. 14).

c. Production Function

Three of the 7 employee attributes for the Production function were perceived as essential for the womenswear group (see nos. 18, 21, 24). Two of the three were considered essential by the menswear group, by the womenswear group and the total group (see nos. 18, 24).

d. Operations Function

Three of the 4 employee attributes in this function were considered essential by the womenswear group (see nos. 25, 26, 27). Of the three employee attributes considered essential by the menswear group one (no. 28) differed from the three essential employee attributes for women. Only two employee attributes were considered essential by each of the three groups (see nos. 25, 26).

e. Personnel Function

Three of the 6 employee attributes were perceived as essential by the womenswear group (see nos. 29, 32, 33). Five of the 6 employee attributes were perceived as essential by the menswear group (see nos. 29, 30, 31, 32, 33). Only three of the 6 employee attributes were considered essential by each of 3 groups (see nos. 29, 32, 33).

APPENDIX J

Table 15
Apparel Manufacturers Employee Attributes - Mean Scores,
Function and Size of Manufacturer

Employee Attributes	\bar{X}					
	Total n=50	Large n=25	Small n=25	C/S n=18	Women n=17	Men n=13
I. MARKETING						
1. Studies the market by shopping, reading trade publications, attending trade/apparel/fashion shows, and/or discussing needs and ideas with garment designers.	3.9	3.8	4.2	1.7	4.6	3.6
2. Exhibits a broad understanding of individual and family consumption of clothing through demographics and marketing research.	3.5	3.2	3.7	1.4	3.8	3.2
3. Analyzes fashion trends, buying sources, fabric prices, and/or shipping arrangements.	3.5	3.7	3.5	1.4	4.1	3.1
4. Demonstrates an ability in written communication, and/or fashion writing, e.g. memos, reports, production specifications.	3.4	3.5	3.4	1.8	3.5	3.2
5. Keeps up-to-date on legislation concerning textile and/or related products.	3.4	3.0	3.5	1.6	3.5	2.7
6. Demonstrates sound judgment about consumer needs and desires in regard to the product.	4.1	3.9	4.2	2.0	4.6	3.7
7. Provides information concerning packaging and labeling of textile related products.	3.1	3.1	3.2	1.4	3.6	2.6
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.	4.2	4.1	4.4	1.9	4.6	4.2

(Table Continues)

Table 15 (Continued)
Apparel Manufacturers Employee Attributes - Mean Scores,
Function and Size of Manufacturer

Employee Attributes	\bar{X}					
	Total n=50	Large n=25	Small n=25	C/S n=18	Women n=17	Men n=13
II. PRODUCT DEVELOPMENT						
9. Demonstrates artistic ability and creative talent in designing new products.	3.6	3.8	3.4	1.7	4.1	3.2
10. Demonstrates a comprehensive knowledge of principles and elements of design as they are applied in clothing and other textile products.	3.9	4.0	3.8	1.8	4.1	3.5
11. Exhibits an understanding of principles and techniques of sketching in the fashion field.	3.0	3.1	2.9	1.2	3.1	2.6
12. Applies specialized training in the areas of graphic art, commercial art, and the fashion arts.	3.0	2.7	3.0	1.2	2.8	2.7
13. Exhibits a broad understanding of the characteristics and properties of fibers, yarns, fabrics and finishes.	3.9	3.7	4.1	2.0	3.8	3.8
14. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.	4.3	4.1	4.6	2.4	4.2	4.5
15. Knows the value and effect of the finishing processes on various fabrics.	3.8	3.6	3.9	1.9	4.0	3.8
16. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.	1.9	2.1	1.8	1.2	2.2	1.6
17. Is innovative in the approach to selection and use of fabrics.	3.7	3.6	3.6	1.6	3.8	3.2

(Table continues)

Table 15 (Continued)
Apparel Manufacturers Employee Attributes - Mean Scores,
Function and Size of Manufacturer

Employee Attributes	\bar{X}					
	Total n=50	Large n=25	Small n=25	C/S n=18	Women n=17	Men n=13
III. PRODUCTION						
18. Generates and/or supervises the production of a product.	4.4	4.4	4.4	3.1	4.5	4.4
19. Demonstrates a comprehensive knowledge of standard methods of textile testing used by vendors and suppliers.	3.5	3.5	3.5	2.3	3.4	3.4
20. Keeps sample fabric inventory records.	2.8	3.4	2.2	2.1	3.6	2.9
21. Selects and orders fabrics, trims, colors, and/or accessories.	3.7	3.4	4.0	1.6	4.0	3.4
22. Demonstrates knowledge of pattern making, flat pattern techniques, and/or draping.	3.4	3.5	3.2	1.8	3.5	3.2
23. Exhibits a broad understanding of clothing construction techniques.	3.9	4.3	3.7	3.1	3.9	3.6
24. Coordinates the planning and creation of a product according to the specifications of the manufacturer.	4.3	4.4	4.2	2.8	4.5	4.3

(Table continues)

Table 15 (Continued)
Apparel Manufacturers Employee Attributes - Mean Scores,
Function and Size of Manufacturer

Employee Attributes	\bar{X}					
	Total n=50	Large n=25	Small n=25	C/S n=18	Women n=17	Men n=13
IV. OPERATIONS						
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.	4.4	4.4	4.3	2.5	4.5	4.4
26. Exhibits an understanding of the manufacturing and distribution processes relating to textiles and clothing.	4.0	3.9	4.2	2.4	4.1	4.2
27. Understands management systems and their suitability for particular operations.	4.0	3.9	4.1	2.4	4.1	3.8
28. Communicates with marketing, production and manufacturing personnel, fabric houses and/or buyers.	4.0	4.2	3.7	2.7	3.9	4.1

(Table Continues)

Table 15 (Continued)
Apparel Manufacturers Employee Attributes - Mean Scores,
Function and Size of Manufacturer

Employee Attributes	\bar{X}					
	Total n=50	Large n=25	Small n=25	C/S n=18	Women n=17	Men n=13
V. PERSONNEL						
29. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.	4.3	4.3	4.2	3.0	4.4	4.2
30. Participates in the evaluation of subordinates.	4.0	4.0	4.0	2.3	3.8	4.1
31. Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management.	3.8	3.7	3.7	2.9	3.2	4.2
32. Demonstrates effective human relations both with employees and the consumer/client served.	4.2	4.4	4.1	3.1	4.1	4.5
33. Understands personnel policies and union contracts.	4.2	4.4	4.0	2.9	4.2	4.5
34. Maintains an up-to-date knowledge of subject matter through reading, classes/seminars, and interaction with technical and professional personnel.	4.0	4.3	3.8	2.7	3.9	3.6

APPENDIX K

FINDINGS SUPPORTED BY EMENHEISER STUDY

List of 11 Most Important Management/Supervision Competencies

Similar to 19 Essential Employee Attributes in the Present Study.

Emenheiser (1981)	Lowry (1986)
1. Knows textile properties	19
2. Knows personnel policies	8
3. Communicates with business associates	13
4. Selects and orders fabrics	17
5. Studies the market	15
6. Knows clothing construction techniques	18
7. Trains personnel	5
8. Knows management systems	11
9. Supervises production	1
10. Applies principles and elements of design	16
11. Knows manufacturing and distribution	10

APPENDIX L

Table 16
Responses from Non-Respondents Interviewed by Telephone

	Rating	
	n=68	n=25
<u>Employee Attributes</u>		
<u>Marketing Function</u>		
8. Understands the importance of achieving seasonal sales goals in relation to production and profits.	H ^a	H
7. Provides information concerning packaging and labeling of textile related products.	L ^b	L
<u>Product Development</u>		
4. Understands how fabric will react in the cutting, sewing, and pressing operations of the manufacturing processes.	H	H
34. Studies museums, art galleries, libraries, and old publications for the origination of ideas for design.	L	L
<u>Production</u>		
18. Generates and/or supervises the production of a product.	H	H
33. Keeps sample fabric inventory records.	L	L
<u>Operations</u>		
25. Plans and directs the smooth flow of business from the manufacturer to the ultimate consumer.	H	H
28. Communicates with marketing, production and manufacturing personnel, fabric houses, and/or buyers.	L	L
<u>Personnel</u>		
29. Recruits, interviews, hires, directs/supervises, and/or dismisses personnel.	H	H
31. Trains employees in order to achieve a predetermined goal of job satisfaction to both self and employees--motivation management.	L	L

^aH - High rating

^bL - Low rating

n=68 Total sample

n=25 Non-respondents