

\ CONSUMER ATTITUDES ABOUT THE IMPORTANCE OF FLAME RETARDANT  
LEGISLATION FOR CLOTHING IN RELATION TO SOCIO-ECONOMIC  
CLASS AND PARENTAL STATUS /

by

Beverly Gould Patterson //

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APPROVED:

Enid F. Tozier, Chairman

Oris Glisson

Clyde Y. Kramer

William Mauldin

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## Chapter I

### Introduction

Protection from disaster is a situation that some consumers do not consider until too late. Interest in eliminating a potential hazard is often not generated until serious injury or death of an individual has occurred. The consumer movement has helped to stimulate participation of American business, as well as members of the textile industry, in the prevention of unsafe products on the market. Concern has developed over possible federal expansion of textile flammability standards for general wearing apparel. Flammability standards already have been established for carpets and rugs (Federal Register, 1970a, 1970b), mattresses (Federal Register, 1973), and children's sleepwear, sizes 0 through 14 (Federal Register, 1971, 1975).

Consumerism and its effect on product safety has grown rapidly during the past fifteen years. In March, 1962, President Kennedy informed Congress that "the Federal government, by nature the highest spokesman for all the people, has a special obligation to be alert to consumers' needs and to advance consumers' interests" (White, 1970, p. 74).

The consumer movement of the seventies more specifically concerns social advocacy and public health ("Apparel and Cancer," 1976). There no longer seems to be a question of whether or not the consumer needs to be protected, but rather who should protect him (Shuptrine, 1975).

This controversy over consumer protection has led to confusion among the consumer, industry, and government. Kotler (1972) has stated that many consumers think their wishes carry little weight in determining the market alternatives available to them. He suggested that discontentment results because "buyers want the right to influence products and marketing practices" (p. 50). In coping with a feeling of powerlessness, many consumers call on government to intervene in their behalf to protect and promote their interests (Lambert & Kniffen, 1975).

The severity of clothing burns concerns government, textile industry, and consumers. A burn not only can result in painful, disfiguring scars; but it also may create an emotional and financial burden to the victim and family (Information Council on Fabric Flammability, 1975). The prevention of burn injuries, however, is not simple partly because of the difficulty of determining an exact measurement of the relative hazard of textile materials. This problem exists because flammability of a fabric or garment is a dynamic and complex process; there are numerous and varied textile products on the market; the diversity of garment design affects burning time; and human reaction to fire is unpredictable (Galil & Lomartire, 1976).

Fabric flammability has not stimulated strong consumer reaction to the degree that a favorable response to flame retardant garments has materialized (Suchecky, 1976). The performance of flame retardant garments, confusion over care instructions, understanding of the term flame retardancy, higher cost and restriction of choice may have



dampened consumer interest. Flammability requirements presently in existence have been met by industry but in most cases have required trade-offs by consumers of one or more factors such as economy, aesthetics, durability and ease of care (Eisenberg & Weil, 1974). With the current emphasis on consumer protection, flame retardant finishes and fabrics with excellent durability and other acceptable qualities are being sought (Mazzeno, Robinson, McCall, Morris, & Trask, 1973). The industry is concerned about its future technical and economic abilities to produce less flammable and less hazardous textile products at a reasonable price (Kraswell, 1972).

The possible extension of flammability standards has been recommended by some consumer advocates, members of the textile industry, and some members of regulatory agencies. At the Ninth Annual Meeting of the Information Council on Fabric Flammability (1975), Dr. Ronald Ollstein, a practicing plastic surgeon and ardent advocate of flame retardant technology, reported that children's flame retardant sleepwear had prevented some serious burn injuries. Furthermore, giants in the retailing business, such as J. C. Penney, Inc., and Sears & Roebuck, Co., are selling some flame retardant garments other than children's sleepwear. However, Mr. A. Dean Swift, President of Sears & Roebuck, Co., reported that "consumeristic legislation" often errs by ignoring the preferences of the consumer. He stated, "flame retardant outerwear for children is one of the biggest disappointments in recent history of our catalogue" because in many cases, consumers chose the non-flame

retardant brands even when the price was the same as the protective garments ("Sears in Context," 1976, p. 16).

As the possibility of future federal expansion of flame retardant standards becomes evident, further research concerning the preferences of consumers is needed. Their opinions about freedom of choice in the marketplace, as well as their attitudes about the degree of importance, special care requirements, higher price, and durability of flame retardant fabrics and garments need to be investigated. The decision about further legislation in the area of flame retardancy should be at least partially based on consumers' preferences.

#### Purpose

The purpose of this research was to investigate current consumer attitudes toward flammability legislation in relation to socio-economic class and parental status. It will provide information that may be used by the textile industry in determining the degree of importance flame retardant apparel and other textile products may have to consumers. Government agencies may find this information useful, as well as retailers, who may become more knowledgeable about the desires of the marketplace.

#### Objectives of Research

The first objective of this research was to investigate current attitudes of consumers from various socio-economic classes and parental situations in relation to:

1. Future expansion of flame retardant standards for wearing apparel for the following groups of people:
  - a. Children, ages 6 and under.
  - b. Children, ages 7-14.
  - c. Adults, ages 15-64.
  - d. Adults, ages 65 and over.
  - e. Disabled and handicapped individuals.
2. The degree of importance of flame retardant clothing for the same groups of people.
3. Personal experiences with burn injuries.
4. Knowledge of special care and price of flame retardant products.

Another objective was to determine consumers' attitudes regarding who should be responsible for protection of society from dangerously flammable fabrics: government, manufacturers, consumers, or a combination of these sectors of the economy.

### Hypotheses

- The following hypotheses were tested in this study:
1. There will be no significant differences in consumer attitudes towards flame retardant legislation in relation to their socio-economic class.
  2. There will be no significant differences in consumer attitudes towards flame retardant legislation in relation to their parental status.

3. There will be no significant differences in the attitudes of consumers from various socio-economic classes in relation to the sector of the economy responsible for human protection from flammable fabrics.

4. There will be no significant differences in the attitudes of consumers from various parental situations in relation to the sector of the economy responsible for human protection from flammable fabrics.

## Chapter II

### Review of Literature

Consumer safety requirements on textile products are most effective after the real hazard has been determined, and when the individual is willing to pay for the added protection. Today, much effort is directed to retarding fabric flammability for apparel, industrial, and domestic uses ("Flammability Testing," 1972). In many cases fabrics are created for an aesthetic effect; but in the case of flame retardancy, protection is the goal. Fabrics that are designed specifically for safety must meet rigid, legal standards that provide protection under extreme conditions of use ("Flammability: Yesterday," 1976). While the need for consumer protection is apparent, the price is often high. The final cost to the consumer of flame retardant fabric includes the price of resources employed in the development, testing and monitoring of standards, the reduction of product choice and aesthetics, reduced wear life, and the time and expense of safety maintenance (Schmitt & Dardis, 1976).

Current flammability legislation covers carpets and rugs (Federal Register, 1970a), smaller carpets and rugs (Federal Register, 1970b), children's sleepwear, sizes 0-6x (Federal Register, 1971), mattresses (Federal Register, 1973), and children's sleepwear, sizes 7-14 (Federal Register, 1975). The Consumer Product Safety Commission is considering extending flame retardant standards to cover all general wearing

apparel, camping equipment, and upholstered furniture ("Textile Flammability Symposium," 1976). If the standards are extended to all general wearing apparel, the textile industry has warned the public that 42% of the fabrics presently on the market will no longer be useable; it has been unable to develop a flame retardant finish for polyester-cotton blends (Suchecky, 1976; Weaver, 1976). Furthermore, the fire marshall of California has issued a new standard covering all wearing apparel for children, sizes 14 and under, to become effective July 1, 1979 ("California Applies," 1976). Mass production and national distribution in the past have brought the public more products at a lower cost; therefore, Congress is considering the problems that may be incurred in relation to interstate commerce if and when the new California law goes into effect.

#### Future Flammability Standards in Relation to Age

Two groups of people most often the victims of clothing and related burns are children under 5, and adults over 65 years of age (Pacheco & Carfagno, 1972; Halpin, Radford, Fisher & Caplan, 1975). At the Ninth Annual Meeting of the Information Council on Fabric Flammability (1975), members of the medical profession reported recent statistics which indicated that children's flame retardant sleepwear had prevented some serious burn injuries ("Information Council on Fabric Flammability," 1975).

Dr. John Francis Burke from the Shriner's Burn Unit in Boston, Massachusetts, stated that before enactment of the children's sleepwear standards, 14% of the total burn cases were children; after enactment, their burn injuries dropped to 3% (Suchecky, 1977). Burke stressed that the same results could be achieved for adults over 65 years of age. In his study of 50 elderly patients treated at the Massachusetts General Hospital, 74% were injured from flame burns, 20% from scalds, and 6% from direct contact; nearly all cases involved some form of clothing. He also stated that many elderly people maintained a different lifestyle which affected their clothing behavior. The most common apparel worn by this age group were nightgowns, pajamas, and robes. Burke emphasized that after the age of 50, the death rate markedly increases because of reduced reflex action.

In another study, Byron Halpin (1976), systems analyst at the Applied Physics Laboratory at John Hopkins University, investigated the effects of smoke and toxic gases in relation to fire fatalities. The object of his research was to determine why some victims can get out of a fire while others cannot. Results indicated, in many cases, that the elderly have more difficulty in reaching safety than other age groups of people.

#### Personal Experiences with Burn Injuries

In contrast to the quantity of literature published about psychological and human behavior in general, there is very little

published research in the area of human response to fires (McCormack, 1976). Dr. John L. Bryan (1976), professor and chairman of the Fire Protection Curriculum at the University of Maryland, investigated human behavior in fire situations and reported that the response of an individual often has been one of the critical factors in determining his eventual safety.

R. Strothers, Associate Administrator of the National Fire Education Center in Washington, D.C., identified people as the major contributory factor to our nation's fire problems ("The Effectiveness of Fire," 1976). He suggested that efforts needed to be made to overcome their indifference and apathy, and their lack of knowledge about fire hazards and precautions. Giles and White, from the Bureau of Information and Education, a division of the Consumer Product Safety Commission, reported findings from one of their studies which revealed a general lack of awareness of fire hazards among most consumers combined with limited knowledge of flammable products and ignition sources (Information Council on Fabric Flammability, 1975).

A detailed study of burn cases was conducted at the University of Virginia Medical Burn Unit by David Meacher (1977) from September 1975, through March, 1976. Fabric ignition was involved in 24 of the total number of 42 burn cases. In most instances, when the garment ignited, factors such as intoxication, medication, physical impairment, and psychosis limited the victim's ability to react. Results indicated that the behavior of the individual and the circumstances of the situation



had a larger role in determining the extent of the burn injury than the flammability of the fabric. Very little information is available concerning consumer's attitudes towards flammability standards after they have been burned.

These results seem consistent with a study conducted by Michael J. Munson (1976), assistant professor of Urban Planning at Princeton University. He stated "it is frequently asserted that fire incidence can be expected to be greater in high density than in low density areas" (p. 59). He also reported that high density residential areas are often associated with the poor. Results of his study conducted in New York City indicated that as median income increases, fire incidences decreased. Statistical analysis of his data were not significant due to the small number of locations analyzed.

### Textile Flammability Testing and Product Liability

There are many problems concerning textile flame retardancy including the lack of accurate burn injury data, difficulty of designing adequate test measures, publicity based on sensationalism rather than facts, and few statistics to support consumer preferences. For the past ten years scientists have been working to improve adequate test measures. The ultimate objective of apparel flammability testing is to measure the potential hazard to humans of burning fabric and garments. Some product characteristics which have been considered include ease

of ignition, ease of extinguishment, heat transfer, and interaction between layers of fabric (Anderson, Grasso & Favlik, 1975). The main hazard of apparel fires is burned skin leading to severe pain, long hospital treatment, and disfigurement or death (Galil & Lomartire, 1976). The difficulty has been to design a test method that is stringent enough to keep dangerous fabrics and garments off the market, but not to eliminate those which may give the consumer greater safety, more choices, better aesthetics, and lower cost (LeBlanc & LeBlanc, 1976).

Some of the new testing procedures have included Thermo-Man, a full sized mannequin with 124 heat sensors positioned at strategic locations on the body; and the mushroom test. The mushroom apparel flammability test (MAFT) uses a fabric classification system based on the type, size, and configuration of the garment ("Textile Flammability Symposium," 1976). Unfortunately, it requires large amounts of fabric which add to the expense of the procedure.

Many consumers are not aware of the high cost of research required for flame retardant protection and testing. Dr. Marjorie Joseph (1977) from the California State University, North Ridge, also suggested that the term flame retardant may be giving consumers a false sense of protection. In addition, fabrics used for furniture and camping may demand different safety requirements than those used for general wearing apparel. Some may not be ignited by an open flame, but will be ignited by a lighted cigarette ("Developments in Textile Flammability," 1976; Ziolkowski, 1976). The textile industry has

stated that accurate and realistic tests need to be developed before new regulations are adopted (Galil & Lomartire, 1976).

While the use of flame retardant sleepwear is reducing the severity of burn injuries, it has not lessened the number of product liability cases (Suchecky, 1977). According to Daniel Semel, a veteran defense attorney, there have been astounding decreases in lawsuits involving burned infants since the standard for children's sleepwear has been in effect, but the number of adult cases is not going down.

Furthermore, recent publicity concerning the flame retardant finish Tris has made it difficult to market flame retardant apparel because it has been charged that the chemical may be a possible carcinogen ("Tris Controversy," 1977). Dr. Bruce Ames developed a test which found Tris capable of inducing mutagens that are sometimes cancer-producing. On April 8, 1977, the Consumer Product Safety Commission banned the chemical from the market ("Tris banned: a recall ordered now," 1977). Thus, members of the textile and apparel industries who are presently involved with the voluntary marketing of flame retardant apparel are working in an atmosphere that is not conducive to accelerating their programs ("Apparel and Cancer," 1976).

#### Factors Affecting Consumer Acceptance

Consumer acceptance of flame retardant apparel has been investigated by several scientists. Studies have been conducted concerning price, special care, importance, and socio-economic class in relation to attitudes toward flame retardant garments.

Research by Kenneth Laughlin (1976) investigated consumer acceptance of flame retardant sleepwear under actual wear conditions. The respondents were chosen from the rolls of nursery schools and by word-of-mouth contact. All of the 156 mothers who participated in the study had daughters who wore sizes 4, 5, or 6x. The children were given summer weight nightgowns to wear for 6 months. At the end of the wearing period, the mothers were asked questions relative to changes in their attitudes about flame retardant sleepwear as a result of participation in the project. Their responses suggested that 85% of the sample, which was predominately middle to upper socio-economic class, were willing to pay a higher price for the protection provided by flame retardant sleepwear. Most respondents found the quality of the garments acceptable. Limitations of this study include the fact that the sample was primarily from middle to upper socio-economic class, that the mothers were questioned only about buying sleepwear for their children, and that all of the respondents had had recent experience with flame retardant garments.

Another study of 1090 mothers of children between the ages of 2 and 6 who were enrolled in public and private nursery schools, kindergartens, day care centers, Head Start, and other child-oriented day programs was conducted in 1972 (Tozier, Zentner, & Densmore, 1973). The sample was drawn from six states (Maine, New York, Pennsylvania, Rhode Island, Vermont, and Virginia) and included women ranging from low to upper-middle income levels from both urban and rural areas. Results were

statistically significant according to the chi-square test for differences of respondents from rural and urban areas in relation to their opinions concerning the importance of flame retardance for selected children's apparel and household textile items. Mothers from urban areas had a greater tendency than those from rural locations to think it important to have all girl's dresses, boy's slacks and shirts, blankets, mattresses, and kitchen curtains resistant to burning. In addition, women in the upper-middle socio-economic class were less likely than those in other social classes to believe that all girl's dresses, boy's slacks and shirts, and kitchen curtains or draperies should be made to resist burning. Although the results of this research are valuable, the data were collected in 1972. New legislation and scientific developments have since occurred which may have affected consumer attitudes.

Another variable which may affect consumer acceptance of flame retardant garments is the special care they require. Smythia (1972) explored influences on consumer demand for flame retardant textile products and practices relative to their use and care. The 23 respondents were restricted to mothers of pre-school children, most of whom were wives of university professors and from the upper-middle socio-economic class. A majority of the respondents considered the availability of flame retardant textile products either "important" or "very important." Smythia reported that even though flame retardant garments carried a warning notice not to use chlorine bleach, many of

the respondents did so anyway. The data were collected in 1972 before enactment of the flame retardant standard for children's sleepwear, sizes 7-14. Again, the study included only a very small sample, primarily from one socio-economic group, and before flame retardant sleepwear was mandatory.

A more recent investigation by Monk (1975) indicated that some consumers are confused about care instructions for flame retardant sleepwear. Her study explored consumer understanding of care instructions for flame retardant children's sleepwear and practices relative to the use of these garments. Of the 155 respondents who were mothers of pre-school children in Northern Virginia, 45% did not use recommended care practices for flame retardant sleepwear, primarily because they used chlorine bleach. Another 20% did not understand the care instructions for the garments. These results were not statistically significant in relation to age, education, and number of children.

These studies support the statement by Simpson and Phelps (1975) that the production of flame retardant fabrics and garments, alone, is not sufficient protection for most consumers. They stressed the importance of educating consumers about the special care required by flame retardant fabrics and garments in order to preserve their protective qualities.

Development of a reasonable and effective voluntary standard has been urged by representatives from J. C. Penney, Inc., who suggest that it may be just the catalyst needed to expand the offerings of

flame retardant garments ("A Retailer Takes the Lead," 1976). The company's present program offers the consumer a choice between flame retardant and regular apparel for several selected items such as men's and women's sleepwear and robes, women's and girl's skirts and dresses, and some clothing for little boys.

Peter L. Maier (1976), from the Center for Auto Safety in Washington, D.C., thinks that not enough consumers help in the development of standards. He stated that buyers cannot shop for safety because they lack the technological understanding needed to assess the safety of increasingly complex products.

Better education about potential hazards, as well as information about what to do in the case of fire, may help reduce injuries. In 1973, the National Commission of Fire Prevention and Control sent questionnaires to 10,000 fire chiefs (Phillips, 1976). The majority responded that they thought the nation's number one fire problem was the lack of public fire safety education.

Although several studies have investigated consumer attitudes towards flammability standards, many of them are limited to small samples, usually from one socio-economic class. The respondents were mostly mothers of pre-school children, and therefore not indicative of the total market.

Who should be responsible for the protection of consumers from dangerously flammable textile products; government, textile manufacturers, or consumers? Members of the textile and apparel industry

stress that legislation should not be allowed to by-pass technology ("Flammability: Yesterday," 1976). Although the government can make and enforce standards, it resists change once legislation is passed. Therefore, government needs the advice of industry and consumers in the early stages of standard development ("Flame Retardants, Textile Men," 1974). However, consumers may not have the technological background required to assess the safety of increasingly complex products and rely on standards to help them (Maier, 1976). Furthermore, once a standard has been issued, attempts to alter defects in it are often interpreted by consumer advocates as a "sell-out" (LeBlanc, 1973).

Thus, the literature has suggested that consumers are unable to be responsible for their own safety due to their lack of education, indifference, and apathy, or their physical limitations. Shoppers are confused by the large variety of fiber treatments and fabric finishes available when they try to select among them on the basis of what they know, or think they know (Schutz & Phillips, 1976). Dunford (1967) has suggested that the first step in dispelling consumer confusion is to accurately determine what the consumer desires. Consumer attitudes may change rapidly as scientific technology progresses. Research is needed to explore what the consumer really wants and what trade-offs he is willing to make in exchange for flame retardant protection.



## Chapter III

### Procedure

Consumer reaction to possible extension of flame retardant standards in relation to socio-economic class and parental status was investigated in this study. The procedure for the investigation will be described as follows: selection of region, selection of sample, the instrument, collection of data, and the analysis of findings.

### Selection of Region

Six geographic regions representing various sections of the state of Virginia were chosen according to location, population, and income characteristics of residents which indicated possible variations in socio-economic class. They included consumers from both rural and urban communities as shown in Figure 1 (Blume, 1974). The following is a description of each region.

#### Region A

Rich in natural resources of timber and coal. Rugged surface land not well adapted for farming. Few manufacturing concerns other than sawmills. State's largest producer of coal. Population decreasing, low income area. Rural. (Division of State Planning, Buchanan County, 1971.)

10 = 100% RURAL  
 0 = 100% URBAN

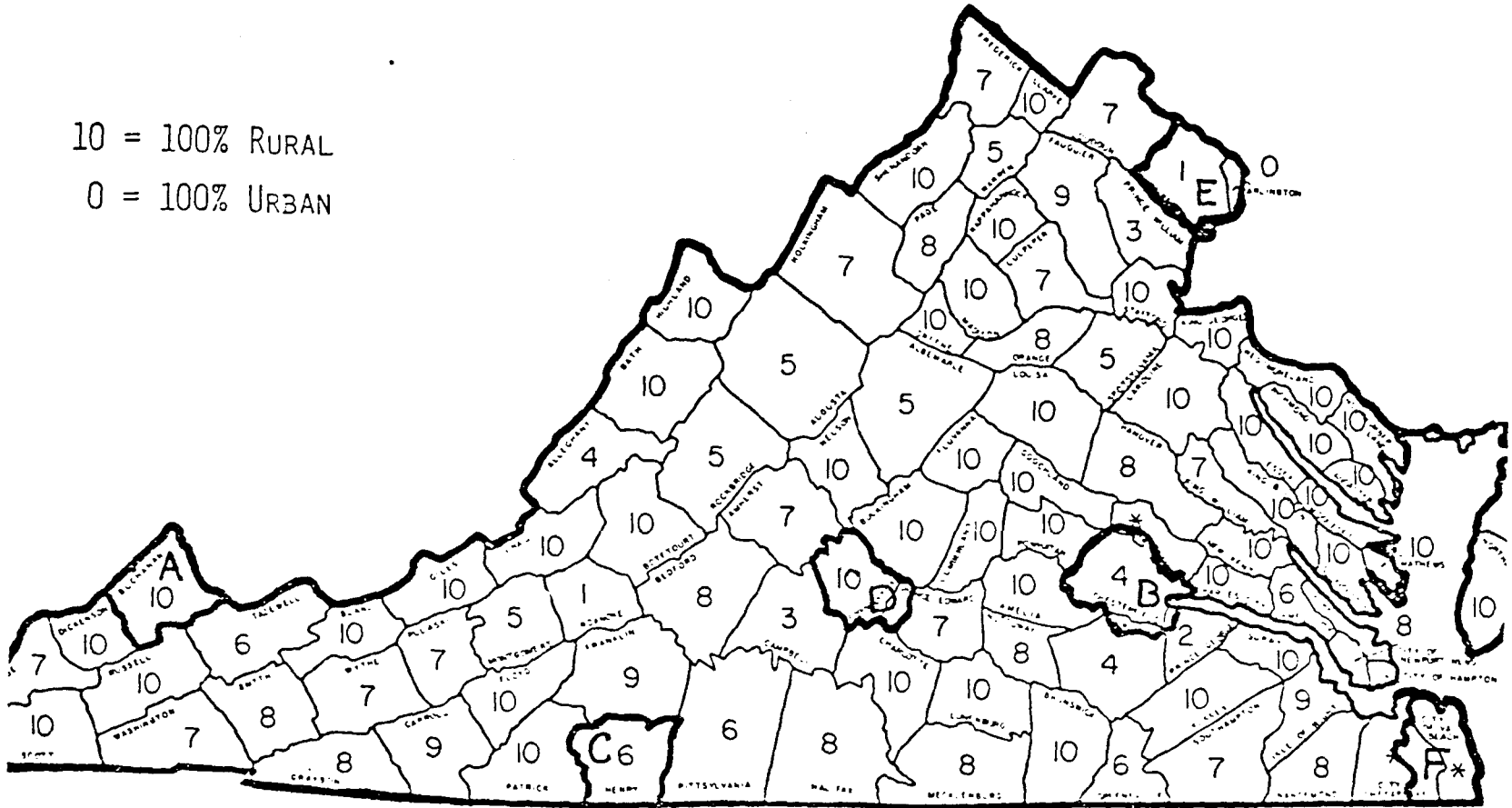


Figure 1. Rural-Urban Population Index Representing Six Regions Chosen for Sample Section

### Region B

Manufacturing and population growing rapidly. Several large chemical producers. Largest employers are Reynold's Metals, Dupont, Allied Chemicals, Defense General Supply Center. Semi-urban; urban development growing rapidly. (Division of State Planning, Chesterfield County, 1973.)

### Region C

Thriving tobacco market, many large furniture and textile producers. Other manufacturing: prefabricated housing, truck and bus bodies, men's clothing, and commercial printers and newspapers. Half urban, half rural. (Division of State Planning, Henry County and City of Martinsville, 1974.)

### Region D

Agriculture traditionally has been the predominant industry. Manufacturing increasingly important. Rural farm area. Small population increases yearly. (Division of State Planning, Appamatox County, 1974; Prince Edward County, 1974.)

### Region E

Extensive urbanization. Largest number of employees in professional services and federal government. Population increasing rapidly. High income area. (Division of State Planning, Fairfax County, Fairfax City, Falls Church City, 1974.)

Region F

Largest source of employment: armed forces, service and retail trade. Urbanized, vacation, resort, and beach area. (Division of State Planning, Virginia Beach, 1963-1973.)

Selection of Sample

Respondents for this study were divided equally among each of six regions located in the state of Virginia. Only female respondents were interviewed. The sample was acquired through the use of regional telephone books located at Newman Library, Virginia Polytechnic Institute and State University, and at local offices of Chesapeake and Potomac Telephone Company. A list of potential names and telephone numbers was developed by counting 19 names after each alphabetical letter in the telephone book from that region. The 20th name became the primary respondent. The 21st name was used as a substitute if the primary respondent could not be reached or refused to participate. If either of these listings were a business, the next appropriate name and telephone number was used.

. If a woman did not answer the telephone, the interviewer referred to the potential respondent's name and asked to speak to Ms. \_\_\_\_\_. When the telephone was not answered, the number was tried later in the day or the next day. Twenty-five interviews were completed in each area before proceeding to the next region. A total of 150 respondents cooperated in this study.

### The Interview

The instrument consisted of an interview schedule (Appendix A) developed in cooperation with members of the NE-79 Regional Research Technical Committee. It was constructed so it could be used by other researchers in different states participating in the project. A cover sheet of instructions for the interviewer was designed to improve conformity for possible collection of data in other states.

The questionnaire (Appendix A) consisted of three parts. The first explored consumers' attitudes about flame retardant standards for wearing apparel and their importance for selected groups of people. Consumers' experiences with burn injuries and their present ownership of flame retardant textile products also were questioned. The second part was designed to investigate consumers' opinions about the segment of the economy which should be responsible for the protection of consumers in relation to product safety. The last part requested personal information about the respondent which was used to determine his socio-economic class and parental status.

### Pre-testing

The instrument (Appendix A) was pre-tested with eight Blacksburg residents selected from the telephone book. As a result of their comments, slight changes were made to clarify wording.

### Collection of Data

A short introduction explaining the purpose of this research initiated each interview. Respondents also were asked if they would be willing to participate in a research project exploring consumer reaction to flammability legislation. Each question in the instrument was asked in the order in which it was listed. For most questions, the respondent was given a list of possible answers and requested to choose the one most appropriate. When some questions were left unanswered, attempts were made to elicit responses later in the interview. Each interview took approximately ten minutes.

### Analysis of Findings

Frequency counts and the chi-square test were used in the analysis of data. Findings were considered statistically significant at the .05 level. Original data for each respondent was coded and transferred to IBM cards for computer analysis.

The McGuire White Short Form Index of Social Status (1955) was used to determine socio-economic class for respondents. Education, occupation, and major source of income of the head of the household were the basis for classification of each individual.

Each respondent was categorized as either parent or non-parent, according to whether or not they had children living in their homes. If the woman was pregnant with her first child or if her children had moved out of her home, she was classified as a non-parent.

## Chapter IV

### Results and Discussion

Results and discussion of this research were based on data collected by telephone interviews during the summer of 1976. Respondents were 150 women from six regions in Virginia. In this chapter, characteristics of the respondents will be briefly described, followed by an analysis of consumer attitudes about flame retardant textile products in relation to socio-economic class and parental status. A chi-square test of independence was used to test these relationships. When the statistical test could not be computed because of the small number of cases in some cells, frequency tables showing the number and percentage of respondents in each category were used to discuss the variables.

#### Characteristics of Respondents

Approximately 77% of the 150 respondents who participated in this research were married (Table 1). Slightly over 19% were widowed. The largest proportion of women were between 25 and 54 years of age. Children were living in the homes of 58% of the sample.

The largest percentage of women (29.3%) reported that the highest grade completed by the head of the household was graduation from high school (Table 2). Almost 13% had some education beyond a bachelor's degree and approximately the same proportion had graduated from a four

Table 1  
Marital Status, Age, and Parental Status

Variable	Respondents	
	No.	%
<b>Marital Status</b>		
Married	116	77.3
Single	5	3.3
Widowed	29	19.3
Total	150	99.9
<b>Age</b>		
15-24	12	8.0
25-34	32	21.3
35-44	34	22.7
45-54	37	24.7
55-64	14	9.3
65 & over	21	14.0
Total	150	100.0
<b>Parental Status</b>		
Children living in the home	87	58.0
Children not living in the home	63	42.0
Total	150	100.0

Percentages may not total 100% due to rounding.



Table 2  
Education and Income

Variable	Respondents	
	No.	%
Education, Head of Household		
Less than eighth grade	17	11.3
Finished eighth grade	6	4.0
Some high school	18	12.0
High school diploma	44	29.3
Some college or post high school	26	17.3
Graduate from four year college	20	13.3
Education beyond bachelor's degree	19	12.7
Total	150	99.9
Income, Head of Household		
Inherited savings and investments	5	2.7
Savings and investments	3	2.0
Profits, fees from business or profession	8	5.4
Salary and/or commissions and/or monthly check	105	70.5
Weekly checks and hourly wages	24	16.1
Odd jobs, seasonal work	-	-
Public relief or assistance	5	3.4
Total	150	100.1

Percentages may not total 100.0% due to rounding.

year college. When asked the major source of family income, 70.5% responded that it was a salary and/or commissions and/or monthly check.

Consumer Attitudes About Flame Retardant Textile Products  
In Relation to Socio-Economic Class

The McGuire White Short Form Index (1955) for the measurement of social status categorizes individuals according to their education, occupation, and major source of income. It provides a general conversion table to classify them as follows: lower-lower, upper-lower, lower-middle, upper-middle, and upper. Since very few respondents in this study were eligible for the upper class category, they were combined with the upper-middle group. Computations of raw data indicated that only a small proportion of the sample could be described as lower-lower class; therefore, these respondents were classified with those in the upper-lower group. Twenty-nine of the women could not be categorized according to socio-economic class due to lack of demographic information. As a result, the remaining 121 respondents were divided among three socio-economic levels; upper-middle, lower-middle, and upper-lower (Table 3). Throughout this chapter these will be referred to as UM, LM, and UL.

Each of the 150 respondents was asked about her present knowledge of flame retardant (FR) standards. Other questions investigated attitudes about requiring clothing to be FR for specific groups of people, versus providing consumers with a choice. The chi-square test

Table 3  
Socio-Economic Class

Variable	Respondents	
	No.	%
Socio-economic class		
Upper-middle	33	27.3
Lower-middle	46	38.0
Upper-lower	42	34.7
Total	121	100.0

was used to analyze all the responses of the women in relation to socio-economic class, but no statistically significant differences were found. However, some of the responses seemed to be of interest and will be presented and discussed. Some women answered "no opinion" to a few of the questions which caused varying numbers of responses for several items.

#### Knowledge of FR Standard

Almost 85% of the UM socio-economic group had some knowledge of existing flame retardant standards compared to only 68% of the women from the UL group (Table 4). The percentage of women who did not have knowledge of the FR standards tended to increase as the socio-economic class changed from UM to UL.

#### Desireability of FR Standards

When asked if there should be FR standards on clothing for specific age groups of people, approximately 96% of the sample answered yes for children, ages 6 and under; adults, 65 years and over (Table 5); and disabled and handicapped people (Table 6). Only 71% of respondents thought there should be FR standards on clothing for adults, ages 15 through 64.

#### Freedom of Choice in Selection of FR Clothing

Each respondent was asked if all clothing for specific age groups of people should be flame retardant or if the consumer should have a

Table 4

## Knowledge of FR Standard in Relation to Socio-Economic Class

Item	Socio-Economic Class								
	Upper-Middle		Lower-Middle		Upper-Lower		Total		
	No.	%	No.	%	No.	%	No.	%	
Present knowledge of FR standard									
Yes	28	84.9	31	79.5	28	68.3	87	77.0	
No	5	15.1	8	21.0	13	31.7	26	23.0	
Total	33	100.0	39	100.0	41	100.0	113	100.0	

Table 5

## Desireability of FR Standards on Clothing for Age Groups in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Children, 6 years & under								
Yes	31	96.9	40	100.0	36	92.3	107	96.4
No	1	3.1	0	0.0	3	7.7	4	3.6
Total	32	100.0	40	100.0	39	100.0	111	100.0
Children, 7-14 years								
Yes	28	87.5	39	97.5	36	92.3	103	92.8
No	4	12.5	1	2.5	3	7.7	8	7.2
Total	32	100.0	40	100.0	39	100.0	111	100.0

Table 5 (Continued)

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Adults, 15-64 years								
Yes	20	64.5	29	76.3	27	71.0	76	71.0
No	11	35.5	9	23.7	11	29.0	31	29.0
Total	31	100.0	38	100.0	38	100.0	107	100.0
Adults, 65 years & over								
Yes	29	93.5	39	100.0	37	92.5	105	95.5
No	2	6.5	0	0.0	3	7.5	5	4.5
Total	31	100.0	39	100.0	40	100.0	110	100.0

Table 6

Desireability of FR Standards on Clothing for Disabled and Handicapped in Relation  
to Socio-Economic Class

Item	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Disabled and Handicapped								
Yes	31	96.9	40	100.0	37	92.5	108	96.4
No	1	3.1	0	0.0	3	7.5	4	3.6
Total	40	100.0	40	100.0	40	100.0	112	100.0



choice. Although a majority of the women indicated that they believed everyone should have alternatives, the largest proportion (79.5%) recommended that adults, ages 15 to 64, should be able to choose clothing according to individual preferences (Table 7). The UM socio-economic class consistently represented the highest percentage of women that thought there should be a choice in clothing available for all age groups, except for children ages 7 through 14. These results seem similar to the study reported by Tozier, Zentner, and Densmore (1973) which indicated that the UM socio-economic class of women was more likely to want a choice between FR apparel and regular apparel for some items of wearing apparel.

Slightly more than 70% of the sample also thought there should be a choice of clothing available to the disabled and handicapped (Table 8). Women from the LM group tended to feel most strongly that all clothing should be flame retardant for this special group of people.

#### Importance of FR Clothing for Selected

##### Groups of People

When asked about the degree of importance for specific age groups of people to have FR clothing, the largest share of all respondents (83.3%) stated that it was "very important" for children, ages 6 and under, as compared to only 25% who thought it was this important for adults, 15 through 64 years (Table 9). Women from the UM class seemed more inclined to value FR apparel as "very important" for all children, and for adults over 64 years.

Table 7  
Freedom of Choice in Selection of FR Clothing for Age Groups  
in Relation to Socio-Economic Class

Item	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Children, 6 years & under								
All	15	45.4	19	47.5	19	47.5	53	46.9
Choice	18	54.6	21	52.5	21	52.5	60	53.1
Total	33	100.0	40	100.0	40	100.0	113	100.0
Children, 7-14 years								
All	13	40.6	17	42.5	12	30.0	42	37.5
Choice	19	59.4	23	57.5	28	70.0	70	62.5
Total	32	100.0	40	100.0	40	100.0	112	100.0

Table 7 (Continued)

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Adults, 15-64 years								
All	5	15.6	11	27.5	7	17.5	23	20.5
Choice	27	84.4	29	72.5	33	82.5	89	79.5
Total	32	100.0	40	100.0	40	100.0	112	100.0
Adults, 65 years & over								
All	10	31.2	13	32.5	13	33.3	36	32.4
Choice	22	68.8	27	67.5	26	66.7	75	67.6
Total	32	100.0	40	100.0	39	100.0	111	100.0

Table 8

Freedom of Choice in Selection of FR Clothing for Disabled and Handicapped in  
Relation to Socio-Economic Class

Item	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Disabled and Handicapped								
All	8	24.2	14	35.0	11	28.9	33	29.7
Choice	25	75.8	26	65.0	27	71.1	78	70.3
Total	32	100.0	40	100.0	38	100.0	111	100.0

Table 9

## Importance of FR Clothing for Age Groups in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Children, 6 & under								
Very Important	29	87.9	39	84.8	32	78.0	100	83.3
Important	1	3.0	4	8.7	6	14.6	11	9.2
Not Important	3	9.1	3	6.5	3	7.3	9	7.5
Total	33	100.0	46	100.0	41	99.9	120	100.0
Children, 7-14 years								
Very Important	21	63.6	26	56.5	17	41.4	64	53.3
Important	9	27.3	17	37.0	20	48.8	46	38.3
Not Important	3	9.1	3	6.5	4	9.8	10	8.3
Total	33	100.0	46	100.0	41	100.0	120	99.9

Table 9 (Continued)

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Adults, 15-64 years								
Very Important	5	15.1	14	30.4	11	26.8	30	25.0
Important	16	48.5	13	28.3	18	43.9	47	39.2
Not Important	12	36.4	19	41.3	12	29.3	43	35.8
Total	33	100.0	46	100.0	41	100.0	120	100.0
Adults, 65 years & over								
Very Important	27	81.8	36	78.3	25	61.0	88	73.3
Important	2	6.1	6	13.0	12	29.3	20	16.6
Not Important	4	12.1	4	8.7	4	9.8	12	10.0
Total	33	100.0	46	100.0	41	100.0	120	99.9

Percentages may not total 100% due to rounding.

Although slightly more than 78% of the LM class thought it was "very important" for the disabled and handicapped to have clothing with these protective finishes, only 58.5% of the UL socio-economic group of women agreed (Table 10). The UL class of respondents had the highest percentage of women who thought it was "not important" for the disabled and handicapped, and children, ages 7 through 14, to have FR apparel.

Munson's (1976) study, based on data collected in New York City, had reported that as median income increased, fire incidence decreased. Thus, it might have been expected that a larger proportion of the UL socio-economic class in this study would have valued FR apparel as "very important." The results of the present study suggest that individuals from the UL group may not want to make some trade-offs in exchange for FR protection; or that they need to be better educated about human welfare in relation to fire.

#### Personal Knowledge of Fire Injuries

Almost 40% of all respondents had a personal friend or relative who had been injured by fire (Table 11). Only small differences in this knowledge were observed in comparing socio-economic class. The one woman who had experienced severe personal injury was extremely reluctant to discuss details about the fire.

#### Present Ownership, Special Care and Price

About 65% of all women reported that they did not have any FR clothing in their homes (Table 12). This suggests that some consumers

Table 10

## Importance of FR Clothing for Disabled and Handicapped in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Disabled and Handicapped								
Very Important	24	72.7	36	78.3	24	58.5	84	70.0
Important	6	18.2	7	15.2	13	31.7	26	21.7
Not Important	3	9.1	3	6.5	4	9.8	10	8.3
Total	33	100.0	46	100.0	41	100.0	120	100.0



Table 11  
 Personal Knowledge of Fire Injuries as Related to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Knowledge of fire injury								
Yes	14	42.4	15	37.5	16	39.0	45	39.5
No	19	57.6	25	62.5	25	61.0	69	60.5
Total	33	100.0	40	100.0	40	100.0	114	100.0

Table 12

## Present Ownership of FR Clothing in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Present ownership								
Yes	9	34.6	13	37.1	11	32.4	33	34.7
No	17	65.4	22	62.9	23	67.6	62	65.3
Total	26	100.0	35	100.0	34	100.0	95	100.0

may not realize or may have forgotten that all sleepwear, size 0 through 14, is required to meet FR standards.

Although more than 54% of all respondents were not aware of the special care required by FR items, nearly 67% had knowledge of their higher price (Table 13). A larger proportion of the UL group was aware that FR apparel often costs more than regular clothing, but the largest percentage of respondents which was not willing to pay more for these garments came from the UM category (Table 14).

#### Responsibility for Consumer Protection

Three questions were asked regarding the women's opinions about which of the three sectors of the economy (government, consumers, or clothing manufacturers) should have the responsibility of protecting consumers from clothing or other textile products which might burn. Slightly more than 77% of all respondents thought the government should be obligated to protect consumers from dangerously flammable fabrics; only 58.8% thought consumers should protect themselves (Table 15). Women from the UL socio-economic class indicated more strongly than any other group of respondents that government and clothing manufacturers should have this responsibility; however, the UM class women were most likely to feel that consumers should protect themselves.

Nearly 98% of the UL women thought the government should check everything that is sold to make sure it is safe for use (Table 16). The largest proportion of respondents who disagreed were from the UM group. A vast majority of all respondents thought the government

Table 13

## Awareness of Special Care and Higher Price of FR Clothing in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Awareness of special care								
Yes	15	45.5	17	42.5	20	48.8	52	45.6
No	18	54.5	23	57.5	21	51.2	62	54.4
Total	33	100.0	40	100.0	41	100.0	114	100.0
Awareness of higher price								
Yes	23	69.7	28	70.0	25	61.0	76	66.7
No	10	30.3	12	30.0	16	39.0	38	33.3
Total	33	100.0	40	100.0	41	100.0	114	100.0

Table 14

## Willingness to Pay a Higher Price in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Will pay a higher price	22	81.5	39	95.1	33	91.7	94	90.4
Will not pay a higher Price	5	18.5	2	4.9	3	8.3	10	9.6
Total	27	100.0	41	100.0	36	100.0	104	100.0

Table 15

## Responsibility for Protection of Consumers in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Government</b>								
Agree	22	66.7	31	73.8	36	90.0	89	77.4
Disagree	11	33.3	11	26.2	4	10.0	26	22.6
Total	33	100.0	42	100.0	40	100.0	115	100.0
<b>Consumers</b>								
Agree	21	63.6	23	57.5	23	56.1	67	58.8
Disagree	12	36.4	17	42.5	18	43.9	47	41.2
Total	33	100.0	40	100.0	41	100.0	114	100.0
<b>Manufacturers</b>								
Agree	23	69.7	30	75.0	32	78.1	85	74.6
Disagree	10	30.3	10	25.0	9	21.9	29	25.4
Total	33	100.0	40	100.0	41	100.0	114	100.0

Table 16

## Government's Role in the Protection of Consumers in Relation to Socio-Economic Class

	Socio-Economic Class							
	Upper-Middle		Lower-Middle		Upper-Lower		Total	
	No.	%	No.	%	No.	%	No.	%
Safety check								
Agree	27	81.8	39	86.7	40	97.6	106	89.1
Disagree	6	18.1	6	13.3	1	2.4	13	10.9
Total	33	99.9	45	100.0	41	100.0	119	100.0
Education								
Agree	28	87.5	44	95.7	40	97.6	112	94.1
Disagree	4	12.5	2	4.3	1	2.4	7	5.9
Total	32	100.0	46	100.0	41	100.0	119	100.0

Totals may not equal 100% due to rounding.

should do a better job educating the public about fire hazards, rather than passing new FR laws; however, many of the women voluntarily indicated during the telephone interview that they really thought the government should do both.

Although these results were not statistically significant in relation to socio-economic class, it was interesting to observe some of the differences between respondents from different social classes. The UL group had the least knowledge about existing FR standards; were most inclined to think they were "not important" for children, ages 7 through 14, and disabled and handicapped people to have FR apparel; were least aware of its higher price; and were most likely to think that government and clothing manufacturers should protect consumers from flammable fabrics. The smallest percentage of all respondents thought it was "very important" for adults, ages 15 through 64, to have FR clothing. Furthermore, a vast majority of all respondents thought the government should do a better job of educating the public about fire hazards.

Consumer Attitudes About Flame Retardant Textile  
Products in Relation to Parental Status

The homemakers were categorized as to whether or not they had children currently living in their home. Eighty-seven women reported that they had children living at home (parents) while 63 of them did not (non-parents) (Table 1). Women who were either pregnant or whose



children no longer were living at home were classified the same as those without children. Data were analyzed by the chi-square test in relation to the parental status of each of the 150 respondents.

#### Knowledge and Desirability of FR Standards

Results were not statistically significant when the two groups were compared in regard to their knowledge of and desire for FR clothing for various groups of people. Very small differences were observed in the responses of women with children and those without when asked if they knew about current FR federal standards (Table 17). Only slightly larger proportions of respondents with children were inclined to think there should be FR standards on clothing for all age groups of people than was observed about the non-parents (Table 18). Small differences in the responses between parents and non-parents were noted when the women were asked if there should be FR standards on apparel for disabled and handicapped people (Table 19).

#### Freedom of Choice in Selection of FR Clothing

Analysis of the data was statistically significant at the .05 level when respondents were asked if consumers, ages 15 through 64, should have a choice of garments in the retail market or if all their clothing should be made to resist burning. Slightly more than 88% of the parents thought there should be a choice of clothing available for this age group as compared to only about 66% of the non-parents (Table 20). A majority of all respondents also thought consumers in the other age groups should be able to choose clothing according to individual preferences.

Table 17

## Knowledge of FR Standard in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Present knowledge of FR Standard</u>						
Yes	54	79.4	33	73.3	87	77.0
No	14	20.6	12	26.7	26	23.0
Total	68	100.0	45	100.0	113	100.0

Table 18  
Desirability of FR Standards on Clothing for Age Groups  
in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Children, 6 years &amp; under</u>						
Yes	84	97.7	56	94.9	140	96.6
No	2	2.3	3	5.1	5	3.4
Total	86	100.0	59	100.0	145	100.0
<u>Children, 7-14 years</u>						
Yes	82	95.3	52	88.1	134	92.4
No	4	4.7	7	11.9	11	7.6
Total	86	100.0	59	100.0	145	100.0

Table 18 (Continued)

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Adults, 15-64 years</u>						
Yes	48	71.6	28	70.0	76	71.0
No	19	28.4	12	30.0	31	29.0
Total	67	100.0	40	100.0	107	100.0
<u>Adults, over 65 years</u>						
Yes	83	97.6	54	91.5	137	95.1
No	2	2.4	5	8.5	7	4.9
Total	85	100.0	59	100.0	144	100.0

Table 19  
 Desirability of FR Standards on Clothing for Disabled  
 and Handicapped in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Disabled and Handicapped</u>						
Yes	84	97.7	56	93.3	140	95.9
No	2	2.3	4	6.7	6	4.1
Total	86	100.0	60	100.0	146	100.0

Table 20

Freedom of Choice in Selection of FR Clothing for  
Age Groups in Relation to Parental Status

	Parental status						Chi Square
	With children		Without children		Total		
	No.	%	No.	%	No.	%	
<u>Children, 6 years &amp; under</u>							
All	33	48.5	20	44.4	53	46.9	
Choice	35	51.5	25	55.6	60	53.1	
Total	68	100.0	45	100.0	113	100.0	
<u>Children, 7-14 years</u>							
All	24	35.3	18	40.9	42	37.5	
Choice	44	64.7	26	59.1	70	62.5	
Total	68	100.0	44	100.0	112	100.0	

Table 20 (Continued)

	Parental status						Chi Square
	With children		Without children		Total		
	No.	%	No.	%	No.	%	
<u>Adults, 15-64 years</u>							
All	8	11.8	15	34.1	23	20.5	
Choice	60	88.2	29	65.9	89	79.5	
Total	68	100.0	44	100.0	112	100.0	8.16* d.f. 1
<u>Adults, 65 years &amp; over</u>							
All	20	29.4	16	37.2	36	32.4	
Choice	48	70.6	27	62.8	75	67.6	
Total	68	100.0	43	100.0	111	100.0	

\*Statistically significant at the .05 level.

Nearly 75% of the homemakers with children thought there should be a choice in clothing for the disabled and handicapped as compared to almost 64% without children (Table 21). However, these results were not statistically significant.

#### Importance of FR Clothing

Differences between women with children and those without were statistically significant in relation to their opinions concerning the degree of importance of FR apparel for both categories of adults over age 14 (Table 22). Nearly 38% of the non-parents thought FR clothing for adults, ages 15 through 64, was "very important" as compared to about 19% of the parents; but approximately 67% of the parents and a little over 82% of those without children thought FR apparel for people 65 years and over had similar importance.

Although the differences were not statistically significant, more non-parents than women with children thought FR apparel was "not important" for disabled and handicapped people (Table 23). In addition, the largest proportion of the sample, regardless of parental status, believed FR clothing was "very important" for children under 6 years, adults over 64 years, and disabled and handicapped people.

#### Personal Knowledge of Fire Injuries

No statistically significant differences were found in comparison of the respondents when asked if they personally knew anyone who had been injured in a fire (Table 24). Almost 40% of all the women had knowledge of fire injuries.



Table 21  
 Freedom of Choice in Selection of FR Clothing for Disabled and  
 Handicapped in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Disabled and handicapped</u>						
All	17	25.4	16	36.4	33	29.7
Choice	50	74.6	28	63.6	78	70.3
Total	67	100.0	44	100.0	111	100.0

Table 22

## Importance of FR Clothing for Age Groups in Relation to Parental Status

	Parental status						Chi Square
	With children		Without children		Total		
	No.	%	No.	%	No.	%	
<u>Children, 6 years &amp; under</u>							
Very Important	75	87.2	49	77.8	124	83.2	
Important	8	9.3	6	9.5	14	9.4	
Not Important	3	3.5	8	12.7	11	7.4	
Total	86	100.0	63	100.0	149	100.0	
<u>Children, 7-14 years</u>							
Very Important	41	47.7	39	61.9	80	53.7	
Important	42	48.8	15	23.8	57	38.3	
Not Important	3	3.5	9	14.3	12	8.1	
Total	86	100.0	63	100.0	149	100.1 <sup>a</sup>	

Table 22 (Continued)

	Parental status						Chi Square
	With children		Without children		Total		
	No.	%	No.	%	No.	%	
<u>Adults, 15-64 years</u>							
Very Important	13	19.1	17	37.8	30	26.6	
Important	33	48.5	11	24.4	44	38.9	
Not Important	22	32.4	17	37.8	39	34.5	
Total	68	100.0	45	100.0	113	100.0	7.82* d.f. 2
<u>Adults, 65 years &amp; over</u>							
Very Important	56	82.4	30	66.7	86	76.1	
Important	10	14.7	7	15.6	17	15.0	
Not Important	2	2.9	8	17.8	10	8.9	7.62* d.f. 2
Total	68	100.0	45	100.0 <sup>a</sup>	113	100.0	

\*Statistically significant at the .05 level.

<sup>a</sup>Total may not equal 100% due to rounding.

Table 23  
 Importance of FR Clothing for Disabled and Handicapped  
 in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Disabled and handicapped</u>						
Very Important	63	73.3	41	65.1	104	69.8
Important	20	23.3	13	20.6	33	22.1
Not Important	3	3.5	9	14.3	12	8.1
Total	86	100.1 <sup>a</sup>	63	100.0	149	100.0

<sup>a</sup>Total may not equal 100% due to rounding.

Table 24

## Personal Knowledge of Fire Injuries in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Knowledge of fire injury</u>						
Yes	29	42.0	16	35.6	45	39.5
No	40	58.0	29	64.4	69	60.5
Total	69	100.0	45	100.0	114	100.0

### Present Ownership, Special Care and Price

Results were statistically significant when homemakers were asked if they presently owned any FR clothing (Table 25). As anticipated, women with children in the home were far more likely to have FR clothing than those who did not have children. However, more than the 48% of the sample who reported ownership might have been expected to own these products since 58% of them indicated they had children presently living in their homes, and legislation requires that children's sleepwear meet mandatory standards. This suggests that some of the respondents either did not know their children's sleepwear was FR, the children may have been too old to wear size 0 through 14 sleepwear, or the mothers did not purchase commercially made nightwear.

Differences between respondents from the two classifications were statistically significant at the .05 level in relation to their knowledge about the requirement of special care and the higher price of FR textile products (Table 26). A larger proportion of women with children (58.6%) knew these garments had to have special care than was observed among the non-parents (23.8%). Almost 74% of the parents were aware of higher prices compared to only slightly less than 56% of women without children. It was also interesting to observe that approximately 76% of the non-parents did not know about special care, compared to only 44.4% who were not aware of higher price. Although many of the women from the sample indicated they did have knowledge of special care, Monk's (1975) study stated that consumers may not fully understand the instructions.

Table 25

## Present Ownership of FR Clothing in Relation to Parental Status

	Parental status						Chi Square
	With children		Without children		Total		
	No.	%	No.	%	No.	%	
<u>Present ownership</u>							
Yes	28	48.3	5	13.5	33	34.7	
No	30	51.7	32	86.5	62	65.3	
Total	58	100.0	37	100.0	95	100.0	12.04* d.f. 1

\*Statistically significant at the .05 level.

Table 26

## Awareness of Special Care and Higher Price in Relation to Parental Status

	Parental status						Chi Square
	With children		Without children		Total		
	No.	%	No.	%	No.	%	
<u>Awareness of special care</u>							
Yes	51	58.6	15	23.8	66	44.0	17.97* d.f. 1
No	36	41.4	48	76.2	84	56.0	
Total	87	100.0	63	100.0	150	100.0	
<u>Awareness of higher price</u>							
Yes	51	73.9	25	55.6	76	66.7	4.13* d.f. 1
No	18	26.1	20	44.4	38	33.3	
Total	67	100.0	45	100.0	114	100.0	

\*Statistically significant at the .05 level.



Most of the homemakers were willing to pay a higher price for FR protection in clothing and only small differences were observed in relation to parental status (Table 27). Although Laughlin's (1976) research indicated that mothers of pre-school children were willing to pay more for FR protection, results of the present study suggest that all women, regardless of parental status, would pay more. Results were not statistically significant.

#### Responsibility for Consumer Protection

When differences in the responses of parents versus non-parents were analyzed in relation to their opinions about the segment of the economy which should protect consumers from unsafe fabrics, the results were not statistically significant (Table 28). However, of the 114 women who expressed an opinion on this question approximately 75% agreed that government and clothing manufacturers should assume this responsibility compared to about 59% who thought consumers should protect themselves. Some respondents believed that the responsibility should be assumed by several or all of the economic sectors.

Only slight percentage variations between parents and non-parents were indicated when asked if they thought the government should check the safety of products and do a better job of educating the public about fire hazards (Table 29). A vast majority agreed that both were necessary.

Although not all of the results concerning parental status were statistically significant; it was interesting to compare some of the differences between parents and non-parents. Women with children were

Table 27  
Willingness to Pay a Higher Price for FR Clothing  
in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
Will pay a higher price	55	85.9	35	83.3	90	84.9
Will not pay a higher price	9	14.1	7	16.7	16	15.1
Total	64	100.0	42	100.0	106	100.0

Table 28

## Responsibility for Protection of Consumers in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Government</u>						
Agree	53	76.8	33	73.3	86	75.4
Disagree	16	23.2	12	26.7	28	24.6
Total	69	100.0	45	100.0	114	100.0
<u>Consumers</u>						
Agree	40	58.0	27	60.0	67	58.8
Disagree	29	42.0	18	40.0	47	41.2
Total	69	100.0	45	100.0	114	100.0
<u>Manufacturers</u>						
Agree	51	73.9	34	75.6	85	74.6
Disagree	18	26.1	11	24.4	29	25.4
Total	69	100.0	45	100.0	114	100.0

Table 29

## Government's Role in the Protection of Consumers in Relation to Parental Status

	Parental status					
	With children		Without children		Total	
	No.	%	No.	%	No.	%
<u>Safety Check</u>						
Agree	77	90.6	55	88.7	132	89.8
Disagree	8	9.4	7	11.3	15	10.2
Total	85	100.0	62	100.0	147	100.0
<u>Education</u>						
Agree	82	95.3	58	93.5	140	94.6
Disagree	4	4.7	4	6.5	8	5.4
Total	86	100.0	62	100.0	148	100.0

more likely to desire FR standards on clothing for all groups of people. They were also more inclined to think that adults between the ages of 15 and 64, should have a choice in apparel available to them. Women without children had a greater tendency to believe that FR clothing was "not important" for all groups of people. More respondents with children in their homes tended to have knowledge about special care and higher price of FR items.

#### Acceptance and Rejection of Hypotheses

The acceptance or rejection of the hypotheses for this study is based upon an investigation of attitudes of consumers from different socio-economic classes and different parental circumstances in relation to FR legislation. Each null hypothesis was tested by the chi square test at the .05 level. No statistically significant differences were found among the UM, LM, and UL classes; however, some differences were found in relation to parental status.

#### Acceptance

Data support the acceptance of all parts of the null hypothesis as follows:

##### A. Socio-economic class

There were no significant differences in consumer attitudes about the importance of flame retardant legislation in relation to socio-economic class.

There were no significant differences in attitudes of consumers from various socio-economic classes in relation to the sector of the economy responsible for human protection from flammable fabrics.

## B. Parental Status

There were no significant differences in the attitudes of consumers classified as parents or non-parents in relation to the sector of the economy responsible for human protection from flammable fabrics.

### Rejection

There were some significant differences in the attitudes of consumers towards the importance of flame retardant legislation in relation to their parental status. More respondents with children were inclined to think that there should be a choice between FR and regular apparel for adults, ages 15 through 64. Parents also were less likely than non-parents to believe that FR clothing was "very important" for adults 15 through 64 years, but more inclined to think FR clothing was "very important" for adults over 65. Parents were more likely to have knowledge about higher price and special care of FR items and to own them.

## Chapter V

### Summary

Identification of the problem of dangerously flammable fabrics and garments has initiated public and government concern over the protection of society from unsafe textile products. Mandatory government standards on children's sleepwear, mattresses, and carpets and rugs may have helped reduce serious burn injuries to some individuals; however, flame retardant (FR) protection has often required the trade-off of some desirable product attributes such as durability, ease of care, and lower price. Consumer feedback is an important indicator to business and government about the sacrifices buyers are willing to make in exchange for greater protection from fabrics which may burn easily. This research investigated consumers' attitudes about the importance of flame retardant legislation for specific groups of people, and whether or not the public should have a choice in the marketplace between flame retardant and regular apparel. Respondents' personal knowledge of fire injuries, their awareness of special care and higher price of FR items, and their opinion about the segment of the economy which should be responsible for protecting consumers from unsafe textile items also were explored.

One hundred fifty women from six different regions in Virginia were included in the sample. Each respondent was categorized according to the McGuire and White (1955) Measurement of Social Status

(Short Form) as upper-middle (33 women); lower-middle (46 women); and upper-lower (42 women). They were also divided into two groups, parental (87 women) or non-parental (63 women), with the first defined as having children living at home; the latter included those women who never had children or whose children were no longer living at home. Differences in their responses were analyzed by the chi-square test at the .05 level of significance in relation to their socio-economic class and parental status. The questionnaire was administered by telephone interview and took approximately ten minutes per person.

#### Major Findings

Most respondents had some previous knowledge of FR standards before the telephone interview. The largest proportion of the total sample indicated that they thought there should be FR standards on clothing for all children up to age 14, adults over 65, and disabled and handicapped people. However, a majority of the women also believed that all consumers should have a choice available in the retail market between FR and regular clothing, especially for those people between the ages of 15 and 64.

FR clothing was considered "very important" for all children up to age 14, adults over 65, and disabled and handicapped people by most of the homemakers. Approximately one-third of all respondents had some personal knowledge of fire injuries, owned FR apparel, and were aware that it costs more than regular clothing. A vast majority of the women were willing to pay more for added protection from fabrics



which burn easily, and thought the government should check products on the market for safety and should educate the public about fire hazards rather than passing new laws.

Government and clothing manufacturers were the two sectors of the economy that most respondents thought should assume the responsibility for protecting consumers from dangerously flammable fabrics and apparel. Most of the sample did not think that consumers should be responsible for their own protection.

#### Socio-Economic Class

Results were not statistically significant at the .05 level when consumer attitudes about FR legislation were analyzed in relation to socio-economic class. However, some differences between the upper-middle, lower-middle, and upper-lower groups are as follows:

Upper-middle. Respondents classified as upper-middle class were most likely to know about existing FR standards; to believe that all consumers should have a choice between FR and regular apparel except for children, ages 7 through 14; and to consider FR clothing as "very important" for all ages of children, and adults over 64 years. These women were less likely than the other socio-economic groups to desire FR standards on apparel for adults between the ages of 15 and 64, and to be willing to pay a higher price for this protection. They were more likely than the lower-middle and upper-lower socio-economic groups to believe that consumers should be responsible for their own protection from dangerously flammable fabrics.

Lower-middle. Lower-middle class women were most inclined to believe that there should be FR standards on clothing for all consumers. All lower-middle class homemakers who expressed an opinion on this question desired standards for the apparel of children, ages 6 and under; adults 65 years and older; and disabled and handicapped people. They were also more likely than any other socio-economic group to think all clothing for children, ages 7 through 14, and for disabled and handicapped people, should be FR. Although differences were small among the socio-economic groups, a larger proportion of the lower-middle women were aware of higher prices for FR protection and willing to pay for it than any other socio-economic class.

Upper-lower. Women from the upper-lower socio-economic class were the least likely to know about existing FR standards or to think that mandatory regulations were "very important" for all children up through age 14, adults 65 and over, and disabled and handicapped people. They also were least inclined to think there should be FR standards issued for the clothing of children under the age of 6, adults 65 and over, and disabled and handicapped people. They, more than any other group, reported knowledge about special care requirements for FR products, but they were least aware of higher price. More of the upper-lower class also believed that government and/or clothing manufacturers should be responsible for the protection of consumers from unsafe textile products. They were most inclined

to think that government should check products for safety and educate the public.

### Parental Status

Parents. Analysis of the data was statistically significant at the .05 level for some of the questions concerning the attitudes of consumers about the importance of flame retardant legislation in relation to parental status. More women with children tended to believe that FR apparel was "important" for adults, ages 15 through 64, and "very important" for adults 65 years and older, than those without children at home. Parents also were more likely to own FR clothing and have more knowledge about special care and price of FR textile products than non-parents.

Although differences were not statistically significant, a slightly larger proportion of respondents with children than non-parents knew about existing FR standards, tended to think there should be standards on apparel for all consumers, knew more people who had been injured by fire, and were willing to pay more for FR protection. Parents were more likely to think that the government should be responsible for protecting consumers from flammable clothing, check products on the market for safety, and better educate the public about fire hazards than non-parents.

Non-parents. Statistically significant differences in relation to parental status were observed for the following variables. Non-parents had the greatest tendency to value FR clothing as "very

important" and to think that all clothing for adults, ages 15 through 64, should be FR. Women without children were less likely to own FR clothing, and to have knowledge about special care and price of FR products.

While results were not statistically significant, more of the women without children thought that FR clothing was "not important" for all consumers. They also were more likely to think that consumers and/or clothing manufacturers should be responsible for protecting consumers from unsafe textile products.

#### Limitations of the Study

Collection of data by telephone interview may have influenced some respondents to answer quickly and to finish the conversation. Some of the women may not have answered a few of the personal questions accurately because they were not sure how the information would be used.

Furthermore, only people with telephones were used in the sample. Some lower-lower class people may have been excluded for this reason. People with unlisted numbers also could not be included.

Men's opinions were not used which might have added diversity to the results of this research. Grandparents also are consumers of small children's apparel and knowledge of their attitudes could be useful.

This study did not include many consumers who had had some personal experiences with fire. Opinions concerning fire hazards and preventions may be different from people who have had some experience with fire than those who have not.

### Implications for Further Research

The efforts of this study are being duplicated by personnel from other universities involved in the Northeast Regional Research Project, NE-79. Therefore, opinions of people from other states will be included in the complete project. There still is a need for further research concerning flame retardancy in other areas:

1. Data were collected before Tris had been taken off the market; a new President and political party had been elected to the White House, and an unusually cold and stormy winter with fuel shortages and high unemployment had occurred. Some consumers may have changed their opinions in regard to the trade-offs they would be willing to make in order to get FR protection as a result of these events. A comparison between the results of this study and data collected at a different time may indicate how the economy and political changes affect consumer attitudes. How has the controversy of Tris affected consumer attitudes? Although news coverage has possibly changed consumer opinions concerning FR apparel, it also may have brought the subject to the attention of those people who previously did not have knowledge of mandatory FR standards on fabrics.

2. An investigation of consumer attitudes about the importance of FR textile products in relation to camping gear, upholstered furniture, window and wall hangings would help expand the industry's knowledge about the needs of the market.

3. More information is needed in relation to the distance consumers live from fire houses and if they have fire protective devices in their homes, such as smoke alarms and fire extinguishers.

4. Results of this study indicated that the upper-lower class people tended to have the least knowledge about some factors concerning flame retardancy. Munson's (1976) study reported that these may be the people who most need protecting. Information concerning how to better educate the public, especially lower income families is needed.

5. Very little research has been done to investigate the knowledge and opinions of retailers in relation to flame retardant fabrics and garments. Some merchants have very close contact with consumers and could be a good educational source for the public and the government.

6. Elementary schools usually have a physical education program that includes information about health. Experimental programs designed to educate school children and elderly people in nursing homes about fire safety, may help reduce the number of serious fire injuries incurred by these consumers.

7. A sample which included larger proportions of upper-upper and lower-lower people may result in recommendations about FR textile products which better represent the will of the total population.

8. Knowledge of the attitudes of minority groups could add to the depth of information available on FR.

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## Appendix

NE-79 Telephone Interview

INSTRUCTIONS TO INTERVIEWER--Talk with homemaker only. If another person answers, thank them, but do not interview them.

1. Read entire questionnaire several times before actual interviewing. Make sure that you understand all questions.
2. Note that there are additional instructions for interviewer at the end of some questions.
3. After reading entire questionnaire, ask yourself what kinds of questions respondents may ask. Prepare explanations that will not prejudice answers as consumers may answer the question the way they think that you want them to.
4. Try to standardize your voice inflection and information given respondents so it is the same for every interview.
5. During telephone introduction: speak slowly; make respondents feel they are making a contribution which you and educators will appreciate knowing.
6. Remain friendly at all times, and be sure to thank respondents graciously whether they participate or not.
7. On questions 30-36, limit the respondent to one answer for each category. That is--only one "like most" and one "like least."
8. If respondent asks about the purpose of the interview, emphasize that research of this type is one method of receiving consumer feedback about laws initiated for their protection.
9. If respondent hesitates or appears to be confused about any question or possible responses, repeat the question or responses slowly.
10. If respondent seems unwilling to answer any question, go on to the next one. Return to the unanswered question later if you think it would be possible to elicit a response then.
11. Take notes on all related information which respondent may volunteer. Attach notes to respondent's interview schedule.
12. When conversation with one respondent is ended take time to re-read your notes and make additional ones, if necessary, to clarify or record any information you received before telephoning the next consumer.

NE-79 Telephone InterviewINTRODUCTION TO TELEPHONE INTERVIEW

HELLO. I AM \_\_\_\_\_, A GRADUATE STUDENT IN CLOTHING AND TEXTILES AT \_\_\_\_\_. IN ORDER TO COMPLETE MY RESEARCH, I NEED SOME INFORMATION FROM CONSUMERS CONCERNING THEIR FEELINGS ABOUT FLAME RESISTANT TEXTILE ITEMS. ANY INFORMATION YOU GIVE ME WILL BE KEPT STRICTLY CONFIDENTIAL. YOUR NAME WILL NOT BE REVEALED. WOULD YOU BE KIND ENOUGH TO SPEND A FEW MINUTES OF YOUR TIME TO ANSWER SOME QUESTIONS?

DATE \_\_\_\_\_

TELEPHONE NO. \_\_\_\_\_

NAME \_\_\_\_\_

RESPONDENT NO. \_\_\_\_\_

Interviewer--Indicate respondent's answer by placing a check mark in the appropriate space for all questions.

## PART 1.

1. Have you heard about any federal government regulations which prevent the sale of clothing and other textile products that burn easily?

\_\_\_\_\_ Yes      \_\_\_\_\_ No      \_\_\_\_\_ Don't Know

Interviewer--If respondent appears to need definition of flame resistant the following may be read:

Flame resistant means that the fabric will burn slowly if exposed to an open flame, but will self-extinguish when the flame source is removed.

PLEASE RESPOND WITH YES OR NO TO THE FOLLOWING LIST OF ITEMS.

Do you think the government should set standards which require that clothing be made to resist burning for the following groups of people? (interviewer reads list. Question may be repeated if necessary. Note additional volunteered information.)

	YES	NO	NO OPINION	COMMENTS
2. Young children, ages 6 & under				
3. older children, ages 7-14				
4. people, ages 15-44				
5. people, ages 45-64				
6. people over 65				
7. disabled or handicapped				

RESPONDENT NO. \_\_\_\_\_

PLEASE RESPOND TO THE NEXT QUESTION WITH "ALL CLOTHING SHOULD BE MADE TO RESIST BURNING" OR "THE CONSUMER SHOULD HAVE A CHOICE."

Should all the clothing for the following groups of people be made to resist burning or should the consumer have a choice between flame resistant garments and non-flame resistant garments? (Interviewer reads list--may repeat if necessary.)

	ALL	CHOICE	NO OPINION	COMMENTS
8. young children, ages 6 & under				
9. older children, ages 7-14				
10. people, ages 15-44				
11. people, ages 45-64				
12. people over 65				
13. disabled or handicapped				

PLEASE RESPOND WITH VERY IMPORTANT, IMPORTANT, OR NOT IMPORTANT TO THE FOLLOWING LIST OF ITEMS:

How important is it for the clothing of the following groups of people to be made to resist burning? (Interviewer reads list--may repeat question if necessary.)

Note: VERY IMP=very important; IMP=important; NOT IMP--not important.

	VERY IMP	IMP	NOT IMP	NO OPINION	COMMENTS
14. young children, ages 6 & under					
15. older children, ages 7-14					
16. people, ages 15-44					
17. people, ages 45-64					
18. people, over 65					
19. disabled or handicapped					



RESPONDENT NO. \_\_\_\_\_

20. Do you personally know anyone who was injured in a fire badly enough to require medical attention?

\_\_\_\_\_ Yes \_\_\_\_\_ No

21. IF YES, how badly was the person(s) injured? (Interviewer use column No. 1 for first person described, column No. 2 for second person, etc.)

SERIOUSNESS OF INJURY	No. 1	No. 2	No. 3	No. 4	No. 5	COMMENTS
a. needed only first aid treatment						
b. needed to be in the hospital for a few days						
c. needed to be in the hospital for a week or more						
d. died as a result of the fire						
e. other (describe specifically)						

22. What was the person doing at the time of the fire? (Interviewer use back of page if necessary. Be sure to keep numbers consistent with those used in Question 21.)

No. 1 \_\_\_\_\_

\_\_\_\_\_

No. 2 \_\_\_\_\_

\_\_\_\_\_

No. 3 \_\_\_\_\_

\_\_\_\_\_

23. Do you or any member of your family have any items of flame resistant clothing?

\_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_ Do Not Know

Comments (volunteered): \_\_\_\_\_

\_\_\_\_\_

RESPONDENT NO. \_\_\_\_\_

IF YES, what kind of clothing and who owns the items? (Interviewer should check items owned and indicate the sex of the owner by F for female and M for male.)

	AGES 6 & under	AGES 7-14	AGES 15-44	AGES 45-64	AGES 65 & Over	DISABLED Handicapped
24. nightgowns, pajamas						
25. robes, housecoats						
26. dresses, skirts						
27. shirts, blouses						
28. pants, slacks						
29. other						

IF YES, what do you like most and like least about each of the flame resistant garments you or your family own?

	Like Most	Like Least	No Opinion
30. nightgowns, pajamas			
31. other FR items (list):			
32.			
33.			
34.			
35.			

36. Are you aware of special laundering instructions for some flame resistant items? (Interviewer may define special care as: Do not use chlorine bleach. To preserve flame resistant properties do not use soap. Use any good detergent.)

\_\_\_\_\_ Yes    \_\_\_\_\_ No    \_\_\_\_\_ Not sure

Volunteered Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

RESPONDENT NO. \_\_\_\_\_

37. Are you aware that these items may cost more than non-flame resistant items?

\_\_\_\_\_ Yes    \_\_\_\_\_ No    \_\_\_\_\_ Not Sure

Volunteered Comments \_\_\_\_\_

\_\_\_\_\_

38. Would you be willing to pay a higher price in order to purchase items of clothing made from flame resistant fabric?

\_\_\_\_\_ Yes    \_\_\_\_\_ No    \_\_\_\_\_ Not Sure

Volunteered Comments \_\_\_\_\_

\_\_\_\_\_

39. Would you be willing to pay a higher price to purchase textile items used in your home made from flame resistant fabric?

\_\_\_\_\_ Yes    \_\_\_\_\_ No    \_\_\_\_\_ Not Sure

Volunteered Comments \_\_\_\_\_

\_\_\_\_\_



RESPONDENT NO. \_\_\_\_\_

9. Since everyone is safety minded today, the government does not need to check the products for safety before they are sold.

A	NO	D	COMMENTS

## PART III.

IN ORDER TO ANALYZE THE RESPONSES YOU JUST GAVE, WE NEED TO KNOW SOME BACKGROUND INFORMATION WHICH WE HOPE YOU WILL NOT MIND GIVING. YOUR ANSWERS ARE CONFIDENTIAL.

1. What is your marital status?  
 married  single
2. Who is the head of your household? (The main wage earner)  
 husband  wife  single respondent  other  
 (explain) \_\_\_\_\_
3. What is the education level of the head of the household?  
 less than 8th grade  
 finished 8th grade  
 some high school  
 high school diploma  
 some college or post high school professional training  
 graduate from a four year college  
 education beyond a bachelor's degree  
 other (explain) \_\_\_\_\_
4. What is your education level?  
 less than 8th grade  
 finished 8th grade  
 some high school  
 high school diploma  
 some college or post high school professional training  
 graduate from a four year college  
 education beyond a bachelor's degree  
 other (explain) \_\_\_\_\_
5. What is the occupation of the head of the household? (Try to get an exact description.) \_\_\_\_\_

RESPONDENT NO. \_\_\_\_\_

6. What is the one major source of your family's income?  
 \_\_\_\_\_ inherited savings and investments  
 \_\_\_\_\_ savings and investments  
 \_\_\_\_\_ profits, fees from business or profession  
 \_\_\_\_\_ salary and/or commissions and/or monthly check  
 \_\_\_\_\_ weekly checks and hourly wages  
 \_\_\_\_\_ odd jobs, seasonal work  
 \_\_\_\_\_ public relief or assistance
7. Are there children living in your household?  
 \_\_\_\_\_ yes \_\_\_\_\_ no  
 \_\_\_\_\_ Sometimes (explain) \_\_\_\_\_
8. What age group are they?  
 \_\_\_\_\_ 6 & under \_\_\_\_\_ 7-14 \_\_\_\_\_ 15 or older (indicate number  
 of children in each age group)
9. Are there people living in your home that are 65 years or older?  
 \_\_\_\_\_ yes \_\_\_\_\_ no \_\_\_\_\_ sometimes
10. Do you contribute to the income of your family by working?  
 \_\_\_\_\_ yes \_\_\_\_\_ no \_\_\_\_\_ sometimes
11. If yes, do you work full time or part time?  
 \_\_\_\_\_ full time \_\_\_\_\_ part time \_\_\_\_\_ changes
12. If yes, what do you do? (describe specific occupation)  
 \_\_\_\_\_
13. What is your age? (interviewer check category)  
 \_\_\_\_\_ 18-24 years  
 \_\_\_\_\_ 25-34 years  
 \_\_\_\_\_ 35-44 years  
 \_\_\_\_\_ 45-54 years  
 \_\_\_\_\_ 55-64 years  
 \_\_\_\_\_ 65 years or older
14. Have you heard anything about the flame retardant finish TRIS?  
 \_\_\_\_\_ yes \_\_\_\_\_ no \_\_\_\_\_ not sure
15. Which one of the following do you think should have the primary  
 responsibility to protect consumers from clothing or other textile  
 products which might burn?  
 \_\_\_\_\_ textile manufacturer  
 \_\_\_\_\_ clothing manufacturer  
 \_\_\_\_\_ retailers  
 \_\_\_\_\_ government  
 \_\_\_\_\_ consumers

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CONSUMER ATTITUDES ABOUT THE IMPORTANCE OF FLAME RETARDANT  
LEGISLATION FOR CLOTHING IN RELATION TO SOCIO-ECONOMIC  
CLASS AND PARENTAL STATUS

by

Beverly Gould Patterson

(ABSTRACT)

This research investigated current consumer attitudes about clothing and textile flammability legislation in relation to socio-economic class and parental status. One hundred fifty women from six different regions in Virginia participated in this study. Data were collected by telephone interview.

There were no statistically significant differences in the responses of women in relation to socio-economic class as determined by the McGuire-White (Short Form). However, the following findings were observed: Upper-middle class respondents were most likely to know about existing flame retardant (FR) standards and to consider FR apparel as "very important" for all ages of children, and adults, 65 years and over. They were least likely to desire FR standards on clothing for adults, ages 15 through 64. Lower-middle class women were most inclined to think there should be FR standards on all clothing, regardless of age of wearer. Women from the upper-lower class were least likely to know about existing FR standards and higher price of these protective textile items; more of these women than any other socio-economic group believed that the government and/or



clothing manufacturers should assume the responsibility for protecting consumers from unsafe textile products, while women from the upper-middle class were most inclined to think consumers should protect themselves.

Analysis of the data were statistically significant for some of the differences in responses when the women were categorized as parents or non-parents. Parents were more likely to consider FR clothing "very important" for adults, 65 and older but less inclined to believe that clothing with FR finishes was "very important" for adults, ages 15 through 64. Parents were also more likely than non-parents to own FR clothing and have knowledge about special care and price of FR textile products.

Most respondents had some knowledge of FR standards. The largest proportion of the total sample indicated that they thought there should be FR standards on clothing for all children up to age 14, adults over 65, and disabled and handicapped people. A majority of the women also believed that all consumers should have a choice available in the retail market between FR and regular clothing, especially for those people between the ages of 15 and 64. FR clothing was considered "very important" for all children up to age 14, adults over 65, and disabled and handicapped people by most of the homemakers. Approximately one-third of all respondents had some personal knowledge of fire injuries, owned FR apparel, and were aware that it costs more than regular clothing. A vast majority of the women were willing to pay

more for added protection from fabrics which burn easily, and thought the government should check products on the market for safety and should education the public about fire hazards rather than passing new laws. Government and clothing manufacturers were the two sectors of the economy that most respondents thought should assume the responsibility for protecting consumers from dangerously flammable fabrics and apparel.