

**ATTITUDES TOWARD SOCIALLY RESPONSIBLE CONSUMPTION:
DEVELOPMENT AND VALIDATION OF A SCALE AND
INVESTIGATION OF RELATIONSHIPS TO CLOTHING
ACQUISITION AND DISCARD BEHAVIORS**

by

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(ABSTRACT)

Environmental deterioration has been and continues to be a serious problem in our consumer-oriented society. The ecologically detrimental effects of clothing waste are often unappreciated even by those who attempt to practice social responsibility in other areas of consumption. The purpose of this research was to examine the degree of social responsibility exhibited by individuals in their consumption of clothing.

The specific clothing acquisition and discard (CAD) behaviors studied were garment recycling, purchase of secondhand clothing, purchase of classic style apparel, and general clothing conservation. A 26-item instrument (CAD scale) was developed to measure attitudes toward these behaviors. The scale was subjected to two pretests using student samples from VPI&SU and was analyzed by means of a computer program (PACKAGE) designed to assess reliability and dimensionality. Construct validity was evaluated by correlating the CAD scale with an established measure

of attitudes toward socially responsible consumption. Correlation with a behavior measure was used to investigate the scale's predictive validity.

Data were obtained through the distribution of a questionnaire to a sample of 405 shoppers at a Roanoke, Virginia, mall. Only questionnaires with complete CAD scales (282) were used for analysis. This group of respondents was divided into three parts. The top third was considered to have favorable attitudes toward responsible clothing consumption and the bottom third to have less favorable attitudes. Chi-square tests compared the scores of both groups on clothing consumption behaviors, sociodemographic variables, and media usage variables. Stepwise discriminant analysis and correlation coefficients were also used to examine the relationship between attitudes and sociodemographic variables.

The CAD scale was found to be a reasonably reliable and valid measure of attitudes toward socially responsible clothing consumption as conceptualized. Respondents with favorable attitudes were older and had lower incomes and higher education levels than those with less favorable attitudes. They were also less inclined to be politically conservative and more likely to be married and living with their spouses. They watched more news and nature/wildlife television programs and fewer game shows. They also read more literary and educational magazines.

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CHAPTER I

INTRODUCTION

Background

During the early 1970's, the ecological crisis was widely discussed, and public consciousness of environmental issues was heightened by national events like Earth Day and the 1973 energy crisis. Criticism of the American lifestyle was often severe. Lowry (1971) labeled Americans "pigs" for consuming 50% of the world's resources and generating 60% of its pollution while constituting only 10% of the total population. Fisk (1973) stated that, based on per capita consumption expenditures, one U.S. consumer had an ecological impact 50 times that of a person from India. In like manner, Pirages and Ehrlich (1972) discussed the shocking environmental situation which would occur if one billion Chinese enjoyed the standard of living available to U.S. consumers. They estimated that one American used about 22 times as much energy as a Chinese citizen. Thus an "Americanized" China would more than double world energy consumption and engender a catastrophic reduction in the planet's capacity to support life.

Although the crisis has not dissipated, public awareness seems to have suffered a setback. Americans are occasionally shocked by reports of toxic waste or vanishing animal species, but as a whole, they appear disinterested in the long term problems of scarce resources and environ-

mental abuse. Many have been lulled into complacency, waiting for clearer signs of environmental deterioration or expecting that technology will provide a cure-all. Ecologists warn however, that many ecological systems do not deteriorate gradually but maintain their basic integrity till the point of collapse (Falk, 1971). Others caution that technological progress, although encouraging, cannot keep pace with the problem (Faramelli, 1971; Nicosia & Mayer, 1976).

The ecological issue is not foreign to the apparel field. Economic waste in clothing is not only accepted but encouraged through routine fashion changes and status factors. As Kelley, Geiger, and Bailey (1975a) suggested, "clothes may offer an opportunity for acquisition and change of material goods when more expensive long term consumer goods such as housing and home furnishings are priced out of the family's budget" (p. 30). In fact, clothes are "changed" so often that many are discarded long before they are worn out. Over three billion pounds of obsolete and worn apparel end up in municipal waste each year. Agencies like Goodwill are inundated with discarded clothing, most of which they are forced to throw away (Batelle, 1972).

The Problem

Several problems are imbedded in the ecological crisis. The most obvious are related to the consequences of environmental abuse, but others center around its causes. Still others involve the difficulties inherent in finding solutions to the dilemma.

As indicated, the environmental effects of ever increasing consumption by a constantly growing population are massive and multiplicative. Humans need air, water, minerals, food, and energy to survive; yet human pollution and waste of these resources have led to their increasing scarcity. Consumers in the U.S. have set a precedent in wastefulness and, as representatives of a prosperous postindustrial nation, serve as models for citizens of developing countries. Worldwide communication systems have ensured that our consumption practices are a matter of global significance. Unfortunately, emulation of the American lifestyle by other peoples would exacerbate an already critical situation by further increasing resource depletion and pollution. With a finite reservoir of resources, one country's level of living inevitably affects that of others. Continuation of the present pace of human growth and consumption portends a collapse of the global ecological system and seriously threatens human survival.

The causes of environmental deterioration are perhaps not as obvious as its consequences. The central issue is social responsibility, or active concern for the welfare of society as a whole. Individual consumers are at the heart of the problem since their values not only affect personal behavior but also drive economic and political systems. The consumption-oriented lifestyles and insatiable materialistic appetites prevalent in this country reflect cultural standards which have evolved from American families and individuals. In the words of political philosopher Russell Baker, "The American Dream is to convert goods into trash as fast as possible" (cited in Faramelli, 1971, p. 226). Consumer

activists who have tirelessly advanced the causes of consumer rights and consumer education have often failed to address consumer responsibility. The concept includes responsible individual consumption as well as collective consumer pressure on manufacturers, marketers, and policy makers to exercise social responsibility in their decision making.

Businesses have frequently taken a short-sighted approach to profits, ignoring the long term effects of their decisions. For years, economists have maintained that externalities, environmental or otherwise, must be considered in the costs of production. Many marketers, through their product and promotion strategies, have encouraged irresponsible consumption and a throw-away mentality. Recycling of products and packages has received relatively little emphasis, and few channel systems exist to accommodate this reverse distribution of goods.

Public policy makers also share in the environmental problem. A traditional role of public servants is the regulation of social and environmental externalities. Performance of this function has varied from assiduous to negligent. Environmentalists have condemned the lack of business regulation and/or inadequate enforcement of existing laws. Protection measures such as control of product designs or sales volumes and taxation of non-recyclable or luxury goods have been largely ignored by government. The anticipated resistance of business and consumer sectors to government interference in the marketplace highlights the need for public officials to educate their constituency concerning the severity of the problem and the necessity for drastic solutions.

A final facet of the ecological dilemma has to do with market segmentation. A problem that originates with human behavior requires an understanding of people for its solution. Identification of socially responsible and nonresponsible individuals has been the subject of much research in the field of marketing. These investigations have concentrated primarily on goods with a clearly established environmentally-preferred option, such as nonphosphate detergents or soft drinks in returnable bottles. Findings have indicated that an ecologically oriented market segment exists for such products. Whether this ecological consciousness extends to apparel is another question and the subject of this research.

Research Objectives

The purpose of this research was to examine the degree of social responsibility exhibited by individuals in their consumption of a specific product, clothing. The researcher sought to provide a better understanding of socially responsible clothing consumption so that such behavior could be encouraged and related resource problems alleviated. Several specific objectives were defined:

1. To understand the attitudes and behaviors involved in clothing waste and their relationship to socially responsible consumption.
2. To develop meaningful measures to assess these attitudes and behaviors.

3. To determine the characteristics of consumers who exhibit these attitudes and behaviors.

Justification

Solutions to the environmental situation will not be easy. Traditional remedies such as financial incentives, appeals to civic pride, and local government restrictions are unlikely to have any significant impact. Lowry (1971) pointed out that the monumental character of pollution will not be solved by backyard cleanups or neighborhood litter campaigns. Radical, but probably infeasible, solutions such as a maximum limit on family expenditures or a tax on the volume and type of household trash have been mentioned (Carlsen, 1973; D'Arge & Hunt, 1971). Most experts agree that the most effective solutions to the environmental crisis would incorporate an alteration of consumer values and attitudes. People must learn to be happy with less. Unfortunately "less" is often equated with a lower level of living. Janice Hogan, an authority on household energy conservation, preferred to call it a "redefinition of how we live" (Grossman, 1979, p. 5). Other terms include "joy of frugality," "voluntary simplicity," "conservers society," and "postindustrial consumer" (Boulding, cited in Paolucci, 1978; Elgin & Mitchell, 1977; Shapiro, 1978; Stampfl, 1978). The essence of these concepts is responsible consumption.

Individuals who exhibit social responsibility in consumption are a key element in fighting resource abuse and ultimately in preserving the quality of life and maintaining human survival. Groups who service or

seek to service these people should be interested in research which helps to identify and characterize socially responsible segments. For example, home economists are in a position to help responsible clothing consumers act on their ecological concern by providing training in garment recycling, recognition of garment value, wardrobe planning, and shopping in secondhand markets. In addition, home economists, separately or en masse through national organizations, can carry the consumer perspective to policy makers at all government levels. Enterprising marketers and manufacturers may wish to capitalize on ecological appeal as a selling feature. Kassirjian (1971) noted that the market potential for a good product with an ecological edge is impressive. As consumers become more aware of the relevant issues, environmentally compatible products should become more profitable, and the importance of a positive corporate image with respect to this and other social issues will increase.

An even larger market segment is comprised of individuals with a moderate to low sense of responsibility in consumption. Different approaches are necessary for addressing this group since their attitudes and values must be changed first. The intervention of business into the realm of social problems, once hotly debated, is now widely accepted and often expected. Thus businesses may be asked to devise ways of "selling" ecological issues as well as ecological products. Similarly, government officials may need to cultivate demand rather than accept it as a monopoly condition in the same way that AMTRAK and the postal service were salvaged to substitute for more wasteful alternatives (Fisk, 1973). Educational programs will be needed to raise the ecological consciousness of the un-

concerned or unaware segment. For home economists, education will generally focus on changing family attitudes and practices. The family, as the primary environment for developing attitudes, values, and goals, should be a potent agent for social change in the future (Paolucci, 1978; Paolucci & Hogan, 1973).

It is hoped that this study will be helpful in identifying responsible and nonresponsible consumers and thereby provide the means for government, business, and other interested parties to communicate with them. Communication with nonresponsible consumers might attempt to alter unfavorable attitudes and behaviors through education, public announcements, advertisements, or other means explaining the merits of "voluntary simplicity." Appeals to responsible consumers might seek to elicit their assistance in spreading their consumption ideas to others.

Overview of the Presentation

The research presentation is organized into six sections. The next chapter reviews the related literature and elucidates the issues, concepts, and research methods germane to the topic of interest.

Chapter III develops the theoretical framework for the study, based on the literature review. Research hypotheses are proposed to guide the investigation.

Chapter IV describes the research procedure, including the measurement instruments and the techniques used in their validation. Sampling and data collection methods are also explained. Finally, procedures for statistical analysis of the data and evaluation of hypotheses are delineated.

The results are discussed in Chapter V. The sample delineation, descriptive statistics, and method of data collection are presented. The reliability and validity of the CAD scale are also evaluated. Each hypothesis is tested, and the findings are compared to those of related studies.

The final chapter presents the conclusions and implications of the study. Recommendations are offered to those who may wish to conduct further research on this topic.

CHAPTER II

REVIEW OF LITERATURE

The root of the ecological problem is the profligate behavior of individual consumers. Hence, a review of relevant literature should focus on consumption behavior and its motivators. Specifically, examination of socially responsible clothing consumption requires an understanding of two subsets of consumer behavior: socially responsible consumption behavior (SRCB) and clothing consumption behavior (CCB). This chapter starts with a discussion of SRCB in an attempt to determine its nature, origins, and correlates. Techniques for measurement of the behavior are analyzed to gain insight into the difficulties and advantages of various methods. Next, selected aspects of clothing consumption behavior are considered to gain some knowledge of the process of clothing consumption and the factors which contribute to clothing waste.

As powerful antecedents of behavior, attitudes provide an avenue for determining the causes of past behavior and predicting future behavior. Thus an examination of the definitions and dimensions of attitudes is undertaken to see how they function. In addition, the relationship between attitudes and overt behavior is explored in an effort to explain attitude-behavior inconsistencies and to provide a means for avoiding similar contradictions in this study.

Consumption Behavior

Usually consumer behavior centers around market purchase and acquisition, but consumption in its broadest sense includes not only acquisition of goods but also their use and disposal. Jacoby, Berning, and Dietvorst (1977) said that consumer behavior involves the "acquisition, consumption, and disposition of goods, services, time and ideas by decision making units" (p. 22). As previously mentioned, the present study concentrates on two sections of consumption behavior. First, socially responsible consumption behavior is reviewed. Research related to this topic provides insight into the attitudinal origins of responsible behavior as well as techniques for measuring it. The literature also suggests a set of psychological, demographic, and behavioral characteristics which identify the socially responsible consumer and help in developing a parallel profile of the responsible clothing consumer. Second, clothing consumption behavior is discussed. Studies on the characteristics and practices of apparel consumers provide guidance for defining and characterizing socially responsible clothing consumers and for formulating hypotheses regarding their behaviors.

Socially Responsible Consumption Behavior

It is beneficial to initiate the discussion of SRCB by defining the concept and its possible origins. Although most definitions are similar, operationalizations of the construct vary widely. Numerous measurement instruments with differing levels of reliability and validity have been

used in SRCB research. Not surprisingly, considerable diversity also exists in the characteristics of consumers identified by these measures.

Definition of Socially Responsible Consumption Behavior

Individuals who are concerned with the societal consequences of their consumption patterns have been labeled:

1. The socially responsible consumer is one whose "behaviors and purchase decisions. . .are related to environmental-resource problems and are motivated not only by a desire to satisfy personal needs, but also by a concern for the welfare of society in general" (Antil, 1978, p. 5).
2. The ecologically-responsible consumer is a consumer who "recognizes the 'ecological imperatives' or ecological impact of her consumption behavior" (Nelson, 1974, p. 5-6).
3. The ecologically concerned consumer is "a person whose values, attitudes, intentions, or behaviors exhibit and reflect a relatively consistent and conscious concern for the environmental consequences related to the purchase, ownership, use or disposal of particular products or services" (Henion, cited in Henion, II, 1982, p. 282).
4. The socially conscious consumer is one who "takes into account the public consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about social change" (Webster, 1975, p. 188).
5. Responsible consumption is the "rational and efficient use of resources with respect to the global human population" (Fisk, 1973, p. 24).

With allowances for differences in wording, the foregoing definitions embody essentially the same idea, socially responsible consumption. All describe a personal consideration of the consequences of consumption behavior in relation to a system of living organisms. Webster (1975) ex-

panded his definition to include not only private consumption but also the use of purchasing power to effect social change. Although the definitions imply that personal needs as well as societal needs are considered, Antil's (1978) definition is the only one that specifically refers to individual needs.

Despite the similarities in definitions of the socially responsible consumer, there has been some confusion over nomenclature in the past. The terms appear to have much in common with the "traditional socially responsible personality" originally conceptualized by Berkowitz and Daniels (1964). These researchers developed an 8-item Social Responsibility Scale (SRS) which was later used by Berkowitz and Lutterman (1968) to formulate a profile of the traditional socially responsible person. The "traditional" individual showed a willingness to help others even when no personal gain was expected and tended to be conservative in values and politics, middle class, educated, and involved in the community.

Application of the Berkowitz-Daniels SRS to the area of consumer behavior was first attempted by Anderson and Cunningham (1972) in their research on the socially conscious consumer. Subsequently Anderson, Henion, and Cox (1975) perceived that a difference might exist between socially and ecologically responsible consumers. In their study, participants in a local ecological organization were designated as ecologically responsible consumers and individuals scoring high on the SRS measure were classified as socially responsible consumers. Comparison of the two groups across attitudinal and demographic variables in-

licated that the two measures identified clearly different consumer segments.

Webster (1975) employed the SRS measure again in his research. Using two additional measures of social consciousness, an ecological consumption behavior measure and membership in a recycling service, he discovered a distinct difference between the consumer described by the SRS and the one described by the other measures. In his opinion the SRS was outdated, overly traditional, and in need of revision. Thus much of the confusion over terminology that exists in the literature seems to be the result of attempts to relate traditional social responsibility to personal consumption patterns, e.g., using the SRS to predict the socially conscious consumer. With that exception, future reference to the "socially responsible consumer" will be understood to encompass both ecological and social responsibility/consciousness as described in the literature.

Most studies on socially responsible consumption do not go beyond a simple definition of the concept. However, consideration of the internal motivation for responsible behavior might contribute to a richer and more useful understanding of those who practice it.

Origins of Socially Responsible Consumption Behavior

As the preceding definitions indicate, SRCB refers to concern for others which implies that the behavior is derived from a basically altruistic nature. Indeed there is a considerable body of literature

concerning other-directed behavior variously termed social responsibility (Berkowitz & Daniels, 1964), altruism (Krebs, 1970), prosocial behavior (Bandura & Walters, 1963), helping behavior (Berkowitz, 1966), and unselfishness (Bohannon, 1963).

In his review of literature on altruism, Krebs (1970) highlighted a terminology problem. Definition of the concept entails the establishment of intentions behind the unselfish, other-directed action. Researchers have skirted the definitional issue by (1) assuming that the altruistic-appearing antecedents of behavior were the corresponding motivators (operational definition) or (2) assuming that the attributions of others concerning the behavior were the motivators. Krebs summarized the problem by saying:

The definitional problem which involves the status of altruism as a dependent variable, has attracted very little attention from recent researchers. They have generally been content to assume that behavior that seems altruistic is altruistic, and to concern themselves with its determinants (p. 262).

With these limitations in mind, the altruistic individual is generally seen as one whose compassion for others leads to unselfish conduct, involving some degree of sacrifice and little personal gain.

Another way of viewing the socially responsible consumer is not from a standpoint of altruism or concern for others but from a perspective based on reasonableness and practicality (another term might be efficiency). Perhaps individuals who exhibit socially responsible behavior do so because they have reasoned that it is the only way for them to derive

maximum satisfaction from life or ultimately to survive on a planet with a rapidly increasing population. This is not to say that they have no compassion for others, but rather that it is not the driving motivation behind their ecological actions.

Reason, according to some definitions, means saying "no" to oneself and being willing to forego instant gratification. Philosopher Peters (1974) referred to this quality as transcendence of the particular, which allows actions to be governed by beliefs about past and future events rather than immediate circumstances. Thus, reasonableness may account for much behavior which seems to provide little reward to the perpetrator, such as ecologically oriented behavior. In fact, it may provide a very valuable reward: the pleasure of a self-disciplined, simple life as opposed to one of excess and extravagance.

Although the motivating force behind responsible consumption has not been investigated per se, many studies consider both attitudes and behavior in their measurement of the SRCB construct.

Measurement of Socially Responsible Consumption Behavior

Numerous methods have been employed to measure social consciousness in consumption. Table 1 reflects some of the attitudinal and behavioral variables that have been used. Validity and reliability assessment of the measures was not always available. In some cases, there appeared to be no attempt at validation; in others, the information provided was un-

Table 1

Variables Associated with Socially Responsible Consumption

Variables

Attitudes

Perceived consumer effectiveness
Importance of pollution or environment
Importance of whiteness of laundry
Importance of government forcing pollutants
off the market
Importance of urging friends against using
pollutants
Importance of other consumers being
interested in pollution
Self-interest in pollution aspects of
products
Importance of recycled paper towels
Importance of returnability of soft
drink bottles
Importance of phosphate content in
detergents
Ecological brand awareness
Willingness to pay more for
ecological products

Behaviors

Product usage, choice, purchase of
nonphosphate detergent, lead-
free gas, beverages in return-
able bottles
Recycling of glass
Use of recycling service
Change in shopping pattern to purchase
ecological products
Disconnecting of car pollution control
device
Reuse of paper grocery shopping bags
Reduced usage of petroleum products
during energy crisis

clear. Table 2 provides a summary of the instruments used in SRCB research.

Kassarjian's study (1971) on concern about air pollution is one of several which used attitudes alone as an operational measure of environmental concern. Interviewees were asked three attitudinal questions:

1. Name the most important problem facing the country.
2. Select from a list the most important problem facing the country.
3. On a thermometer scale (0 - 100) indicate your level of concern about air pollution.

These three measures were highly intercorrelated and produced very similar results when processed separately. Thus, for ease of presentation Kassarjian only published data related to the first question.

Reizenstein, Hills, and Philpot (1975) classified consumers according to their (1) willingness to pay for improvement of environmental conditions and (2) degree of understanding of the term "recycle." "Willingness to pay" was determined by questionnaire, and level of awareness or understanding was ascertained through personal interviews.

Using a questionnaire composed of seven Likert scales, Tognacci, Weigel, Wideen, and Vernon (1972) attempted to determine the extent of concern about environmental quality. Opinions were solicited from sub-

Table 2

Measures of Socially Responsible Consumption

Authors/ Year	SRC measure	Scales	Reliability tests	Validity tests	Sample size	Response rate
Kassarjian 1971	3 Measures of concern about air pollution: 1. Most imp. problem in U.S. 2. Social issue ranking 3. Level of concern about air pollution	1. Open-ended 2. Ranking 3. Thermometer	Not indicated	Results on all 3 measures highly correlated	242	Unknown
Tognacci et al. 1972	7 Measures of environ- mental concern: 1. Importance of pure environment 2. Attainment of pure environment 3. Conservation 4. Pollution 5. Power plant 6. Individual popu- lation control 7. Overpopulation	Likert scales 1. 8 items 2. 8 items 3. 15 items 4. 16 items 5. 13 items 6. 14 items 7. 15 items	1. Coeff. alpha (.81) 2. Coeff. alpha (.80) Coeff. alpha (all >.80)	Not indicated	141	67%

Table 2 continued

Authors/ Year	SRC measure	Scales	Reliability tests	Validity tests	Sample size	Response rate
Kirrnear, Taylor 1973	Index of ecological concern (IEC): meas. ecol. attitudes and behaviors	Likert & open-ended 8 items	For index: --Item total corr. --Gamma statistic	For index: --Procedure similar to multitrait, multimethod for construct validity	500	72%
Kirrnear, Taylor 1974	5 Measures of ecol. purchasing behavior 1. Laundry product 2. Gasoline 3. Soft drinks 4. Recycling glass 5. Shopping pattern	Dichotomous	Assumed	Same as 1973 study	500	72%
	8 Measures of ecol. attitude (like IEC)	Likert	Same as 1973 study			
Marquardt, McGann, Makens 1974	2 Measures of consumer response to disposable containers: 1. Reported return of bottles & motive 2. Return of aluminum cans & motive	1. Telephone interview 2. Observation & interview	Not indicated	Not indicated	1. 272 2. 201	Unknown

Table 2 continued

Authors/ Year	SRC measure	Scales	Reliability tests	Validity tests	Sample size	Response rate
Nelson 1974	<p>5-Part attitude scale:</p> <ol style="list-style-type: none"> 1. Air & water poll. 2. Overpopulation 3. Noise pollution 4. Solid waste poll. 5. Conservation of natural resources <p>5 Measures of ecol. responsible behavior: purchases in 5 product categories & purchase motive</p> <ol style="list-style-type: none"> 1. Ice cream 2. Soft drinks 3. Laundry detergent 4. Autom. dishwashing compound 5. Household cleaner 	<p>Likert 39 items</p> <p>Personal interview</p>	<p>Attitude scale:</p> <ul style="list-style-type: none"> --Item analysis --Factor analysis --Coeff. alpha >.80 for all subscales 	<p>Attitude scale:</p> <ul style="list-style-type: none"> --Inter-corr. of subscales (.31-.62) --Diff. in mean scores for groups as hypothesized (p <.01) --Subscale scores corr. positively with other meas. of same variable (.36-.48) 	325	65%
Anderson, Menion, Cox 1975	Patronage or membership in ecological organization (measure is not clear)	Observation	Not indicated	Not indicated	401 149 Ecol. ----- 550 Total	33% Unknown

Table 2 continued

Authors/ Year	SRC measure	Scales	Reliability tests	Validity tests	Sample size	Response rate
Webster 1975	3 Measures of social consciousness: 1. Social responsi- bility scale (SRS) 2. Soc. conscious con- sumer index (SCC) 3. Recycling--subscriber list from recycling service	1. Likert 8 items 2. Mixed scale 8 items 3. Observation	2. Item total corr.	Not indicated	227	53.5%
Reizen- stein, Hills, Philpot 1975	2 Measures of consumer traits: 1. Awareness/understand- ing of term "recycle" 2. Willingness to pay for improvement of environmental factors	1. Interview 2. Question- naire	Not indicated	Not indicated	376	94%

Table 2 continued

Authors/ Year	SRC measure	Scales	Reliability tests	Validity tests	Sample size	Response rate
Maloney, Ward, Braucht 1975*	4-Part measure of ecol. attitude and knowledge: 1. Verbal commitment VC 2. Actual commitment AC 3. Affect A 4. Knowledge K	True/false 1. 10 items 2. 10 items 3. 10 items 4. 15 items	All parts: --Item tot. corr. --Split half reliab. coeff. (all >.89 --Homogeneity ratios (.296-.442) --Coeff. alpha (all >.80)	All parts: --High correlation between scales (.41,.70,.62) --Criterion validity (all t-tests sign. at p <.02 or better) --Content validity review by judges	31 Sierra 56 College 40 Noncoll. ----- 121 Total	Unknown
Brooker 1976	2 Measures of social consciousness 1. Purchase of non- phosphate detergent 2. Purchase of leadfree gasoline	1. Observation/ interview 2. Interview	Not indicated	Not indicated	99	Unknown
Murphy, Kangun, Locander 1978	2 Measures of social consciousness: 1. Ecol. importance scale 2. Brand choice	1. Likert multi-item 2. Simulated brand choice	Not indicated	Not indicated	179	Prior agree- ments

*Some figures taken from 1973 study by Maloney & Ward.

Table 2 continued

Authors/ Year	SRC measure	Scales	Reliability tests	Validity tests	Sample size	Response rate
Antil 1978	Measure of socially responsible consump. behavior (SRCB): attitudes and beh. intentions concerning social issues	Likert 40 items	For SRCB: --Item analysis --Factor analysis --Guttman Lambda (.930) --Coeff. alpha (.925)	For SRCB: --Predict. validity: t-test significant (p <.01) --Construct validity: procedure like MTMM	740 Houses 85 Sierra ----- 825 Total	74% 57%
Belch 1979	Measure of social & ecol. concern	Likert 20 items	Factor analysis	Not indicated	125	Unknown

jects concerning the country's performance in realizing selected environmental goals and the importance they attached to those goals. More specific environmental attitudes were determined by means of five subscales: conservation scale, pollution scale, power plant scale, individual population control scale, and overpopulation scale. All seven scales were found to be internally consistent, with coefficient alphas of .80 or greater. Intercorrelations between scales were also generally high (most greater than .40). The highest correlations were among the five specific environmental scales.

Belch (1979) developed a shorter scale of social and ecological concern. His 20-item instrument measured concern on several dimensions including air, noise, and water pollution; energy resources; littering; and physical health. Factor analysis was performed to assess the relationship between subscales and yielded seven factors accounting for 97.7% of the total variance. The factors in order of explained variance were: energy, air pollution, exercise, noise pollution, water pollution, personal habits, and attitude toward additives. A Total Concern Index (TCI) representing the respondent's overall cumulative score was also calculated and correlated with each of 406 statements of attitude, interest, and opinion (AIO) to determine which variables best described the concerned consumer.

Most investigators have tried to include a behavioral component in operationalizing the socially conscious consumer construct. Frequently behavioral measures are represented by several questions concerning ac-

tual behavior. Kinnear and Taylor (1973) explained their rationale for including behavior in their 8-item Index of Ecological Concern (IEC):

Obviously, verbal expressions of concern are not enough. Likewise, it is possible for a consumer to purchase in an ecologically-concerned manner without being aware that he is doing so. Thus the level of ecological concern a person demonstrates will be a function of both his attitude and his behavior (p. 191).

The behavioral portion of the index was composed of two questions dealing with respondents' purchasing practices relative to products low in pollutants. Statistical analysis of the index included calculation of the gamma statistic, which summarized the relationship between index components, and item-total correlations which were used to eliminate items not strongly related to the total index. The researchers also attempted to assess the construct validity of the measure using a procedure similar to that of Campbell and Fiske (1959).

Another facet of the same study by Kinnear and Taylor (1974) compared scores on five behavioral measures with scores on eight attitudinal measures. Behavioral items dealt with ecologically constructive purchase behaviors in the following areas: laundry products, gasoline, soft drinks, recycling glass, and shopping patterns. Responses to these questions were generally dichotomous in form. The attitudinal measures included six questions from the IEC and two additional items concerning perceived consumer effectiveness and willingness to spend money for non-polluting products. Validity and reliability for the attitude measure were tested as described above. The researchers assumed that responses

to the behavioral questions were true statements and therefore did not assess validity/reliability for that section.

Nelson (1974) also classified ecologically-motivated consumers based on their past purchases of five ecologically-preferred products and their reasons for purchase. In addition, he administered a lengthy survey to ascertain attitudes on a variety of environmental issues. To construct the attitude scale, a pool of 119 items was combined with items from eight personality scales (making 192 in all) and pretested on a group of 282 students. Item analysis was performed to determine which items to eliminate, and factor analysis was used to verify the unidimensionality of the resulting subscales. A minimum coefficient alpha of .80 was achieved for all subscales. The final instrument was composed of a total of 39 items in eight factors or subscales.

Nelson (1974) evaluated scale validity in three ways. First, since the set of subscales was to be a measure of attitudes toward the environment, each subscale was expected to be significantly correlated with the others. Intercorrelations were generally moderate, ranging from .31 to .62, with an average correlation of .49. Second, comparison of mean scores was made to determine if the attitudes of ecologically responsible and nonresponsible housewives differed as hypothesized. The difference in mean scores was statistically significant beyond an alpha level of .01. Finally, subscales were supposed to correlate positively with other measures assumed to measure the same construct. A pastoralism scale, which measured "an appreciation of and sensitivity to the primitive na-

tural environment, and a desire to preserve it" (McKechnie, cited in Nelson, 1974, p. 44), was used for this purpose. Correlations between subscale scores and pastoralism scores ranged from .36 to .48.

As can be seen, Nelson (1974) exerted considerable effort to establish the validity and reliability of his measure, with fairly good results. In addition, he endeavored to avoid the social desirability factor by asking respondents their opinion of the research purpose. After analysis of those who correctly identified the purpose of the study, Nelson determined that they differed attitudinally and behaviorally from those who guessed incorrectly. Thus he decided to delete the correct guessers from the analysis to improve the validity of the results.

Maloney and Ward (1973) developed a 128-item Ecology Scale composed of four subscales: verbal commitment (VC), actual commitment (AC), affect (A), and knowledge (K). Although the investigators did not refer to Fishbein in their article, his concepts of intention, behavior, attitude, and belief roughly correspond to the four subscale descriptions (Fishbein & Ajzen, 1975). The measure was later refined and shortened to 45 items making it more practical to use as a research tool (Maloney, Ward, & Braucht, 1975).

A pool of 500 items in the original scale was reduced to 128 after a review by judges. For the revised version, another 83 items were eliminated by item-total correlations (for the VC, AC, and A scales) and by deletion of geographic or time specific items (for the K scale).

Scott's homogeneity ratio ($A = .358$, $VC = .296$, $AC = .442$) and Chronbach's alpha ($A = .846$, $VC = .805$, $AC = .888$) were calculated and indicated a fairly homogeneous and highly consistent measure. Correlations between the scales (.70, .41, .62) showed strong interdependence but less than in the original scale. The instrument was tested on three groups: (1) college adults, (2) noncollege adults, and (3) Sierra Club members. Using a series of post hoc Duncan multiple-range tests, all subscales were able to distinguish among the three groups at $p = .05$ or better.

Perhaps the most rigorously constructed measure advanced to date is one developed by Antil (1978). This 40-item measure used a 5-point Likert scale to assess socially responsible consumption behavior (SRCB). Procedures followed in construction of the scale were similar to those later suggested by Churchill (1979). The initial pool of 124 items was drawn in part from the scales of Maloney and Ward (1973), Nelson (1974), and Tognacci et al. (1972). The scale items were divided in half and pretested on a convenience sample of 444 university students. Based on pretest results, items were eliminated in three stages using item-total correlations and factor analysis. The remaining 59 items were combined and pretested on a second sample of 382 students. Subsequent item analysis eliminated another 17 items from the scale. After a final pretest using 98 nonstudent adults, two more items were dropped, leaving a scale of 40 items.

The final SRCB scale was mailed to 1000 households participating in a consumer mail panel and to 150 members of a Sierra Club chapter. Re-

sponse rates were 74% and 57% respectively. The scale was found to have excellent reliability using Guttman's Lambda 3 (.930) and Chronbach's coefficient alpha (.925). Factor analysis in both the pretest and national survey indicated that the SRCB construct was predominantly unidimensional, an indication of the scale's logical validity. "Known groups" validation was performed using the Sierra Club sample. Significant differences between mean scores of the national sample and the Sierra Club group indicated that the scale had predictive validity. To measure construct validity a variation of Campbell and Fiske's multitrait-multimethod technique was used. The SRCB scale was found to have convergent validity and some degree of discriminant validity.

In two investigations, simulated shopping trips were used to classify individuals according to their level of environmental concern. Herberger and Buchanan (1971) used illustrations of detergents containing various amounts of phosphate and soft drinks in returnable and nonreturnable bottles. "Customers" were directed to make selections from among the illustrated products. Brooker (1976) conducted a brand choice exercise to determine if subjects would select the environmentally correct brand of soft drinks, i.e., those in returnable bottles.

In all of the previous studies, behavior was measured by a survey technique which relied on respondent self-report. Departing from that pattern, Webster (1975) used observation as an alternate method. His "recycling" measure simply noted whether or not the individual subscribed to a recycling service. After obtaining subscription information from a

local recycling business, Webster precoded the questionnaires so that subscribers were clearly identified. Studies by Marquardt, McGann, and Makens (1974) and Anderson, Henion, and Cox (1975) also used participation in an ecological organization as a measure of ecological concern. Webster's technique had the additional advantage of unobtrusiveness since none of the participants were aware that their recycling activities were being recorded in this manner.

Webster (1975) developed another self-report behavioral measure which consisted of eight questions about respondents' past purchases and conservation practices. Item analysis on the SCC scale produced correlations of .63, .59, .59, .55, .46, .36, .18, and .02. Scores on this scale were compared to those on the recycling measure and the Berkowitz-Daniels Social Responsibility Scale. As indicated earlier, the degree of correspondence between the three dependent variables was not high. In his conclusions, Webster was undecided as to which measure, recycling or SCC, was a more valid measure of buyer behavior. The SCC had the advantage of a larger number of items, but the recycling index was a better measure of actual behavior since it utilized direct observation.

A few studies monitored actual consumer shopping behavior to determine levels of ecological concern. At four different supermarkets (two in high-income areas, two in low-income areas), Henion (1972) observed customer response to information on the phosphate content of various detergents. One test and one control store were designated for each income level. In test stores, detergents were labeled as to their phosphate

level and arranged in order of phosphate content. To control for consumers' natural preference for brands with higher numbers, detergents in the control stores were labeled as to their share of the market and arranged in order of increasing market share. Comparison of market shares, for each brand under each condition, revealed that consumers responded favorably to ecological buying information by buying more low-phosphate detergent. This trend was observed in both high- and low-income stores. Brooker's (1976) research used a combination of observation and self-report. Subjects who were seen buying or reported buying either lead-free gasoline or low-phosphate detergent were designated as ecologically conscious consumers.

Overall, measurement of the socially responsible consumer has been conducted largely through surveys designed to assess attitudes, behavior, or both. In a few cases, direct observation was used to measure the dependent variable. Researchers' efforts to pretest or validate their respective instruments have ranged from minimal or no validation to fairly rigorous scale construction and testing. In this respect, Antil's SRCB scale appears to be the most carefully derived measure.

Having discussed measurement of responsible consumption, attention will now focus on the relationship between SRCB and other variables of interest. An objective of much of the research in this area has been to identify the distinguishing characteristics of the responsible consumer.

Characteristics of the Socially Responsible Consumer

The descriptor variables analyzed in connection with the socially responsible consumer (SRC) include a varied list of demographic, behavioral, socioeconomic, and psychological factors. In Mitchell's (1983) extensive survey of American values and lifestyles (VALS), he developed perhaps the most detailed profile of the "societally conscious" individual in terms of demographics, attitudes, financial status, activity patterns, and consumption patterns. Although results differ, most studies have found psychological factors to be better predictors of socially responsible consumption than demographic variables (Anderson, Henion, & Cox, 1975; Antil, 1978; Brooker, 1976; Kinnear, Taylor, & Ahmed, 1974). Table 3 shows some of the descriptors most commonly found to be associated with socially responsible consumption. The table indicates that agreement on the direction or even the existence of the relationships depicted is far from universal. To provide a better understanding of the SRC's characteristics, a few of the traits listed in the table, and others not shown, will be discussed in the remainder of this section.

Environmentally conscious consumers have been found to be inconsistent with respect to the ecological concern they exercise in their purchasing behavior. Fritzsche (1975) found that none of the Better Life customers (recycling organization) consistently chose the environmentally positive alternative when faced with six purchase decisions. The majority of customers were environmentally consistent in indirect "purchases," such as a bond issue, but inconsistent with regard to direct purchases.

Table 3

Descriptors of Socially Responsible Consumers

Descriptor	Number of Studies Showing		
	SRC higher than Non-SRC	SRC lower than Non-SRC	No Relation
Education (chief wage earner and/or spouse)	10		7
Income	5	1	5
Age (% younger people)	4	1	6
Occupation status (CWE and/or spouse)	6		7
Socioeconomic status	4		3
Sex (% females)	1	1	5
Race (% whites)	1	1	
Marital status (% married)	1	1	1
Liberalism	8		1
Community involvement	2		1
Perceived consumer effectiveness	3		
Status consciousness		2	
Dogmatism		2	
Alienation	1	1	
Cosmopolitanism	3		1
Health concern	2		

(Sources: Antil, 1978; Anderson, Henion, & Cox, 1975; Belch, 1979; Brooker, 1976; Constantini & Hanf, 1972; Dunlap, 1975; Hogan & Paolucci, 1979; Kassarian, 1971; Kinnear, Taylor, & Ahmed, 1974; Lindgren, 1972; Marquardt et al., 1974; Mitchell, 1983; Murphy, Kangun, & Locander, 1978; Nelson, 1974; Reizenstein et al., 1975; Tognacci et al., 1972).

The findings agree with Maloney and Ward's (1973) contention that where ecology is concerned, people tend to have high levels of verbal commitment and affect but lower levels of actual commitment and knowledge. These and other findings indicate that ecological concern is often dependent on the particular product or situation involved (Brooker, 1976; Herberger & Buchanan, 1971; Murphy, Kangun, & Locander, 1978). In general, the more costly the environmentally-preferred product is in terms of personal energy, time, or money, the less likely consumers will be to select it.

Perceived consumer effectiveness is a measure of the subject's belief that an individual consumer can have an impact on environmental problems. Webster (1975) found that this variable was the only significant predictor of all three of his dependent measures (social consciousness). Other studies corroborated the strength of the relationship between perceptions of effectiveness and consumer social responsibility (Antil, 1978; Kinnear, Taylor, & Ahmed, 1974). Apparently when consumers feel that their actions can actually improve environmental conditions, they tend to score higher on measures of ecological/social concern.

According to the Brooker (1976) study, those who are socially concerned tend to be more self-actualized or interested in realizing their full potential. A related concept, locus of control, was explored by Henion and Wilson (1976). Internally controlled persons are those who perceive that their rewards are a direct result of their own efforts. This definition has much in common with the idea of perceived consumer effectiveness discussed earlier. Findings of the Henion and Wilson study

revealed that the SRC is generally more internally controlled than consumers who are less socially responsible.

The role of education in ecological consumption is not clearcut. Several studies revealed a direct correspondence between socially concerned consumers and their level of education (Anderson, Henion, & Cox, 1975; Hogan & Paolucci, 1979; Mitchell, 1983; Nelson, 1974; Tognacci et al., 1972; Webster, 1975). Others noted the lack of any association between two variables (Antil, 1978; Brooker, 1976; Kassarian, 1971). Researchers seem to agree however, that knowledge of environmental problems is an important characteristic of the SRC. This idea is intuitively appealing since people are seldom greatly concerned about something they do not understand. Reizenstein et al. (1975) measured subjects' awareness of air pollution by noting their understanding of the word "recycle" and found that awareness was related to willingness to pay for improved air quality. Regrettably, society's level of ecological knowledge appears to be low (Kinnear, Taylor, & Ahmed, 1974; Maloney & Ward, 1973). Nonetheless, when individuals are supplied with relevant information, consumption can be favorably affected (Henion, 1972). Socially responsible consumers are therefore generally more informed about environmental problems than those who are less responsible.

The issue of race has received little attention in SRC literature. In one study, middle- and upper-class white women, when compared to black women of the same social standing, exhibited a significantly higher level of ecological sensitivity in their product preferences (Murphy et al.,

1978). Marquardt et al. (1974) observed that more black and other minority racial groups returned aluminum cans to redemption centers, but the primary motive was economic not ecological. The variance between the findings of the two studies points to a potential confounding factor in research related to ecological activity. The economic status of the respondent and the monetary costs/benefits associated with a particular activity may greatly overshadow environmental concerns.

A sizable number of consumers seems to be willing to pay for improvement of the environment (Kassarjian, 1971; Kinnear & Taylor, 1974; Reizenstein, et al., 1975). Many people are also willing to return soft drink bottles for a monetary refund. However, Marquardt et al. (1974) found that even with higher deposit rates, some consumers are not motivated to return bottles for redemption. Convenience is an important factor where money and ecology are concerned. Consumers seem to be more willing to improve the environment by forfeiting money than by foregoing convenience. In the case of soft drink bottles, convenience was more important for some consumers than either money or environmental quality.

As a springboard for his research, Webster (1975) proposed a "social involvement model" which described the socially conscious consumer as:

a person who is in a good position in terms of income, education, and occupation to contribute to the community and his self-concept allows him to take an active role. He acts in a manner consistent with his attitudes, playing an active role not only in organized activities but also in his individual behavior as a consumer (p. 190).

Unfortunately, Webster's (1975) results did not substantiate his model. Socially conscious consumers were not the "pillar(s) of the community" heavily involved in civic activities. Rather, they acted in a manner consistent with their own standards of responsibility but did not force these standards on others. Webster characterized these individuals as members of the "upper middle class 'counterculture'...who operated at a rather low key" (p.196). Antil (1978), however, contended that Webster's original model was not as far wrong as he believed. Antil's consumer was more involved in community activities and more informed about environmental problems but not necessarily because of a higher education level. Like Webster's low-key consumer, this individual was not an opinion leader and did not push his views onto others.

Clothing Consumption Behavior

In order to discern which clothing practices might also be socially responsible consumption behaviors, some knowledge of the process of clothing consumption is needed. Furthermore, since conservation and stewardship are pivotal components of social responsibility, clothing waste and its causes should be understood. Some factors which have been related to apparel waste are disposal methods, fashion, multi-purpose garments, secondhand clothing, analytical buying, and values. The foregoing topics will be reviewed in this section with the intention of defining socially responsible clothing consumption behavior (SRCCB) and identifying consumers who might exhibit this behavior.

Clothing Consumption Process

Winakor (1969) described clothing consumption as the "process of acquiring, storing, using, maintaining, and discarding clothing" (p. 629). Consumption in this sense is not limited to the traditional concept of purchasing clothes in the market but includes the entire range of activities which individuals undertake in relation to clothing. Figure 1 depicts Winakor's clothing consumption process for a single individual. The model consists of three main parts: acquisition, inventory, and discard. Acquisition is the flow which occurs intermittently whenever a person gains possession of a garment. Garments for permanent ownership may be obtained by purchase, gift (including handing-down), home construction, making-over, exchange, or as payment. Methods of acquiring clothing for temporary possession include borrowing and renting. Both permanent and temporary clothing may be new or used.

Inventory represents the stock of clothing owned by an individual and available for fairly regular use (wear). Apparel items needing care or maintenance (e.g., cleaning, remodeling, repairing) are also part of inventory if the owner intends to wear them once the maintenance function has been completed. Garments which the individual retains but does not plan to wear again are in inactive storage, a limbo-like stage between inventory and discard. Discard, like acquisition, is also a flow which occurs when garments leave the owner's possession. Disposal methods include selling, abandoning, making over, using as rags, throwing away, exchanging, and handing-down. The precise moment of discard is often

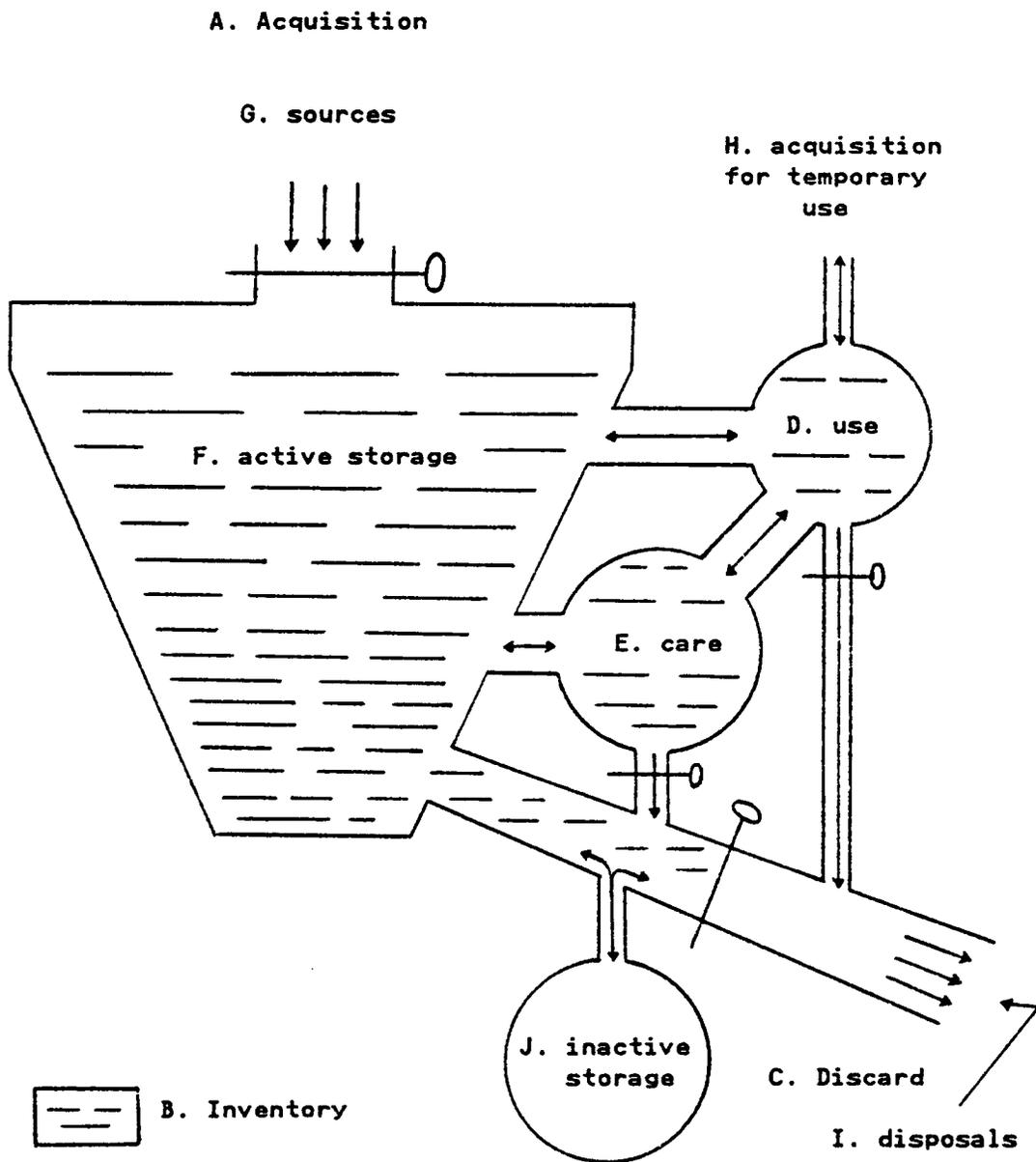


Figure 1. Clothing consumption model.
 From "The Process of Clothing Consumption" by G. Winakor, 1969, Journal of Home Economics, 61(8), p.630. Copyright 1969 by the American Home Economics Association. Reprinted by permission.

harder to determine than the moment of acquisition because acquisitions tend to be more memorable. In addition, a garment may become part of inactive inventory unexpectedly or without a conscious decision from the owner. The present study will concentrate on specific aspects of clothing acquisition and discard as they relate to garment waste. Inventory and all that it encompasses (active storage, use, care) will be discussed only in relation to the acquisition and discard processes.

Clothing Waste

Waste can be thought of as the inefficient use of resources. This broad concept is applicable to waste associated with clothing throughout the production, distribution, and consumption processes. In fact every aspect of clothing is a potential source of waste. Table 4 illustrates the range of factors that could be related to waste. Whether the factor is considered a resource or an output depends on the individual or unit making the assessment and the time at which the observation was made.

Often the assumption is made that resources or outputs are strictly tangible substances, e.g., natural resources or material goods. However they also can be intangible entities such as time or psychological satisfaction. Time is rapidly becoming one of the most valuable resources in our society (Becker, 1965; Lazer, 1969; Nicosia & Mayer, 1976). The importance of psychological needs is also receiving more attention. Scitovsky (1976) discussed the human desire for novelty, pleasure, comfort, and maintaining habits as well as the need for freedom from care

Table 4

Potential Sources of Waste Associated with Clothing

Sources

Production and Distribution

Human time and energy
Energy (production, disposal, transportation)
Water
Related materials (finishes, dyes, etc.)
Equipment
Products (fiber, yarn, fabric, clothing)

Consumption

Clothing (inactive, disposal)
Space (household, other storage areas)
Energy (ironing, cleaning, sewing, shopping)
Materials (detergent, sewing supplies, equipment)
Water
Human time and energy of service personnel (sales clerks, cleaners, equipment repairpersons)
Consumer time (care, shopping, disposing, storing, sewing)
Psychological factors (pleasure, confidence, comfort, convenience)
Sociological factors (improved market based on discriminating consumers, psychological pleasure of others from wearer's appearance, and better environment because of less solid waste)

and bother. In his view, individual decisions regarding resource use affect society as a whole. An obvious example is the environmental effect of personal disposal practices. Less obvious is the pleasure observers derive from the attractive appearance of another person or the beneficial collective effect of careful shoppers. By practicing discriminating shopping behavior, consumers pressure producers and marketers to be attentive to their demands thereby improving market competitiveness and benefiting all consumers. Such societal benefits are lost, however, if people attempt to avoid "care" and "bother" by not taking the time to dress attractively or shop carefully.

Waste reduction or elimination occurs when consumers receive the maximum value from their particular stock of resources. VeVerka (1974) referred to the benefits derived from clothing as use-value. Use of resources also results in costs to the consumer. Burk (1968) defines waste as the "costs incurred through reductions in value or costs of replacement as opposed to alternative costs of efforts to reduce such wastes" (p. 144). Thus another way of considering waste in clothing consumption is to examine the costs incurred in the process. Such costs include time, money, opportunities foregone, and external effects (VeVerka). Since total waste is minimized when costs of consumption are lowest, it seems logical that the greater the margin between a garment's use-value and its consumption costs, the less total waste will occur.

Most research on clothing waste has had a narrower focus than the broad concept of waste described above. For example, Sherrill (1949)

described "economic waste" in clothing as the failure of consumers to receive the maximum satisfactory wear from their clothes. Other definitions include the following:

Economic waste is "present when an item of wearing apparel is discarded which still has either years or seasons of usefulness and thus retains its physical utility" (Lapitsky, 1952, p. 5).

Waste can occur when garments are discarded or placed in inactive storage before they are worn out (VeVerka, 1974, p. 14).

Waste occurs when garments are "left hanging in the closet or discarded before they wear out" (Margerum, Walker, & Kernaleguen, 1977, p. 40).

Thus the emphasis in clothing research has been on waste from underutilization and premature disposal.

Several studies indicated that clothing inactivity was fairly extensive, with as much as one-third of an entire wardrobe receiving infrequent wear (Bradlyn, 1965; Fratzke, 1976; Grieg, 1975; Lapitsky, 1952; Otis, 1958). Actual discard of clothing still in usable condition was also widespread. Avery (1967) determined that 59% of the garments discarded by respondents had "much wear" left in them.

Demographic profiles of wasteful apparel consumers have been difficult to establish since most studies used homogeneous samples (e.g., college students) or did not analyze waste in relation to demographic variables. In addition, research findings were often contradictory. For example, age was not a significant factor in clothing waste according to Lapitsky (1952) and Grieg (1975). Yet Bradlyn (1965) and Boyle (1965)

found that younger women had more inactive garments than older women. Lapitsky and Bradlyn discovered no relation between income and clothing waste or disuse. Grieg determined that individuals with high incomes had a larger percentage of infrequently worn coats but did not differ from low-income persons in other apparel categories. Other findings (Boyle) revealed that women with higher family incomes discarded more clothing. When compared to lower socioeconomic levels, women in the upper levels kept clothing longer (Avery, 1967; Short, 1963) but did not differ in the number of infrequently worn garments (Grieg).

The reasons for inactivity or disposal of garments are summarized as follows (Boyle, 1965; Grieg, 1975; Kelly, Geiger, & Bailey, 1975b; Lapitsky, 1952; Otis, 1958; Sherrill, 1949; VeVerka, 1974):

fashion obsolescence	wardrobe incompatibility
garment damage	housing (storage) constraints
unattractive appearance of garment	change in preference (dislike, tired of)
poor selection skills	advanced age of garment
excessive maintenance requirements	poor construction/repair skills
unacceptable garment source	few opportunities for wear

VeVerka pointed out that discards which are subsequently acquired by others may represent a waste to the former owner but a savings to the new owner. Some of the factors contributing to clothing waste are discussed in subsequent sections.

Method of disposal. Jacoby et al. (1977) developed a taxonomy for consumer disposition behavior (Figure 2). Three choices are available to consumers when they dispose of a product: keep the product, permanently dispose of it, or temporarily dispose of it. If they keep the product, they can: use it for its original purpose, convert it to serve a new purpose, or store it. If they dispose of it permanently, they have four options: throw it away or abandon it, give it away, trade it, or sell it. Finally, if they choose to get rid of it temporarily, they may: loan it or rent it. Additional subdivisions of these alternatives can be delineated. For example, when a product is traded, sold, or given away, it may be used by the recipient or resold. Products may be sold directly to another consumer, to a middleman, or through a middleman.

As shown in Figure 3, the disposition options which they suggested can be incorporated readily into the consumption model proposed by Winakor (1969) and revised by VeVerka (1974). In keeping with Winakor's description, the model refers to the consumption process of one individual. The consumer who wishes to retain a garment may keep it in active storage for use in its original state or may, after remodeling (care, maintenance), wear it in an altered state. In either case it remains part of the person's clothing inventory. Garments that are loaned or rented are considered temporarily discarded but may be returned to any other stage in the consumption process, i.e., storage, use, and care.

Permanent disposal takes place when the consumer permanently relinquishes possession of the garment as an item of apparel for personal use.

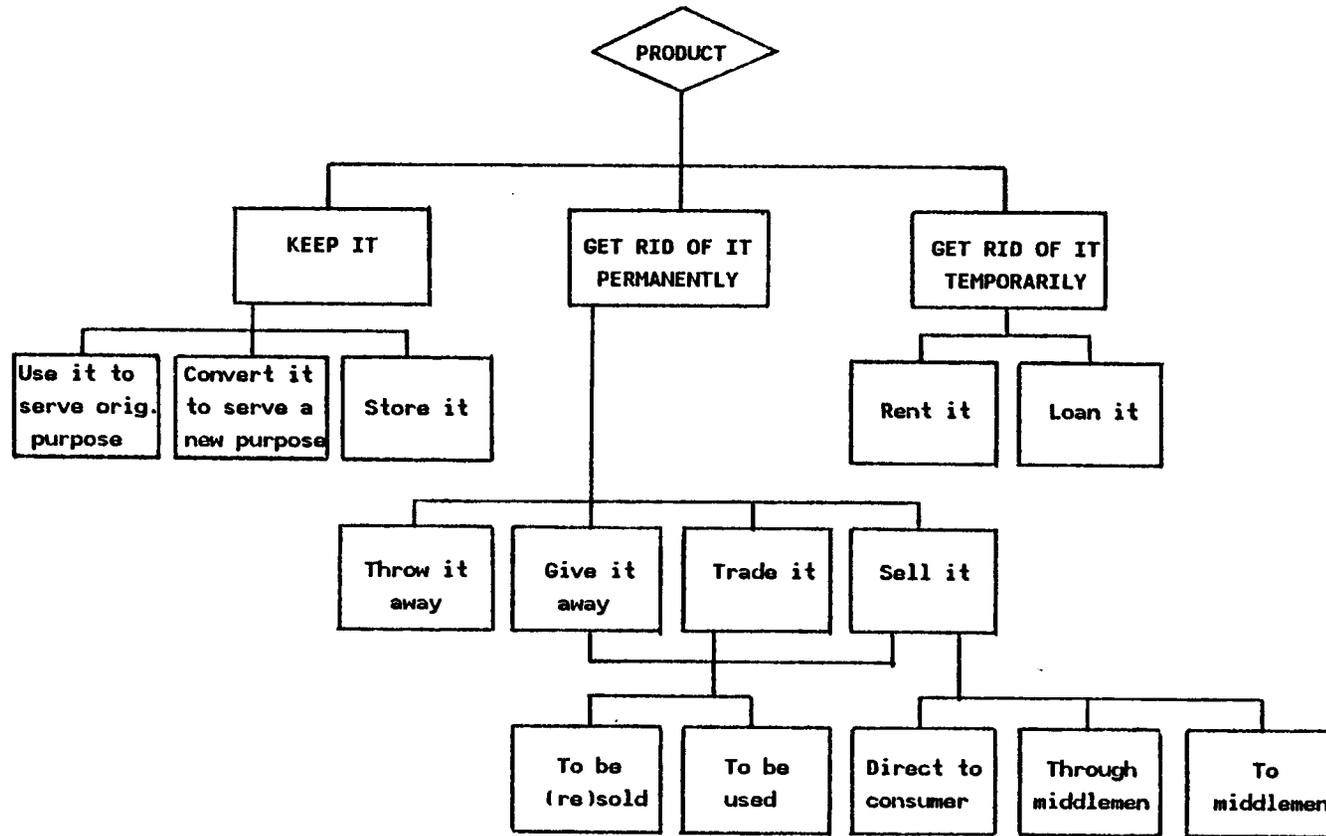


Figure 2. Disposition decision taxonomy.
 From "What About Disposition?" by J. Jacoby, C. K. Berning, and T. F. Dietvorst, 1977, *Journal of Marketing*, 41(2), p. 23. Copyright by American Marketing Association. Reprinted by permission.

A. Acquisition

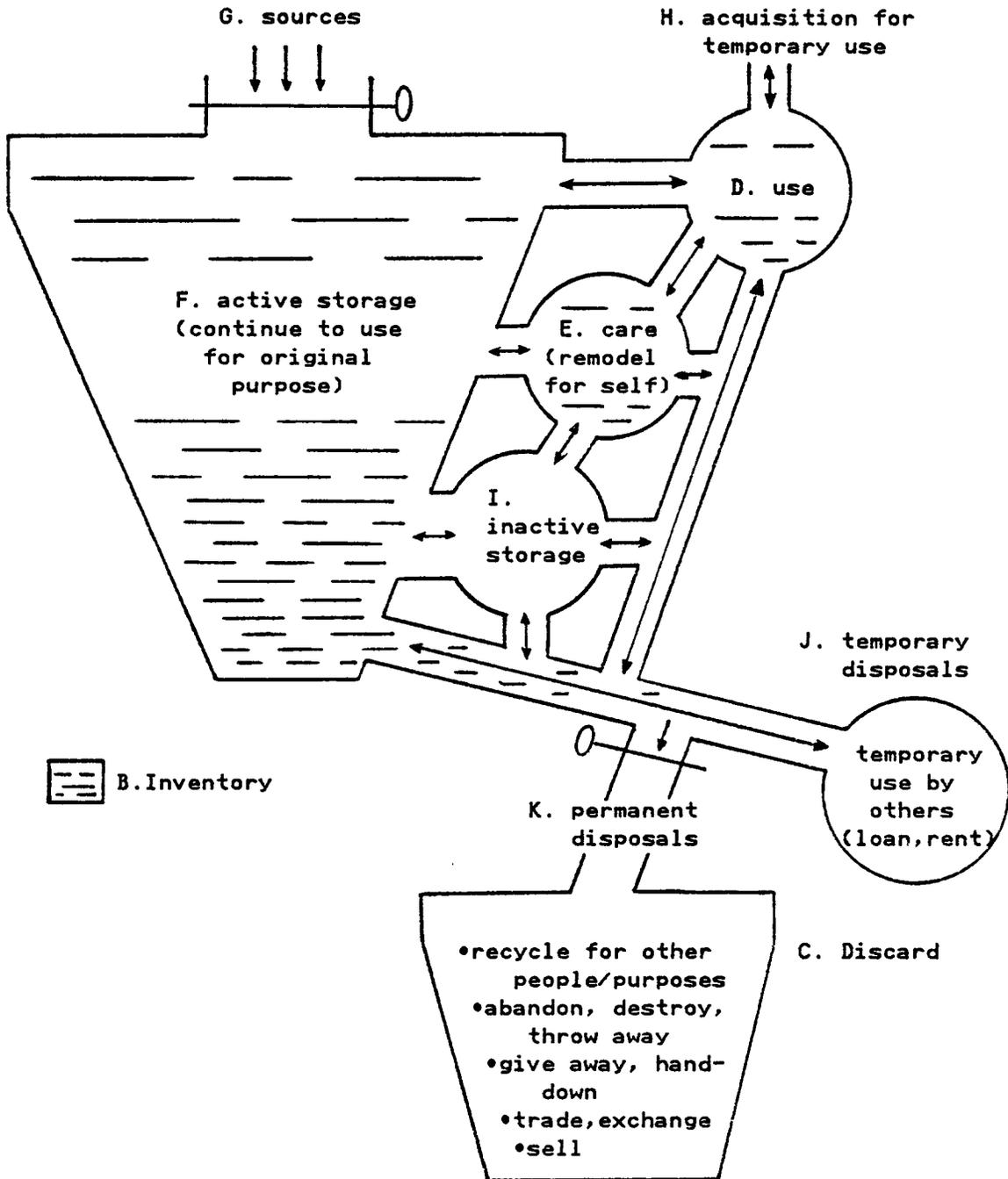


Figure 3. Clothing consumption model with disposal options.

If the garment is "made over" for someone else to wear (e.g., adult clothing altered to fit a child) or if the clothing item is converted into a product which will not be worn (e.g., rags), then permanent disposal of the garment has taken place. Methods of permanent disposal include:

1. Throwing away, abandoning, destroying
2. Giving away - to charity, friends, family (includes handing-down)
3. Trading or exchanging
4. Selling - at flea markets, garage and rummage sales, or to family or friends
5. Remodeling for other people or purposes - rags, patches, childrens' clothes, quilts, rugs, etc.

In terms of solid waste, throwing away or destroying clothing is the most wasteful method of permanent discard since no one receives further use from it. The clothing literature revealed that this method, while seldom the most common, is fairly widespread. In Sherrill's (1949) study, garments were most often disposed of by giving them away, followed by selling, using around the house, and destroying. Lapitsky's (1952) results were similar; 99% of the respondents gave clothing away and 8% either destroyed it or kept it for household use. Pershing (1974) found that 89% of her sample of male professors donated discarded items to charity, 32% threw them away, and 2% burned them. Throwing clothes away was most prevalent in the 41-50 age group.

Avery's (1967) findings showed that slacks and shoes were most often discarded by throwing them out while other clothing articles were usually given to charity. For both upper and lower economic groups, the major form of disposal was donation to charity. Members of the lower economic group threw more garments away, perhaps because they were forced to purchase cheaper, less durable garments at the outset. Avery concluded that the discard method varies according to the type of garment, treatment of the garment, and the socioeconomic level of the respondent.

Fratzke (1976) determined that older respondents were more likely to discard clothing by giving it to another family and 26-35 year olds were more prone to throw out clothing. Women who engaged in outdoor activities gave more clothing to other families than did the less active women, and respondents who did not work outside the home threw away more clothing than those who were employed. As compared to nonparticipants, individuals involved in group activities gave more to churches or charities, sold more at garage and rummage sales, and used more fabric from old clothing for other purposes.

The foregoing studies indicate that throwing away or destroying clothing is not uncommon. Although generalizations are difficult to make, it appears that these disposal methods are chosen more often by people in lower socioeconomic levels who are not involved in many activities outside the home and therefore not exposed to alternate discard options as frequently as others.

Fashion. Fashion has been cited as the villain in much of clothing waste. As early as 1912, Veblen singled out dress as the epitome of both conspicuous waste and conspicuous leisure, which could be considered waste of human resources. He observed that the commercial value of goods is determined more by fashionableness than serviceability. Similarly, Sapir (cited in Sproles, 1981) noted that the "charge of economic waste which is often leveled against fashion has had little or no effect on the public mind. Waste seems to be of no concern where values are to be considered, particularly when these values are both egoistic and unconscious" (p. 26). Gregory (1948) was one of the chief critics of fashion. Although he acknowledged the need for novelty, he felt that a slow evolution in style is the best reflection of true human wants. Rapid fashion change only fosters a high rate of obsolescence inducing people to replace clothes frequently and diverting their attention from price and quality considerations. When styles change quickly, consumers cannot anticipate and therefore must spend more time and effort in selecting wardrobe items. Packard's book (1960) on waste in the United States acknowledged the women's fashion field as the leader in "planned obsolescence of desirability." In his view, the industry was so successful at planned obsolescence that "only those women in the very lowest and very highest social classes in the United States have actually come close to wearing out their dresses...." (p. 71). More recently, Margerum et al. (1977) observed that American consumers still consider fashion in clothing much more important than durability.

This preoccupation with fashion is substantiated to some extent in clothing acquisition and discard studies. Some studies cited style or fashion as the primary reason for selection of a new garment (Gilmore & Rosencranz, 1961; Rosencranz, 1958). However, others found economy (Richards & Hawthorne, 1971), fit (O'Brien, 1970; O'Connor, 1967), comfort (Richards & Hawthorne; Sproles & Geistfeld, 1978), and price (Martin, 1971-72; Otis, 1958) to be more important than style. Even in the used clothing market, the influence of fashion is felt. In a survey of thrift shop patrons, 8% said "fashionable clothes" were the most important factor in deciding to shop for clothing at a secondhand store (Rucker, 1981). Margerum's (1981) research revealed that prices for men's used suits were determined principally by fashionableness.

Poor fit was often offered as the main reason for discarding apparel, with outdated fashion named much less frequently (Avery, 1967; Boyle, 1965; Fratzke, 1976; VeVerka, 1974). However, Pinard (1974) found that loss of fashion value was responsible for 44% of clothing discards while poor fit accounted for only 11%. Watson (1974) also determined that discards for loss of fashion value and loss of durability were greater than those for poor fit. Another interesting discovery from Pinard's research is the variance between expressed reasons for garment dissatisfaction and those for actual discard. Prior to discarding garments, most subjects said that their dissatisfaction stemmed from the garments' physical shortcomings, but when these garments were actually discarded, the reasons given were more often related to socio-psychological factors. Subjects may have been trying to rationalize their dislike for these

garments by offering reasons which coincided with their attitudes about waste.

Fashion conscious individuals have been referred to as fashion leaders, innovators, innovative-communicators, and change agents among others. Regardless of the terminology, fashion leaders tend to have similar characteristics. Some of the personality traits found to be associated with innovators are the following (Baumgarten, 1975; Greeno, Sommers, & Kernan, 1973; King & Sproles, 1973; Pasnak & Ayers, 1969; Schrank & Gilmore, 1973; Summers, 1970):

- Gregariousness
- Leadership
- Attention seeking (exhibitionism)
- Self-confidence (self-acceptance, secure)
- Narcissism
- Nonindividualism (conformity)
- Present-oriented
- Activism (competitiveness, venturesomeness, assertiveness, impulsiveness)

It is interesting to note that fashion leaders generally displayed a nonindividualistic personality rather than the nonconformist nature one might expect. Agreement on the above factors was not unanimous however. Baumgarten (1975) discerned no difference between innovative and noninnovative communicators in emotionalism, likeability, responsibility, intelligence, assertiveness, leadership, tenseness, aloofness, competitiveness, self-confidence, and individualism. The fact that his sample was composed of men rather than women may partially explain the lack of agreement between his results and those of others. Although many

fashion opinion leaders are venturesome, Summers (1970) asserted that this was not an essential trait since 22% of the leaders in his survey preferred classic fashions over more current styles. Fashion innovators and noninnovators were also found to be similar in their attitudes toward conformity (Schrank & Gilmore, 1973).

On the whole, demographics have not been especially good predictors of innovative individuals. In fact, fashion leaders have been found at all socioeconomic levels (Baumgarten, 1975; Sproles, 1979; Summers, 1970). This appears to be true in the realm of used clothing as well. In a study of persons shopping for used clothing, fashion innovativeness was found to be unrelated to sex, age, employment, family composition, number of children, and income level (Richardson, 1981).

Unlike the fashion conscious consumer, there is little empirical data concerning the buyer of classic fashions. Several definitions of classic styles have been advanced:

Designs, once fashion, held on past their time due to utility of function (Anspach, 1961, p. 428)

Basic styles that have received acceptance for a long time (Sproles, 1979, p. 16)

Time tested fashion that stays in popular favor over considerable periods of time (Hoffman, 1956, p. 222)

Fashion that stays in popular favor over considerable periods of time (Otis, 1958, p. 6)

Anspach described a use-oriented clothing consumer who emphasized wear and comfort and favored classic or truly artistic designs. This individual was in the middle status levels of society and had limited imagination, restricted emotions, and a desire for conformity. A somewhat different picture was painted by Wasson (1968) who conceptualized the buyer of classics as one who had little need for complete conformity. This consumer did not have a strong drive for new experiences, but desired core function attributes and realized that compromise was sometimes necessary. Altpeter (1963) studied the relationship between consumer clothing purchases and values and ascertained that women with high economic value scores purchased traditional styles more often than those with lower scores. The economic clothing value was defined as the desire for comfort and conservation with regard to clothing usage and selection.

Multipurpose garments. As Britton (1968) observed, multipurpose garments have several advantages. A major advantage is that they are not limited to a single activity but can be worn for various activities, e.g., school, church, recreation, and shopping. Alternately, if garments can be readily demoted from dress-up to work and finally to casual occasions, they can have multiple uses through time. Conceivably, more use would be made of such garments, and therefore less waste would exist in the clothing consumption process.

Joyce (1966) ascertained that individuals at different income levels tended to purchase different types of clothes for their children. Middle-income consumers bought more combinations of clothing (e.g., play

and school dress). Upper income individuals spent more on playwear, and lower income individuals spent more on school clothes. In a study of married women's wardrobes, Hawes and Gilmore (1967) found that 55% of all garments were acquired for all-purpose wear, 35% for dress-up, and 10% for work. On the other hand, frequency of wear was almost always greater for work clothing than for all-purpose or dress-up attire, a fact which is somewhat surprising given the greater number of opportunities available for wearing all-purpose garments.

Clothing versatility, although not always well defined, has been measured by some researchers. O'Brien (1970) found that versatility as a reason for purchase depended on the type of garment under consideration. It was ranked as the fifth (out of 15) most important reason for buying handbags, eighth for outerwear, ninth for shoes, and tenth for hosiery. Otis (1958) described versatility as the ease with which an item of wearing apparel could be combined with other garments. When used in this sense, the term is not synonymous with multipurpose but is at least a related concept. A majority of the participants in the Otis survey (52%) considered versatility at the time of garment purchase; 60% had refused to wear clothing because it lacked versatility.

Many consumers select specific portions of their wardrobes for occasional use only. However, like Hawes and Gilmore (1967), both Smith (1974) and Kelley et al. (1975a) found that the majority of individuals often chose clothing that was suitable for several occasions. Three-fourths of Smith's sample of professional black women selected a single

standard style purse rather than several purses to coordinate with each outfit. Adolescents in the Kelley study seldom wore outfits only to school, although 54% did own some single-purpose garments for school, church, parties, play after school, and "hanging around the house."

In summary, it seems that the majority of consumers purchases multipurpose garments more often than single-purpose clothes. Although greater wear is usually anticipated from all-purpose apparel, such may not always be the case (Hawes & Gilmore, 1967). Much depends on the frequency with which the particular purpose arises. Also, if single-purpose garments can be readily demoted from more formal to less formal use, they may receive more wear than some multipurpose items.

Secondhand clothing. Researchers have found that consumers, even in the lower socioeconomic levels, acquire most of their clothing by purchasing it new (Avery, 1967; Brew, O'Leary, & Dean, 1956; Britton, 1975; Fitzsimmons & Perkins, 1947; Kelley, Daigle, LaFleur, & Wilson, 1973; Winakor, 1969). In contrast, secondhand purchases usually represent only a minor source of clothing for most individuals and families. Brew et al. studied 923 families and discovered that the amount of secondhand clothing purchased was negligible. Avery's study found that used garments represented no more than 10% of the clothing purchases of homemakers, and those who bought used clothing were generally from the lower socioeconomic levels. Only 1% of the upper class homemakers purchased used clothing as opposed to 10% of the lower class homemakers.

Peters (1968) and Manoushagian (1977) also found that lower income families were the major buyers of secondhand apparel.

Current indications are that the used clothing market is no longer confined to the lower classes. In one study, 20% of the buyers of secondhand clothing were white collar workers (Margerum, 1978). Although students with projected annual incomes over \$20,000 had more negative attitudes toward used clothing, their actual use of secondhand clothing did not differ from that of students with lower projected incomes (Hinton & Margerum, 1984). The largest proportion of secondhand store patrons in Richardson's (1981) survey had yearly incomes of over \$17,000 while the most unfavorable reactions to used clothing came from shoppers in the lowest income range. Thrift shops and the like are increasingly patronized by businesspeople and professionals, many of whom could afford full-price apparel ("Chic Comes", 1981).

Factors which affect the appeal of various clothing sources have been delineated by Winakor (1969): the particular time, place, economic and social circumstances, and individual characteristics. With regard to secondhand clothing, saving money was usually the principal reason for purchase, and there was a definite limit on the price people were willing to pay for items that were not new. Secondary reasons often centered around a need for novelty, e.g., rebellion against convention, curiosity, relief from boredom, desire for variety, and shopping excitement or enjoyment ("Chic Comes", 1981; Margerum, 1978, 1981; Richardson, 1981; Rucker, 1981; Winakor & Martin, 1963).

Much of the reluctance to buy previously worn garments stems from the stigma attached to used goods (Margerum, 1978). Aversion to used clothing may relate to how close to the skin an article of apparel is worn. One study determined that consumers were least interested in used clothing that was likely to come in close contact with the body (O'Reilly, Rucker, Hughes, Gorang, & Hand, 1984). Peters (1968) decided that it was not the use of secondhand clothes that was distasteful but the purchase of them. In the 1973 study conducted by Kelley et al., adolescents strongly preferred new clothing, but 65-75% said they "sometimes" or "always" liked used clothes. Most of their secondhand clothes were gifts, not purchases, however.

Manoushagian's (1977) respondents gave the following reasons for not buying used clothing: alterations too involved, out of date, not sanitary, and no economic reason. With respect to personal sales, the reasons were: nothing in my size, prefer not to purchase used clothes, clothes not in fashion, and prices too high (O'Reilly et al., 1984). In Rucker's (1981) study, subjects shunned secondhand apparel because they: preferred to make their own clothes, needed special sizes, lacked exposure to used clothing, and disliked wearing other people's clothes. She concluded that "the major deterrent to recycling of clothing seems to be attitudinal" (p. 221).

The unfavorable image of secondhand apparel appears to be disappearing ("Chic Comes", 1981). In fact, for some consumers, shopping in a used clothing store represents the adoption of a new "fashionable" idea;

an idea which may offer at least a partial solution to the clothing waste problem. By purchasing used clothing, consumers can conserve resources and yet still satisfy their need for novelty and variety (Richardson, 1981).

In their study of a second-order marketing system, O'Reilly et al. (1984) investigated the relationship of psychological and situational variables to patronage of personal sales and purchase of clothing at such sales. Three methods of data collection were used: telephone survey of local residents, questionnaire survey of sale patrons, and observations of sale merchandise. For telephone respondents, marital status was the only variable that differentiated between patrons and nonpatrons, i.e., more married subjects were patrons. When compared to nonpurchasers, purchasers in the telephone group were more often female and married. They also had more children. The questionnaire respondents who purchased clothing at personal sales were more often students, had higher status occupations and more children, attended more sales during the previous year, and were older than nonpurchasers.

Analytical buying. Pennock and Jaeger (1964) postulated that "the greater the care taken in the selection of an item with a view to its meeting the needs of the purchaser, the greater the likelihood that it would fill those needs and so be continued in use as long as possible" (p. 25). Careful shopping then probably has as much to do with discard as it does with acquisition. Consumers dissatisfied with their purchases will tend to discard them more quickly. Many of the reasons given for

discard reflect poor selection or planning on the part of the consumer, e.g., poor fit, unbecoming style, or lack of harmony with rest of the wardrobe.

Otis (1958) found that a great deal of economic waste occurred because of discrepancies between consumers' considerations at the time of purchase and during actual use. The most important discrepancies were (1) ease of care, (2) versatility of color (didn't harmonize with wardrobe), and (3) occasion for use (anticipated occasions never realized). Sherrill's (1949) research revealed that the most inexperienced shoppers were responsible for the greatest amount of waste.

To minimize waste, consumers must develop shopping skills which allow them to analyze the social, psychological, and physical aspects of clothing. Knowledge of a garment's workmanship, fabric, and expected fashion life as well as its suitability for the consumer's personality and life style are important skills for discriminating shoppers (Britton, 1968; Margerum, 1981). Unfortunately consumer evaluation of the performance characteristics of clothing is often hampered by inadequate seller-provided information. The problem is even more acute with used clothing since, in many cases, size, fiber content, and care instructions are absent altogether.

Burns (1964) developed a 7-section measure of analytical buying behavior which included awareness of merchandise availability, awareness of price-quality relations, purchase planning, esthetic awareness, qual-

ity awareness, awareness of social needs, and resources used. She determined that high education and socioeconomic levels were associated with a high degree of analytical buying. Low socioeconomic and education levels were related to high economic value scores and low analytical buying. Apparently individuals in the lower levels were interested in economy but did not have the skills or knowledge to apply their interest in a shopping situation.

Degree of analysis in clothing acquisition was also examined by B. A. Walker (1967). Her sample was composed of 49 married women who were predominantly middle-aged (36-45) and from middle socioeconomic levels. Five variables were used to measure degree of analysis:

1. Breadth of stores in which respondent looked for clothing
2. Knowledge of selected relations among price, quality, and fashion levels
3. Awareness of selected esthetic and physical factors related to self
4. Knowledge of fibers, fabrics, construction, and brands
5. Planning for clothing purchases and use of resources to meet social and physical needs

The following variables were found to be positively related to the degree of analysis used in shopping:

1. Education
2. Social involvement (higher for informal groups than formal organizations)
3. Socioeconomic status of husband
4. Confidence and satisfaction with clothing purchases
5. Level of fashion interest
6. Experience and training in clothing and textiles

Wardrobe planning is an essential feature of buying analysis and a topic on which several studies have been conducted. Careful planning tends to increase satisfaction derived from garments and confines acquisition to the more essential clothing articles. Thus premature discards and impulse buying are reduced. According to Ryan (1966) much of the early clothing literature on impulse buying lacked validity because of improper use of the term "impulse." She maintained that many "unplanned" clothing purchases were not truly impulse actions because they were made by persons who had been searching for some time. In the field of marketing, a four-way definition of impulse purchase encompasses not only "pure impulse" buying but "reminder impulse," "suggestion impulse," and "planned impulse" purchases as well (Stern, cited in Williams, 1982, p. 44). Impulse buying without prior planning or search, can be wasteful if it does not channel resources where they are most needed. Consumers may reduce waste by planning beforehand, shopping around for items, and avoiding impulse purchases that do not fit their plan (Britton, 1968).

O'Brien (1970) studied the clothing practices of 55 secretarial trainees from predominantly lower socioeconomic levels. The majority engaged in wardrobe planning and considered the following factors either "frequently" or "always" in their plans:

1. Relationship of outerwear items to each other
2. Relationship of accessories to each other
3. Relationship of outerwear to accessories
4. Anticipated occasions for wear
5. Relationship of current fashion to present wardrobe needs
6. Specific items, designs, textures, and fabrics to be added

Another study by Francis (1971) compared the clothing behavior of 50 mothers and their college-age daughters. These families were generally in the middle to upper socioeconomic levels and had heads of household in the highest occupational status categories. Despite the differences in background between this sample and the previous one, the findings were similar. Most mothers (39/50) and daughters (27/50) thought about their wardrobes as a whole and considered the following factors in planning:

1. Relationship of garments to each other (frequently)
2. Occasions planned for wear (frequently)
3. Relationship of fashion forecasts to present wardrobe needs (occasionally or frequently)

Smith (1974) investigated wardrobe planning of professional black women from the highest social classes. The majority enjoyed wardrobe planning and felt it provided a better selection and saved time and money. Few women made frequent impulse purchases. Wardrobe planning was unrelated to education, occupation, age, and family responsibility.

In their study on lower income adolescents, Kelley et al. (1975a) found that youths also engaged in planning. Most of the 196 eighth graders "sometimes" or "most of the time" evaluated their current wardrobes, bought multiple purpose garments, and planned for occasions they might attend. Unplanned purchases resulted from impulse buying, unexpected special occasions, or appealing advertisements. Before making purchases, adolescents considered such factors as fit, cost, construction, and color. Few bought unbecoming clothes simply because they were popular.

In the secondhand clothing market, one might expect more impulse shopping. Chance encounters with neighborhood garage sales or short-lived bargains would seem to foster impulsive actions. O'Reilly et al. (1984) found however, that planned trips to personal sales were far more common than unplanned visits and that heavy users of personal markets engaged in more advanced planning than light users.

In summary, conserving resources "may mean that we have to use more of our own time and energy, acquire more knowledge and skills, and simplify our standards" (Britton, 1974, p. 20). It appears that many con-

sumers at various socioeconomic levels are willing to engage in some wardrobe planning and keep impulse buying to a minimum. In the clothing realm, some people may have entered the transition period between the industrial age, where consumers know little about their market products, and the postindustrial age in which the primary concern will be "efficient and responsible consumption" (Stampfl, 1978). This trend seems to indicate that changes in consumer values are taking place.

Values. Ryan (1966) referred to values as "fundamental beliefs and feelings that include or direct...specific attitudes and interests" (p. 98). Lapitsky (1961) defined clothing values as "wishes, desires, interests, motives or goals which an individual considers worthwhile and thus are major determinants of attitudes and behavior in relation to clothing choices and usage" (p. 3). Fishbein's attitude-behavior model does not address values per se. However, it was his contention that values imply bipolar evaluation (feeling) and thus can be considered similar to attitudes (Fishbein & Ajzen, 1975).

Much of the research relating clothing to values used the Allport-Vernon-Lindzey (AVL) (1951) test derived from Spranger's (1928/1966) six types of man: theoretical, economic, esthetic, social, political, religious. The corresponding clothing values varied somewhat among researchers. Although individuals possess a conglomeration of interrelated values, the economic and social values are of particular interest in the present study. Hartmann (1949) theorized that Spranger's economic man, whose predominant concern was practicality and usefulness, might corre-

spond to a clothing consumer who emphasized shrewd purchases and eliminated all waste. The social man, according to Spranger, stressed love of people and selflessness. Hartmann's clothing-oriented equivalent was an individual who was conscientious and disturbed by rags versus riches.

Other clothing values have been related to Spranger's general values. Lapitsky (1961) defined the economic clothing value as the "desire for comfort in clothing and for the conservation of time, energy, and money in relation to clothing usage or selection" (p. 4). The social I value was considered an "expression of regard for fellow beings through clothing behavior" (p. 4), and the esthetic value was "the desire for, appreciation of, or concern with beauty in clothing" (p. 3). Lapitsky's findings indicated that the esthetic and economic values were considered to be the most important values in relation to clothing and the social I value was least important.

Using the Lapitsky clothing measure, Altpeter (1963) also found that the economic and esthetic clothing values were the most significant values to respondents; once again social was the least important. In a group of young married women, above-average scores on the economic value were associated with buying traditional styles, examining seams before buying, and having little interest in clothes or shopping for them. The social I value was negatively related to the importance of beauty and fit in dress and unrelated to deliberating before buying, considering labels, examining seams, and trying on before purchase.

Esthetic, economic, and social (desire for social approval) values were the three most important ones to Gilgo's (1962) sample of sorority and independent college women. Burns' (1964) highest ranking clothing value was economic and the lowest was social I. Predictably, esthetic value scores increased with higher levels of education and socioeconomic status. The expected association between the economic value and analysis in purchasing clothes was not confirmed by the findings.

Slocum (1975) found that esthetic was the highest ranked clothing value, and economic value ranked only fourth. As a result of factor analysis, "lack of interest in clothing as a source of prestige or experimentation" was coupled with the following factors: a practical concern for comfort, intellectual understanding, and conservation of time, energy, and money with respect to clothing. Accompanying goals indicated a desire for basic rather than unique styles, small inventory, and accepted fashions rather than less generally accepted ones. Higher economic value scores were significantly related to the desire for a small number of shoes worn more often, basic colors and styles of shoes, and inexpensive shoes. Lower economic value scores coincided with higher socioeconomic levels.

In the Creekmore study (1963) the AVL general values were related to several clothing behaviors and needs. The social (feeling of regard for others) and economic values were third and fourth respectively in importance. Altruistic use of clothing, defined as "consideration of others' welfare in the choice and use of clothing" (p. 10), did not show

any relationship to the social value as was expected. However, clothing altruism was positively related to the exploratory value (i.e., the desire to investigate, experiment, or satisfy one's curiosity) and the need for self-actualization, a trait found to be associated with socially conscious consumers. Another behavior, management of clothing, stressed those "processes concerned with buying, use, and care of clothing which result in an attempt to save time, energy, and money" (p. 10) and was positively related to the economic value.

Two other studies considered general values, as opposed to clothing values. O'Connor (1967) found the economic and exploratory values to be the most important to her sample. Her research also revealed no significant relation between the economic value and clothing management behavior. In N. P. Walker's (1968) study higher levels of self-actualization generally corresponded to higher expenditures on clothing, greater amounts of clothing purchased, more dressy garments, and higher prices paid for clothing. Both economic and social general values were negatively related to overall self-actualization. The most dominant values were religious and social.

In summary, there are two clothing values which appear to be related to waste and conservation: economic and social (regard for mankind). It should be noted that these two values roughly correspond to the aforementioned motivations behind socially conscious consumption, i.e., practicality and altruism. The economic value appears to be related to practicality and management of clothing. Logically, social value should

be related to altruistic use of clothing, although Creekmore (1963) did not find a relationship between clothing altruism and social value. Economic values seemed to be held by many consumers as evidenced by their frequent ranking as the first or second highest value in importance. However, these economically oriented people tended to be in the lower socioeconomic and educational levels and thus may have been acting out of necessity rather than conservation concern. Social values on the other hand were not strong factors in clothing consumption. Neither economic nor social values were related to self-actualization, a trait associated with the SRC.

Attitudes

Attitudes are a key element in understanding behavior, socially responsible or otherwise. As such, it behooves the researcher to gain some knowledge of the properties of attitudes and the relationship between attitudes and behavior. The remainder of the literature review is devoted to these issues.

Conceptualization of Attitude

The literature contains numerous definitions of the term "attitude" (Allport, 1935; DeFleur & Westie, 1963). Opinions, feelings, beliefs, motives, values, behaviors, intentions, perceptions, cognitions, emotions, habits, and dispositions have all been subsumed under the attitude label at one time or another. A few examples illustrate the point:

An attitude is a mental and neural state of readiness, organized through experience and exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is related (Allport, p. 810).

Attitude is the affect for or against a psychological object (Thurstone, 1931, p. 261).

Attitude is...an implicit, drive producing response considered socially significant in the individual's society (Doob, 1947, p. 136).

Attitudes are "relatively enduring organizations of feelings, beliefs, and behavior tendencies directed toward specific persons, issues, objects, or groups" (Baron & Byrne, 1984, p. 165).

Attitudes refer to the stands the individual upholds and cherishes about objects, issues, persons, groups, or institutions (Sherif, Sherif & Nebergall, 1965, p. 4).

An attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner (Rokeach, 1968, p. 112).

Although the list is short, it highlights some of the past and present controversies in attitude theory and the universal lack of definitional precision. The situation is similar to McGuire's (1968) description of attempts to differentiate attitudes and opinions as "a situation involving names in search of a distinction, rather than a distinction in search of a terminology" (p. 152).

Berkowitz (1972), a social psychologist, attempted to give some structure to the various definitions by aggregating them into three schools of thought:

1. Readiness to respond - in a specific way to an attitude object.

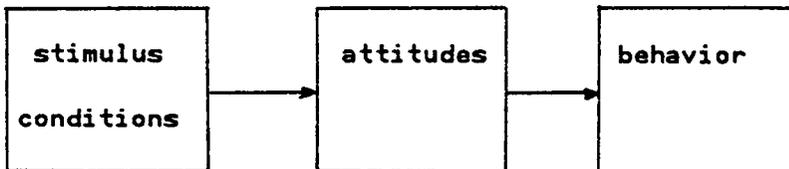
2. Evaluative or feeling reaction - favorableness or unfavorableness of feeling toward a phenomenon.
3. Constellation of cognitive, affective, and conative components - a combination of beliefs, feelings, and actions directed toward an object.

Proponents of the first school conceive of attitudes as a precondition of behavior or preparation for overt response (Allport, 1935; Bogardus, 1931; Cantril, 1934). This readiness can exist in various degrees from dormant habits to conscious tension and exert a directive influence on behavior. Another group holds that attitudes are affective or evaluative responses (Fishbein, 1966; Osgood, Suci, & Tannenbaum, 1957; Thurstone, 1931). Favorableness or unfavorableness toward some object represents a person's attitude about that object. Finally, a third group favors a tripartite conceptualization (Baron, & Byrne, 1984; Katz & Stotland, 1959; Krech, Crutchfield, & Ballachey, 1962; Rosenberg & Hovland, 1960). The affective component is combined with cognitive and behavioral components in a multifaceted phenomenon called attitude. The cognitive component refers to individuals' beliefs or knowledge about attitude objects and the behavioral component represents what they intend to do about their knowledge and feelings.

Attitudes are motivated by stimulus conditions (Fishbein & Ajzen, 1975; Rosenberg & Hovland, 1960) which can be any internal or external phenomenon related to the attitude object. For example, personality, physical ability, situational factors or other people act as stimuli.

Attitudes in turn can foster behavioral response, i.e., overt action. However, the correspondence between attitudes and behavior often is not one to one, which can make prediction of behavior a difficult task as will be discussed later.

A simple schematic diagram may serve to clarify the relationship between attitude, stimuli, and behavior:



Characteristics of Attitudes

Polarity

Polarity or direction refers to the positive or negative, favorable or unfavorable, character of an attitude. Theorists refer to the tendencies "for or against" and of "approach or avoidance." Allport (1935) stated that "this double polarity in the direction of attitudes is often regarded as their most distinctive feature" (p. 819). Given this bipolar property, the classification of neutral attitudes presents an obvious conceptual problem (Allport; Scott, 1968). Sherif and Sherif (1967) maintained that attitudes are seldom neutral. Scott contended that convention has dictated that attitude direction is considered as a single

bipolar attribute when in reality degree of favorableness and degree of unfavorableness could be distinct concepts present at varying levels and combinations within each individual. If "opposite" tendencies can be present simultaneously in the attitude construct, then the likelihood of ambivalence not only exists but increases as the tendencies become stronger and more equal.

Intensity

In general, the strength of or commitment to an attitude is its intensity (Cantril, 1946; Hartley & Hartley, 1952; Wasson, 1975). Attitudes may be very lightly held and easily changed or deeply ingrained in the subject's disposition. Hovland, Harvey, and Sherif (1957) proposed a measure of commitment or ego-involvement which is the ratio of the latitude of acceptance to the latitude of rejection. The latitude of acceptance is represented by the number of acceptable alternatives, and the latitude of rejection by the number of unacceptable alternatives. Commitment to an attitude is weak if the ratio of the two latitudes (acceptance/rejection) is large. In other words, the more acceptable alternatives that exist, the weaker the attitude commitment or strength.

Saliency

A salient attitude is one which is prominent or more readily expressed (Hartley & Hartley, 1952). Scott (1968) suggested that saliency may also be related to centrality (Krech & Crutchfeld, 1948) or the importance of

the attitude object to the individual. The more salient the attitude, the more likely it is to affect overt behavior (DeFleur & Westie, 1958) and the more enduring it tends to be.

Acquisition by Learning

Attitudes are not inherited, they must be developed (Fishbein & Ajzen, 1975; Rokeach, 1968; Sherif & Sherif, 1967). The consumer internalizes information from dispositional sources, e.g., needs, motives, personality, aspirations; and situational sources, e.g., friends, teachers, parents, and culture. There are several ways in which attitudes can be learned (Williams, 1982):

1. Exposure - Simple familiarity with the psychological object can lead to attitude formation. Maslow (1937) demonstrated this in an experiment in which subjects were repeatedly exposed to several paintings by well-known artists. When subjects were later shown different paintings, they usually preferred the familiar ones. In like manner, Krugman (1943) exposed classical music devotees to swing music and vice versa. At the end of eight weeks, both sets of music lovers had developed a favorable attitude toward the music they had previously shunned.

2. Conditioning - Individuals may formulate attitudes as a result of the environment surrounding the attitude-object or reinforcement from other individuals. Staats and Staats (1957) conducted experiments which showed that attitudes toward nonsense syllables may be classically conditioned by pairing them with words having evaluative meaning.
3. Observation - New attitudes may be established simply by watching the behavior of others (Campbell, 1963).
4. Information Processing/Problem Solving - As individuals use information to solve problems, they form attitudes based on the information they have available. Attitudes develop from the consumer's evaluation of the ability of the attitude object to provide desired benefits (Mitchell & Biglan, 1971).

Stability

Attitudes tend to be long lasting and without large variation in the short term (Rokeach, 1968; Sherif & Sherif, 1967). The extended time span usually necessary for attitude formation and change helps to differentiate whim from true attitude. Three determinants of attitude stability are confidence, involvement, and change in mood (Day, 1970). In general,

people who are involved, confident, and resistant to mood alterations with regard to an attitude object have corresponding attitudes which are relatively stable and enduring. Walters (1978) offered several reasons for attitude instability: (1) conflicts between attitudes, (2) situational variations, (3) the existence of multiple attitudes, and (4) traumatic experiences.

Consistency

Consistency theories are based on the notion that a person "tends to behave in ways that minimize the internal inconsistency among his interpersonal relationships, among his intrapersonal cognitions, or among his beliefs, feelings, and actions" (McGuire, 1966, p. 1). Once again there appears to be an overabundance of terms representing a single concept "consistency" (e.g., balance, congruity, symmetry, consonance), however most can be classified under one of three headings: balance theory, congruity theory, and cognitive dissonance theory (Suedfeld, 1971). The initial formulation of balance theory is normally attributed to Heider (1946) although other theorists have adopted similar assumptions of cognitive balance. The dynamic element of Heider's theory is the desire to maintain balance or harmony between cognitive elements, i.e., people, objects, events, and acts. Positive and negative sentiments toward these perceived units are brought into agreement or balance to eliminate the discomfort of contradictions in the individual's life space. Expansion and improvement of Heider's principle was undertaken by several subse-

quent investigators and theorists (Abelson & Rosenberg, 1958; Cartwright & Harary, 1956; Feather, 1967).

Osgood and Tannenbaum's congruity theory (1955) is really a special case of balance theory dealing specifically with situations involving acceptance of a communication (Kiesler, Collins, & Miller, 1969). In this theory, emphasis is on the intensity of the attitude and its relation to attitude change. The idea of cognitive dissonance was originally proposed by Festinger (1964) and later modified by others (Aronson, 1968; Brehm & Cohen, 1962). Dissonance, or inconsistency between cognitive elements, creates psychological tension which motivates a person not only to reduce the dissonance but also to avoid situations and information which would increase it.

Complexity

An individual striving for consistency and stability may simultaneously seek novelty and exploration (Berlyne, 1960; Fiske & Maddi, 1961; Fowler, 1965). McGuire (1966) termed these theories "complexity theories," and noted the unexpected peaceful coexistence of consistency and complexity theories within the field of psychology. Kiesler et al. (1969) maintained that the two theories need not be contradictory since individuals may desire consistency in their cognitive world while at the same time express curiosity or the need to explore.

Pepitone (1966) proposed several hypotheses for cognitive tension-seeking behavior. The idea of hitting one's head against a wall in order to enjoy the pleasure of stopping exemplifies motivation which seeks to "maximize the satisfaction from ultimate tension reduction" (p. 260). Alternately, individuals may strive for inconsistency to divert attention from deeper, more painful internal conflicts, or they may seek an optimal level of cognitive tension between total consistency and total inconsistency.

Relationship between Attitudes and Behavior

The interest in attitudes exhibited by social psychologists and more recently by market researchers reflects the unending search for explanations of individual behavioral differences. Thus, inconsistencies between attitudes and associated behaviors have given rise to considerable concern from researchers and those attempting to apply attitude-behavior concepts in practice.

The classic and widely-cited research conducted by sociologist LaPiere in 1934 was one of the first significant studies highlighting attitude-behavior inconsistency. LaPiere traveled cross-country with a Chinese couple and received service in nearly every motel and restaurant visited along the way. However, when he later wrote to the same proprietors asking if they would serve an Oriental couple, most stated that they would refuse to do so. Although LaPiere's methodology was criticized,

it sparked a reexamination of the concept of attitude and its relation to behavior.

Examples of attitude-behavior inconsistencies abound. In fact as Antil (1978) pointed out, it is easier to find studies which show a lack of correspondence between attitudes and behavior than to locate those which delineate a direct relationship (Ehrlich, 1969; Liska, 1974; McGuire, 1976; Tittle & Hill, 1967b). Nevertheless, investigation of the attitude-behavior link continues and rightly so. As Antil (1978) explained,

It is true that investigators have persisted in their beliefs about this relationship; however, this persistence is based upon firm convictions that the theoretical concept of attitude is useful and necessary to the behavioral sciences. No one can argue with the fact that even after 75 years of research, the exact relationship between attitudes and behavior has not been established, or for that matter proven to even exist. But this lack of success does not prove that the basic concepts are invalid (p. 48).

Factors associated with the interaction between attitudes and behavior are discussed in the following sections to provide a better understanding of that relationship and to furnish guidance for the development of an attitude measure.

Causal Relationships

Traditionally, attitudes were thought to precede overt behavior. A change in attitude fostered a corresponding change in behavior. However, Katz & Stotland (1959) explained that "nearly every phenomenon of an in-

dividual's social life which is influenced by another factor also has some influence upon that factor" (p. 425). Not surprisingly then, an opposing theory emerged claiming that behavior resulted in attitude change.

In reality, both viewpoints are valid depending on the circumstances (Bauer, 1968; Deutscher, 1966). For instance, direction of the causal relationship may depend on the individual's degree of involvement in the behavior of interest (Krugman, 1965). Involvement is defined as "the activation of extended problem-solving behavior when the act of purchase or consumption is seen by the decision maker as having high personal importance or relevance" (Engel & Blackwell, 1982, p. 24). High involvement may be fostered by situations which involve a great deal of risk or anxiety in either a social or economic sense. For example, the decision to purchase an item of clothing which the consumer feels is a direct reflection of self-image might lead to high involvement. Consumers also tend to be more involved in situations of considerable economic risk. Big-ticket items will typically prompt a greater degree of problem solving behavior than inexpensive items. Social pressure can lead to high involvement if the individual is motivated to conform to societal expectations. Finally, the permanence of a decision can also affect the individual's involvement. Irreversible decisions prompt more involvement than ones which are easily changed.

The extended problem solving inherent in high involvement decisions leads to the accumulation of new information which in turn affects the individual's evaluative criteria in beliefs, attitudes, and intentions.

These internal changes are followed by behavior change. Conversely, unimportant decisions are often made using current information which the individual already possesses. In this case, changes in beliefs, attitudes or intentions are the result of the decision already made, i.e., the behavior. Thus with high involvement, attitudes are thought to precede the relevant behavior. With low involvement, behavior often forms the attitude (Krugman, 1965).

Bem (1968) also conceded the possibility of a reversible causal sequence between attitudes and behavior. Individuals may form attitudes by drawing inferences from accompanying behaviors. To illustrate, when asked the question "Do you like brown bread?", the individual who responds with "I guess I do, I'm always eating it" is using overt behavior to formulate an attitude. Bem saw this self-perception (behavior-to-attitude) model as merely a reinterpretation of the cognitive dissonance studies. His own laboratory experiments lent further support to the model (Bem, 1965, 1966). However, he found weaker evidence favoring the attitude-to-behavior sequence. This causal relationship stems from the hypothesis that attitude statements such as "I like brown bread" serve as self-instruction in the same way that interpersonal instructions do. Thus, repetition of the attitude statement elicits the corresponding behavior. In sum, Bem stated "we can be certain that we like brown bread because we eat it. It may also be that we eat brown bread because we like it" (1968, p. 214).

Multiplicity of Attitudes

Another factor affecting the interaction between attitudes and behavior is related to the number of attitudes held by an individual. Each person has a large stock of attitudes which can be applied to various situations. Although not all attitudes are salient to each behavior decision, virtually all behavior involves a tradeoff between conflicting attitudes (Hansen, 1968; Wasson, 1975). Certainly this is true in most purchase situations which involve both negative attitudes about parting with personal wealth and positive attitudes regarding the product to be acquired. Evidence of attitude interaction has been provided by several investigators (Jeffries & Ransford, 1972; Schwartz, 1968). The resolution of attitude conflict is individually determined and hence resultant behavior can show considerable variation (Walters, 1978). Consistency theory attempts to explain the process by which resolution takes place.

A given behavior may be the result of entirely different attitudes from two different individuals or from the same individual under different circumstances. One person might purchase an item because of its color, and another, who dislikes the color, may buy it because of its low price. Prediction of behavior from attitudes is thus complicated by the lack of a one-to-one relationship between the two variables.

Measurement Factors

Efforts to predict behavior from attitudes can be complicated by problems in measuring the variables. Certainly the confusion over terminology discussed earlier has contributed to some of these measurement difficulties. The apparent lack of validity in commonly used measurement procedures has also been a problem. Kiesler et al. (1969) leveled the following criticism against attitude research: "The typical laboratory investigation of attitude change employs one or two simple, unpretested pencil and paper questions which reflect little of the theoretical emphasis on behavioral implications of attitudes or the methodological emphasis on elaborate measurement techniques" (p. 9). The assumption in much research has been that "attitude is: 'whatever is measured by my pencil and paper test'" (p. 21).

There has been some controversy over the use of self-reported behavioral intentions and previous behavior as substitutes for measures of actual behavior. Researchers have questioned the validity of these substitutes because of their susceptibility to demand artifacts and other inherent inaccuracies (Deutscher, 1966; Phillips, 1971; Webb, Campbell, Schwartz, & Sechrist, 1966). Measurement of overt behavior is not necessarily more accurate however. People may intentionally or unintentionally lie about their intended or past actions, but they may also distort their behavior to reflect inner feelings which they do not hold. In addition, overt actions are often susceptible to misinterpretation by the observer. The difficulties inherent in measuring actual behavior and

the limitations of most research designs often necessitate alternate techniques. Several studies indicated that self-reported intentions and behavior can serve as adequate substitutes (Calahan, 1968; Clark & Tiffet, 1966; Clausen, 1968; Liska, 1974; Tittle & Hill, 1967a). In his review of research on attitude-behavior consistency, Liska concluded that "the strong criticism (cf. Deutscher, 1966) leveled against the use of questionnaire items as a measure of overt behavior is not well empirically substantiated" (p. 263).

Another measurement issue is the specificity of variables. There is much evidence indicating that attitudes and behaviors which are not measured at the same level of specificity will lead to inconsistencies in attitude-behavior congruence. Fishbein, for example, noted a possible reason for the failure to predict behavior from attitude: "We have often measured attitude toward an inappropriate stimulus object--thus for example we have often measured attitude toward a class of people or objects when we should have been measuring attitude toward a particular member of the class" (Fishbein, 1967, p. 483). Schuman and Johnson (1976) made the same contention: "The most generally accepted hypothesis for improving A-B consistency is that attitudinal and behavioral variables should be measured at the same level of specificity....Where the behavior is a single specific act, this means that the attitudinal measure should be specific also, and closely congruent with the act" (p. 170-1).

"Item difficulty" can also produce what appear to be inconsistent results (Kiesler et al., 1969). The LaPiere (1934) study offers a good

example of results which were affected by differences in task difficulty. The study compared face-to-face refusal of a well-dressed Chinese couple accompanied by a European with refusal in a mail questionnaire of Chinese people in general. The two tasks clearly represented different extremes in item difficulty. Thus refusal in the "easy" task (questionnaire) and acceptance in the "hard" task were not inconsistent. Inconsistency would exist if subjects who refused face-to-face later accepted by questionnaire, or if they accepted by questionnaire and then refused face-to-face (Campbell, 1963).

Internal Variables

Attitude is only one of many psychological factors which can affect behavior. Cook and Selltitz (1964) referred to these additional variables as "other characteristics of the individual, including his dispositions toward other objects represented in the situation, values he holds that are engaged by the situation, his motivational state, his expressive style, and so on..." (p. 37). To the extent that these factors influence behavior, the relationship between attitude and behavior is clouded.

One such factor is knowledge. An individual may possess a favorable disposition toward a clean environment (attitude object) but be ignorant of the appropriate environmentally sound response. Maloney & Ward (1973) discovered that general knowledge of ecology was weak despite the popularity of the issue. Consequently, their construction of a knowledge scale as part of a four-part ecology scale was a difficult task. Using that

scale, Antil (1978) found that consumer knowledge was closely related to environmentally associated behaviors and attitudes but did not help to explain inconsistencies between those attitudes and behaviors.

People differ in their willingness to undergo inconvenience or their readiness to expend energy in a particular behavior. With respect to ecologically oriented behavior, Kardash (1976) made the following statement: "It is my contention that virtually all of us are ecologically concerned consumers'--our degree of concern, however, varying directly with the convenience/inconvenience of a particular eco-request'" (p. 5). For example, many consumers might buy recycled paper but balk at returnable bottles which are less convenient. Antil (1978) investigated the effect of required effort on attitude-behavior inconsistencies but was unable to draw any conclusions due to methodological problems.

External Variables

Kiesler et al. (1969) made the point that behavioral differences from situation to situation are much larger than those from attitude to attitude. In diverse situations it would take a "practiced eye" to detect attitudinal contributions to a particular behavior. The influence of situational or environmental variables has been recognized for some time. Lewin (1935) proposed a symbolic equation incorporating the effects of environmental factors: $B = f(P,E)$. Behavior (B) is a function of both the person (P) and the environment (E). Using field theory as a foundation, Lewin explained changes in attitudes and behaviors resulting from

heavy dependency on other people. Newcomb (1943) also stressed the importance of interpersonal context in altering or sustaining attitudes. In his view, the influence of reference groups on attitudes was so great that other psychological processes were subordinate. The impact of external factors, whether they be social, legal, or economic, has been repeatedly emphasized in the field of social psychology.

Kiesler et al. (1969) highlighted several studies which demonstrated the effects of situational factors. Based on the findings of his study of attitudes and behaviors toward Chinese people, LaPiere (1934) stated:

In the end I was forced to conclude that those factors which most influenced the behavior of others towards the Chinese had nothing to do with race. Quality and condition of clothing, appearance of baggage.... Cleanliness and neatness were far more significant for person-to-person reactions in the situations I was studying than skin pigmentation, straight black hair, slanting eyes, and flat noses...(p. 232).

A study by Minard (1952) revealed that the attitude and behavior differences exhibited by coal miners toward Negroes were different depending on the setting. In the mine, workers were under considerable pressure from management to act in a nonprejudicial manner, but in town no such pressure existed. Similarly, Lohman and Reitzes (1954) noticed work-residency inconsistencies in another set of workers who were subject to the anti-Negro attitudes of the neighborhood civic club and pro-Negro attitudes of the local union.

As the foregoing discussion highlights, there are numerous examples of attitude-behavior inconsistencies in the literature. Nonetheless, there is also considerable evidence that attitudes can serve as relatively reliable indicants of behavior (Bass, Pessemier, & Lehmann, 1972; Day, 1970; DeFleur & Westie, 1958; Nettler & Golding, 1946; Sherif & Hovland, 1961). As Berkowitz stated,

Considering all of the conditions that could intervene between attitude expression and behavior, it is surprising that attitude indicators predict action successfully as often as they do. It is definitely worth studying attitudes as predictors of, and partial contributors to, behavior (1972, p. 49).

Summary of the Literature Review

One fact which the literature review highlights is the lack of agreement among researchers and scholars about various sociopsychological concepts and their interrelationships. Definitions for the term "attitude" for example are quite varied, in part because of their nebulous nature. Attitudes depend on a number of complex properties such as saliency, consistency, polarity, complexity, and others. The connection between attitudes and behavior is equally complex but vital to understanding why people act as they do. Causal relationships, measurement error, and numerous other factors can affect the link between attitudes and behavior. It is not surprising then that the instruments used to measure sociopsychological constructs have differed not only in content but also in their levels of reliability and validity. Although highly precise measures may not be possible in this field, the lessons learned

from past research can serve as foundations for development and refinement of future measures.

Socially responsible consumption, another sociopsychological construct, has also been described by a variety of theoretical and operational definitions. Here again, the quality of construct measurement fluctuates. Despite these differences, a tentative picture of the socially responsible consumer has begun to emerge from the literature. These individuals tend to have higher than average levels of education, income, occupational status, socioeconomic status, and community involvement. They are generally younger, more liberal and cosmopolitan, less dogmatic and status conscious, more concerned about health matters, and more likely to believe they can contribute to improvement of the environment.

In an effort to define yet another concept, socially responsible clothing consumption, related areas of literature were studied. The Winakor (1969) clothing consumption model provided a framework for determining which phases of the consumption process to emphasize and suggested possibilities for further research in other phases. Several categories of behavior related to wastefulness or conservation in clothing consumption were also reviewed: fashion consciousness, multi-purpose garments, secondhand apparel, analytical buying, clothing values, and disposal methods. Attempts to characterize clothing consumers in these categories were hampered at times by conflicting results or insufficient data.

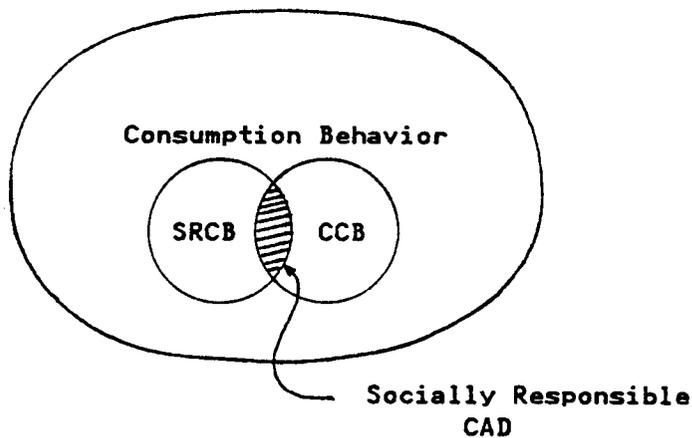
Overall, the literature review provides some understanding of the relationship between attitudes and behavior and suggests a way of organizing the literature and logically combining the concepts of socially responsible consumption behavior (SRCB) and clothing acquisition and discard (CAD) into a useful framework. Further, it offers guidance on acceptable measurement variables and techniques.

CHAPTER III

STATEMENT OF THE PROBLEM

Consumption behavior is the acquisition, use, and disposition of "goods, services, time and ideas by decision making units" (Jacoby et al., p. 22). Of particular interest in this study are two subsets of consumption behavior, socially responsible consumption and clothing consumption. SRCB is defined as "those behaviors and purchase decisions made by consumers which are related to environmental-resource problems and are motivated not only by a desire to satisfy personal needs, but also by a concern for the welfare of society in general" (Antil, 1978, p. 5). SRCB involves the efficient use of resources. Often by selecting products which are recyclable, long-lived, nonpolluting, and nonresource intensive consumers can derive the same benefits from consumption while reducing the environmental costs or externalities. Encouraging others to adopt these practices is also considered socially responsible behavior. Clothing consumption behavior (CCB) has been described by Winakor (1969) as the "process of acquiring, storing, using, maintaining, and discarding clothing" (p. 629).

It is not unreasonable to assume that these two facets of consumption behavior could overlap and that some individuals might consume clothing in a socially responsible way as the diagram depicts:



Drawing from Antil's definition, this behavior, socially responsible clothing consumption, is defined as those clothing acquisition and discard (CAD) practices which are motivated by a desire to satisfy personal needs and by a concern for the welfare of society. Admittedly, the definition is restrictive in that clothing storage, usage, and maintenance are excluded. While these are legitimate areas of interest in apparel consumption, the scope of this investigation does not permit their inclusion. The problem then is to determine the origins and development of these CAD behaviors so that the socially responsible clothing consumer can be understood and identified.

Theoretical Framework

Behavior is overt action, and actions are determined by a unique, complex system of variables within and around each individual. Figure 4 is a schematic presentation of the principal factors influencing behav-

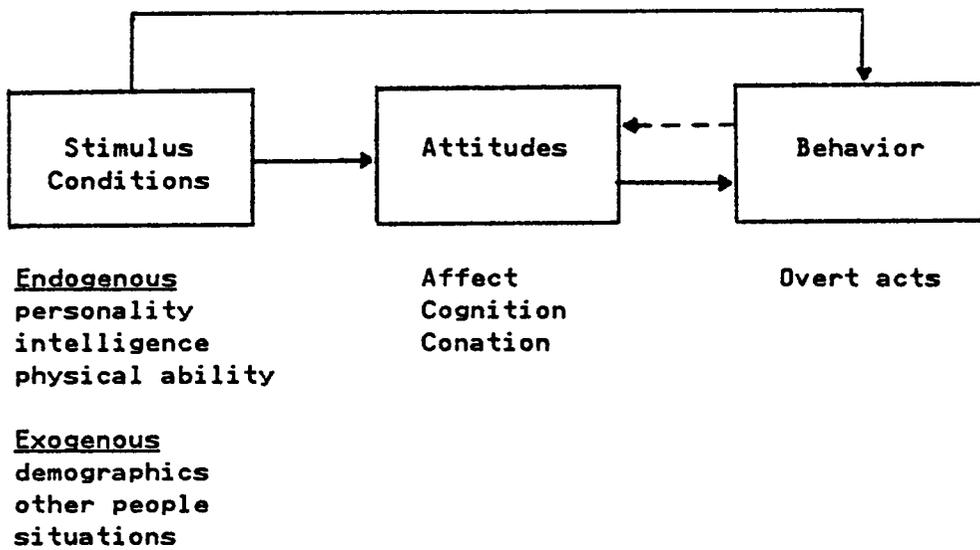


Figure 4. Schematic diagram of the theoretical framework.

ior: stimulus conditions and attitudes. Stimulus conditions are phenomena which contribute to the formation of attitudes and behavior. They may be endogenous factors such as personality, mental capacity, and physical ability, or exogenous factors such as income, other people, or situational variables. Stimuli foster attitudes which in turn influence behavior. In some cases, stimulus conditions affect behavior directly, acting as resource constraints which alter the link between attitudes and behavior. The literature provides numerous examples of attitude and behavior stimuli. For instance, time constraints and levels of physical energy determine the effort that can be expended in acquiring, maintaining, and discarding clothing. Exposure to relevant ecological information affects purchase attitudes, as do psychological characteristics, such as fashion consciousness, ecological consciousness, or self-actualization. Income, education, and age are examples of demographic stimulus variables which have been connected with ecologically conscious attitudes.

According to one school of thought, attitudes are enduring systems or organizations of three structural components: affect, cognition, and conation. Affect refers to a person's favorable or unfavorable feelings toward an attitude object. Cognition represents what is known or thought about the object, i.e., a person's knowledge, beliefs, and opinions. Included in this information base are beliefs about what relevant referents think the person should or should not do with respect to a particular behavior. For socially responsible consumers, the cognitive component includes an awareness (knowledge) of the ecological alterna-

tives in consumption and often a belief that individuals can be effective in combating ecological problems. Conation is an individual's behavioral intention toward or desire to respond to an object in a certain way. Frequently, intentions culminate in some sort of behavior or overt action. Because of this association with behavior, attitudes can provide valuable insight into behavior motivation.

The attitude-behavior relationship may be reversed so that actions cause the formation of attitudes rather than vice versa. The consumer's degree of involvement with a particular behavior could determine the causal sequence. High involvement generally stems from high risk situations. Purchases of garments which are expressive of self-image, costly, or highly innovative are potentially high-risk activities. In such cases attitudes might tend to spawn behaviors. The opposite is often true in cases of low involvement, i.e., behavior fosters a particular attitude.

Given the range of possible stimulus conditions and attitudes which could pertain to a particular behavior and the inherent complexity of interactions among all three variables in the model, it is not surprising that attitude-behavior inconsistencies exist. Typical factors influencing the interaction between an attitude and a behavior are causal relationships, multiplicity of attitudes, measurement factors, internal variables, and external variables. Nonetheless, attitudes can be effective predictors of behavior (see Chapter II, p. 89).

It is hypothesized that CAD behavior which is socially responsible includes attempts to reduce waste in clothing by increasing the length of garment ownership or extending its use-value. A greater degree of analytical buying might be exercised to ensure higher satisfaction and fewer discards. Perhaps classic styles would be preferred over high fashion which would be more quickly outdated and discarded. To achieve more use from garments, more multipurpose clothing might be purchased. The importance of the secondhand market might increase as a vehicle for garment acquisition and discard.

Assessment of attitudes related to these behaviors should provide a better understanding of consumer motivation as well as a means of predicting which consumers will engage in these activities. Research on socially responsible consumption and clothing consumption suggests a set of stimulus conditions, attitudes, and actions associated with the foregoing behaviors that could be used to identify the socially responsible CAD consumer.

For example, clothing research indicates that both upper- and lower-class people exhibit these behaviors. Consumers with higher incomes, socioeconomic status, educational attainment, and occupational status are more likely to be analytical buyers and less likely to throw clothing away. This seems reasonable since analytical buying requires knowledge of garment attributes and planning of garment purchases, actions which should lead to greater purchase satisfaction and less need for discard. These same consumers usually have low economic values and

high esthetic values as evidenced by their concern for fashionability. Consumers in the lower socioeconomic levels seem to lack interest in fashion as a prestige factor and concentrate on comfort and traditional styles. Although they practice some analytical buying skills, they may lack the knowledge, experience, or income to be as discriminating as they desire. Their lower incomes tend to contribute to high economic clothing values, i.e., belief in the merits of eliminating waste and conserving time, energy, and money.

This combination of class characteristics lends credence to Webster's (1975) description of the socially conscious consumer as a member of the "upper-middle class counterculture" who from an attitudinal and behavioral standpoint does not fall neatly into a specific class. Perhaps this underlying trait could account for the more liberal-minded, less dogmatic outlook associated with the ecologically conscious.

Socially responsible consumers tend to be low key individuals who may be involved in community activities and organizations but generally not as leaders. They choose not to push their beliefs onto others. Conversely, fashion conscious people prefer a leadership role. They often seek attention and exhibit an active, competitive, assertive nature. This supports the idea that socially responsible consumers of clothing may be indifferent to high fashion and more likely to favor classic style apparel. Their involvement in community groups permits more frequent exposure to a variety of acquisition and disposal sources (e.g., secondhand

markets) and fosters a greater need for different kinds of clothes or versatile clothes that can be worn for several types of occasions.

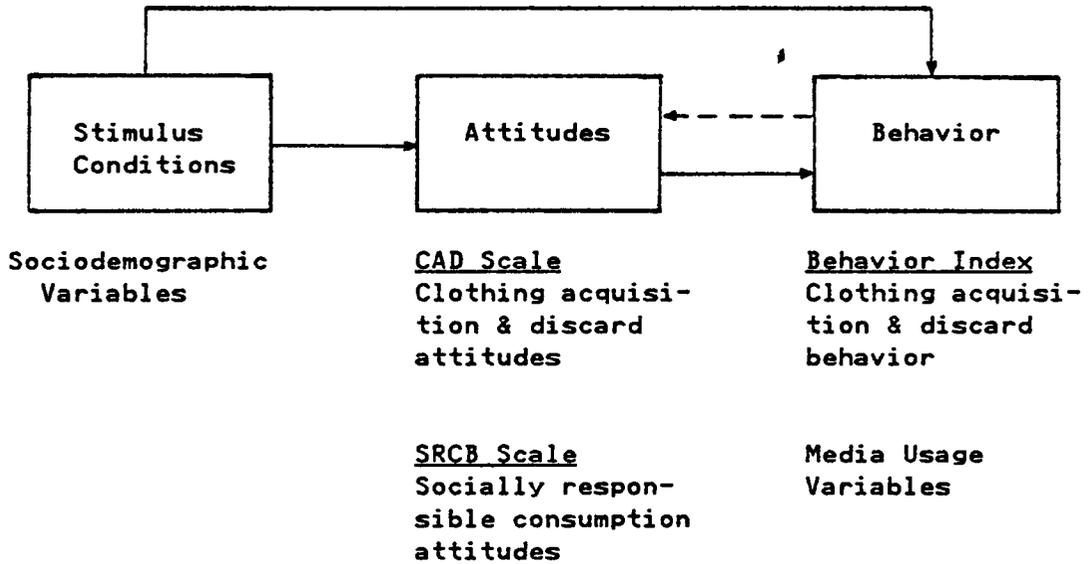
Responsible consumers are characterized as individualistic, having their own set of values and beliefs which may or may not accord with the mainstream. This might explain their lower status consciousness and their sometimes alienated nature. Wasson's (1968) concept of the non-conformist buyer of classics accords with this description. Secondhand clothing purchasers also display a degree of individualism. They reject the social stigma attached to used clothing and may even think of their shopping behavior as a rebellion against convention. Fashion leaders, on the other hand, tend to exhibit more conforming and gregarious dispositions.

Concern for the environment implies a future-oriented, universal outlook or a transcendence of the particular. The cosmopolitan nature of SRCs seems to indicate that they may have broader horizons than other individuals. How this concern is translated into action is not certain. It is reasonable to conjecture that these individuals would carefully analyze the effects of their consumption practices and try to bring them in line with their ecological philosophy, much as the careful clothing shopper analyzes wardrobe purchases. Although fashion leaders engage in analytical buying to some extent, they also have been described as present-oriented and impulsive.

The universal outlook of SRCs may be motivated by a sense of altruism or perhaps by sheer practicality. With regard to clothing, the social I value, expression of regard for others through the use of clothing, appears to be unrelated to altruism. Further, it was consistently shown to be of little importance to people in their clothing choices. The economic value, concern for conservation of time, energy, and money, was generally considered a very important factor to clothing consumers. This value seems to be related to the concepts of practicality and reasonableness. It may also have something in common with "perceived consumer effectiveness," one of the strongest predictors of socially responsible consumers. Individuals who are not overwhelmed by environmental problems but feel their actions can make a practical difference tend to be more socially responsible.

Hypotheses

Operationally, the theoretical concepts are represented by specific questionnaire items divided into three major sections which include five scales in all. Figure 5 shows the scales and the constructs they measure. Antil's instrument, although labeled a behavior scale, utilizes statements of beliefs, feelings, and intentions as measurement variables and therefore is considered a measure of attitude for the purposes of this research. A detailed explanation of each scale is presented in the following chapter.



- Part I: Behavior Index - questions 1-3
Media Usage - questions 4-9
- Part II: SRCB Scale - questions 3,6,9,15,17,21,24,27,30,33
CAD Scale - all remaining questions in Part II
- Part III: Sociodemographics - questions 1-7

Figure 5. Theoretical framework operationalized.

The attitudes measured by the CAD scale will be used to differentiate socially responsible (high CAD) and nonresponsible consumers (low CAD) of clothing. These two groups of consumers will be compared on each of the variable measures. The research will address the following hypotheses:

Comparison of CAD Groups on the Behavior Index

H1: High CAD consumers differ from low CAD consumers in their clothing acquisition and discard behaviors. Specifically, high CAD consumers:

- A. Engage in analytical buying behavior more frequently.
- B. Purchase secondhand clothing more often.
- C. Recycle a larger portion of their clothing.
- D. Purchase classic style garments more frequently.
- E. Purchase multipurpose garments more often.
- F. Exhibit a particular set of responsible CAD behaviors more often.

Comparison of CAD Groups on the SRCB Scale

H2: High CAD consumers hold attitudes which are more socially responsible than those of low CAD consumers.

Comparison of CAD Groups on the Sociodemographic Variables

H3: High CAD consumers differ from low CAD consumers in selected sociodemographic characteristics. Specifically, high CAD consumers:

- A. Are more often married and living with their spouses.
- B. Have higher levels of education.
- C. Are younger.
- D. Are more often white.
- E. Are more liberal.
- F. Have higher incomes.
- G. Are more involved in organizations.

H4: A relationship exists between CAD attitudes and selected sociodemographic variables.

Comparison of CAD Groups on the Media Usage Variables

H5: High CAD consumers and low CAD consumers differ in their media usage.

CHAPTER IV

PROCEDURE

Chapter IV details the research design. Selection of the sample and determination of the sample size are discussed first. Following that, a description of each research variable is presented, including development of the CAD scale and assessment of its validity and reliability. Statistical techniques for analyzing the data are described along with the purposes they are intended to serve. The last two sections outline the limitations and assumptions associated with the research design.

The Sample

The subjects were adult female patrons of a regional shopping mall in the Roanoke, Virginia, Standard Metropolitan Statistical Area (SMSA), a three county area with about 224,000 residents (Martin Research, 1984). The sample was limited to women in order to control for possible gender variations in clothing consumption practices.

The Roanoke mall was chosen for two reasons. First, the designation of Roanoke as a national test market (Weinblatt, 1983) implies that the research results should be externally valid and therefore more generalizable. Second, a marketing study initiated by the mall management (Martin Research, 1984) indicated that in comparison with other Roanoke shopping centers, this mall had a higher percentage of patrons in the

middle to upper socioeconomic and income levels. A homogeneous higher income sample was desirable to lessen the importance of economic necessity as a motivating force in behavior which appears environmentally related. The disparity between the findings of Marquardt et al. (1974) and Murphy et al. (1978) concerning eco-consciousness of black consumers might have been due to differences in the socioeconomic levels of the two samples. Also, Richardson (1981) observed negative attitudes toward secondhand clothing in members of the lower classes, indicating perhaps that individuals forced to purchase such items have feelings which differ markedly from those of higher classes.

Determination of the sample size was based on Cohen's (1969) procedures for power analysis. Chi-square tests were of primary interest since they composed the bulk of the analyses planned for this research. According to Cohen, the sample size needed for a chi-square contingency or independence test depends on four factors: the effect size (e), degrees of freedom (u), significance criterion (α), and power of the test.

Effect size, or the degree to which socially responsible clothing consumption is present in the population, was expected to be small for several reasons. Often in relatively new areas of research, such as socially responsible consumption, measurement instruments are rudimentary and tend to show only small effects. Indeed, for those studies on SRC for which effect size (ratio) could be calculated, the values were small (.10 - .20). In addition, personality and social research frequently produce small effects because measures are difficult to perfect and issues

are subtle (Cohen, 1969). As a frame of reference, Cohen defined a small effect size (e) for χ^2 to be .05.

When no other basis exists for setting the desired power level, a value of .80 is generally considered a reasonable goal (Cohen, 1969). This selection assumes $\alpha = .05$, a common convention in much of behavior research. The ratio of the Type I (α) to Type II ($\beta = 1 - \text{power}$) error rates would be $\beta/\alpha = .20/.05 = 4$ to 1, which implies that a mistaken rejection of the null hypothesis is considered four times as serious as a mistaken acceptance. As Cohen stated, "The notion that failure to find is less serious than finding something that is not there accords with the conventional scientific view" (p. 54).

The degrees of freedom (u) for an $r \times k$ contingency table are determined by the size of the table, as the formula indicates:

$$u = (r-1)(k-1)$$

The majority of the contingency tables for this study were expected to be 2×3 or smaller. Thus the number of degrees of freedom was set at $u = 2$.

Given the foregoing parameters, $\alpha = .05$, power = .80, $e = .05$, and $u = 2$, the minimum sample size necessary for a χ^2 analysis would be approximately 193 (Cohen, 1969).

Variables

Five multi-item measures were included in the research design. A scale measuring attitudes about socially responsible consumption behavior (SRCB) was used for comparison with the researcher's measure of attitudes toward socially responsible clothing acquisition and discard (CAD) behavior. The latter instrument was developed to address the research objectives. Three clothing behavior questions were used as behavioral criteria to test the predictive validity of the CAD scale. Seven sociodemographic questions and six media usage questions were included to provide data for a profile of the responsible clothing consumer.

Socially Responsible Consumption Behavior Scale

The SRCB scale, developed by Antil (1978), is comprised of 40 Likert scale items. As discussed in the literature review, several steps were taken to substantiate the reliability and validity of the instrument. These included: (1) extensive pretesting on large samples, (2) performance of item analysis and factor analysis at several stages, (3) "known groups" validation and a modified version of Campbell and Fiske's (1959) multitrait-multimethod procedure for construct validation, and (4) testing and administering the scale using a national sample.

In order to reduce the size of the final questionnaire for the current study, only the first quarter of the SRCB scale was used. The estimated

reliability for this reduced measure was calculated using the following formula (Nunnally, 1978, p. 243):

$$r_N = \frac{kr_E}{1 + (k-1)r_E}$$

where:

r_N = reliability of new scale

r_E = reliability of existing scale

k = no. of times scale will be increased/decreased

Substituting .925 for r_E and $k = 1/4$, the estimated reliability was .76. This value was considered sufficiently high to give reasonable assurance of scale reliability.

Clothing Acquisition and Discard Scale (CAD)

Initial Development and Pretest I

The CAD scale was designed to parallel Antil's SRCB scale with specific application to the area of clothing consumption. The attitudes of interest were derived from clothing consumption behaviors, therefore the domain of the construct was specified by defining socially responsible clothing consumption as those clothing acquisition and discard practices which are motivated by a desire to satisfy personal needs and by a concern for the welfare of society. Since no previous measures of responsible clothing consumption were available, the postulated relationships of

clothing acquisition and discard practices to social responsibility were based on suppositions logically derived from the literature.

The socially responsible CAD construct was perceived as a multidimensional concept. Initial operationalization of the construct included attitudes related to behavior in six areas of clothing consumption:

1. "Secondhand" - secondhand clothing purchases
2. "Recycling" - clothing disposal or recycling
3. "Analytical" - analytical buying
4. "Multipurpose" - multi-purpose garment purchases
5. "Fashion" - importance of fashion in acquisition and disposal
6. "General" - clothing wastefulness and pollution

Based on the literature and the author's own experience, a pool of 99 scale items related to these six areas was compiled. The items were reviewed by a member of the dissertation committee, a professor in the Department of Clothing and Textiles, who was knowledgeable in the area of clothing consumption. Several changes in wording and content were made in accordance with the recommendations of the reviewer, after which the instrument (Appendix A) was pretested on a group of 65 female seniors from various academic departments of Virginia Polytechnic Institute and State University. Respondents were also asked to comment on any ambiguous or unclear items.

Comments from the pretest sample indicated that several of the respondents were not familiar with secondhand clothing stores and were uncertain about the meaning of words such as "secondhand," "recycle," "solid waste," "classic," and "consignment shop." To clarify these terms, definitions were included in the introductory comments of the questionnaire. A "does not apply" category was added for the items which might not pertain to every respondent. Subjects were also advised to indicate the response that best described their general opinion or impression even if they were not entirely certain about it. The complete questionnaire administered in the second pretest is shown in Appendix B.

Table 5 indicates the item changes following the first pretest. Response frequencies and item-total correlations were inspected as an initial measure of the contribution of each item to the CAD scale. Items were scored from one to five with the "strongly disagree" category equal to one. Negatively stated items were reverse coded. Analytical buying, as represented by the survey questions, was practiced so universally that it was of questionable use as a distinguishing characteristic of socially responsible consumers. Hence these questions were deleted from the CAD scale.

A total of 21 questions was eliminated because of poor response distribution. Other reasons for deletion were low item-total correlations and lack of a clearly positive or negative response with respect to the CAD construct. Three questions were reworded for clarification,

Table 5

Item Changes following Pretest I

Changes to Pretest I	Pretest I Item No.	Pretest II Item No.	Reason
Eliminated	All items on analytical buying: 1, 4, 10, 16, 18, 26, 32, 34, 41, 51, 57, 73, 93, 96		Poor distribution of responses. High degree of analytical buying was common to too many respondents.
Eliminated	40, 63, 72, 80, 86, 98		Low correlation of item with subscale.
Eliminated	8, 37, 44, 53, 56, 94, 99		Poor distribution of responses.
Eliminated	13, 30, 35, 87		Not clearly positive or negative.
Reworded	7, 47, 49	5, 33, 35	Clarification of questions.
Added		6 questions on multi- purpose clothing: 6, 20, 36, 50, 59, 71	Increase the size of the subscale.

and six questions were added to the "multipurpose" factor to increase the size of the subscale.

Pretest II

Because of the nature of the construct and the large number of items (74) on Pretest II, a fairly large sample was considered necessary for testing. Responses from 376 female students were obtained and analyzed. This allowed for a better than 5 to 1 ratio of subjects to scale items.

To refine the measure, the unidimensionality of the subscales or clusters was evaluated (Table 6). Prior to the analysis, it was decided that any subscale retained in the CAD scale must have no less than five items. However, a relatively short overall scale was desired to keep completion time and respondent fatigue to a minimum. Danes and Mann (1984) suggested three criteria for creating a unidimensional set of indicators: homogeneity of content, internal consistency, and external consistency.

Homogeneity of content refers to the face validity of the measure. As discussed, all items were reviewed prior to the first pretest by a knowledgeable individual and judged to be representative of the domain of responsible clothing consumption as conceptualized. Pretest I also served to eliminate ambiguity by asking respondents to review the questions for clarity. Internal and external consistency were evaluated

Table 6

Statistical Analysis (PACKAGE) on Pretest II Data

Statistics	Phase 1	Phase 2	Phase 3
<u>Secondhand</u>			
Items	25	13	8
Correlations	-.17 to .64	.15 or above	.25 or above (avg .42)
Partials	-.21 to .38	-.16 to .30	-.13 to .14
Sim. coeff.	-.38 to .98	.78 to .98	.91 to .98
Loadings			.55 to .83 (avg .65)
Alpha	.87	.89	.85
<u>Recycling</u>			
Items	12	15	5
Correlations	-.09 to .37	.10 or above	items re- worded after Phase 2
Partials	-.14 to .28	-.11 to .23	
Sim. coeff.	-.18 to .91	-.58 to .91	
Alpha	.62	.57	
<u>General</u>			
Items	15	7	6
Correlations	-.15 to .36	.10 or above	.12 or above (avg .20)
Partials	-.25 to .25	-.06 to .06	-.06 to .07
Sim. coeff.	-.12 to .86	.57 to .86	.65 to .86
Loadings	.18 to .50	.29 to .50	.39 to .51 (avg .45)
Alpha	.69	.60	.60
<u>Multipurpose</u>			
Items	8	deleted	
Correlations	-.25 to .37 (most <.10)		
Partials	-.28 to .29		
Sim. coeff.	-.71 to .83		
Alpha	.27		

Table 6 continued

Statistics	Phase 1	Phase 2	Phase 3
<u>Fashion</u>			
Items	14	8	7
Correlations	-.04 to .55	.10 or above	.18 or above (avg .32)
Partials	-.31 to .33	-.18 to .24	-.13 to .27
Sim. coeff.	.14 to .92	.50 to .92	.65 to .97
Loadings			.42 to .69 (avg .56)
Alpha	.78	.77	.76

using a computer analysis technique PACKAGE (Hunter & Cohen, 1969) which is described in subsequent paragraphs.

First phase of item elimination. As an initial measure of internal consistency, the inter-item correlations of all questions in each of the five clusters were analyzed (Appendix C). Items measuring the same factor were expected to have high, positive correlations. All items in the "recycling," "general," and "fashion" clusters with correlations of .10 or below were eliminated. Because of the large number of items and generally stronger correlations in the "secondhand" cluster, the correlation cutoff point for this factor was .15. The "multipurpose" cluster had the lowest overall correlations (most were below .10). This fact, coupled with the factor's small size (8 items) and its poor performance on other tests, led to the decision to drop the "multipurpose" questions from the scale.

Partial correlation matrices for each factor were also used to test for internal consistency. Since these matrices partial out the underlying trait variable, each partial correlation was expected to be close to zero in a unidimensional cluster. That is, if items 1 and 2 are both unidimensional indicators of the factor "secondhand," then the latent "secondhand" variable is the sole nonrandom influence on these two items. Partialing out the effect of the latent variable from the two indicators should produce a partial correlation near zero (Danes & Mann, 1984). The items having partial correlations with the highest absolute values (i.e., the farthest from zero) were generally the same items that had already

been designated for elimination because of low correlation coefficients. Thus, this second measure of internal consistency corroborated the results of the first.

External consistency exists if each indicator correlates in the same way with outside variables. This was tested by inspecting similarity coefficients between items in different clusters. Similarity coefficients are indices of the consistency of two indicators in their correlation with an outside variable (see Danes & Mann, 1984, p. 348 for formula). Items in a unidimensional cluster should have similar correlation patterns with items in other clusters. In other words, the range of values for the similarity coefficients in a particular cluster should be small. As Table 6 shows, similarity coefficients after the first computer run were inconsistent. Once again, those items showing the widest variation were usually those that performed poorly on the previous tests and were deleted.

Hunter and Gerbing (1982) maintained that coefficient alpha should be interpreted only after the three criteria of unidimensionality have been satisfied. Therefore, the following alpha coefficients were evaluated at this stage: "secondhand" .87, "recycling" .62, "general" .69, "fashion" .78. Since Nunnally contended that reliabilities of .50 to .60 are generally sufficient for basic research, these values were considered to be within acceptable limits (Nunnally, 1978).

In all, a total of 41 items was deleted during the initial reduction of the CAD scale (Table 6). The remaining 33 questions were distributed as follows: "secondhand" 13, "recycling" 5, "general" 7, and "fashion" 8.

Second and final phases of item elimination. A process similar to that just described was followed in subsequent phases of item elimination. The final CAD scale is composed of 26 items and four subscales: "secondhand" 8, "recycling" 5, "general" 6, "fashion" 7. The lowest inter-item correlations for each factor were: "secondhand" .25, "general" .12, "fashion" .32, and "recycling" .10. Due to the low correlations and minimal number of items in the "recycling" cluster, a decision was made to reword the questions slightly in an effort to capture the construct more effectively.

The final alpha coefficients were: "secondhand" .85, "general" .60, "fashion" .76, and "recycling" .57. It was expected that rewording would improve the coefficient for the "recycling" factor in the final survey. Again, these reliabilities fall within Nunnally's guidelines of acceptability.

To verify dimensionality, confirmatory factor analysis was performed on the three intact subscales. The average factor loadings for each subscale were: "secondhand" .65, "general" .45, and "fashion" .56. Factor loadings above .30 are generally judged to be substantial (Hair, Anderson, Tatham, & Grabrowsky, 1979; Hinkle, Wiersma, & Jurs, 1979) since

they account for about 10% (square of the factor loading) of factor variance. The average loadings and most of the individual variable loadings met that standard. The results of the factor analysis indicated that the scale construction procedure was successful in developing relatively pure measures of each factor, i.e., items were loading on a single parent construct.

Item correlations between subscales were inspected to evaluate the dimensionality of the entire CAD scale. Table 7 gives the range of correlations and the average correlation for the items in each combination of factors. The small magnitude of the average correlations implies that the CAD construct has several dimensions, thereby confirming the earlier assumption of multidimensionality.

In Chapter V additional analyses are reported on the final CAD scale using data collected from the research sample. Two types of validation are evaluated, construct validity and predictive validity. Evidence of construct validity is provided when a measure performs in accordance with theoretical expectations. To assess this Nunnally (1978) suggested the following paradigm comprised of four hypotheses:

1. Constructs A and B correlate positively.
2. X is a measure of construct A {i.e., X has construct validity}.
3. Y is a measure of construct B.
4. X and Y correlate positively (p. 104).

In practice, hypotheses 1 and 3 are assumed to be correct, and therefore an empirical test of hypothesis 4 permits a valid inference regarding

Table 7

Pretest II Item Correlations between CAD Subscales

Subscales	Secondhand	Subscales Recycling	General
Recycling range	-.03 to .25		
average	.11		
General range	-.01 to .26	-.03 to .27	
average	.12	.13	
Fashion range	-.05 to .24	-.13 to .16	-.08 to .23
average	.08	.05	.05

hypothesis 2. Hence as a somewhat crude measure of the CAD scale's construct validity, the scale was correlated with an instrument which the researcher believed could accurately measure attitudes regarding socially responsible behavior, the SRCB scale.

Criterion-related or predictive validity (also called concurrent or pragmatic validity) involves comparing scores on the predictor test with scores on the criterion variable. To determine if the CAD scale would predict behavior as expected, a behavioral criterion measure or index was constructed. Predictive validity is determined by the degree of correspondence or association between the two measures involved (Nunnally, 1978). Therefore, correlation coefficients between scores on the CAD scale and the behavior index were calculated to evaluate the scale's predictive validity.

Clothing Behavior Index

The behavioral criteria in this index were based on three areas of clothing consumption represented by the CAD scale factors: purchase of secondhand clothing, purchase of classic style clothing, and recycling of clothing. In the statistical analyses, the behaviors were considered separately and in combination. The reader may recall from the literature that the attitude (predictor) and behavioral measures should be at the same level of specificity. This multi-item behavior index, although shorter than the CAD scale, should provide a measure more nearly equal

to it in specificity than the individual behavior items. Questions included in the index assessed:

1. Frequency of purchase of secondhand clothing
2. Portion of clothing disposed of by recycling
3. Frequency of purchase of high fashion, current fashion, and classic fashion clothes.

Sociodemographic Variables

Sociodemographic information solicited from respondents was based on past profiles of SRCs. All factors selected were found to be related to SRCs in at least one study. Demographic variables included marital status, education, income, race, and age. Additional factors were organizational involvement and political preference.

Media Usage Variables

Further classification of respondents was made according to selected media habits. With some alterations, questions were derived from the VALS survey (Mitchell, 1983). These activities were chosen because they were considered the most useful for market segmentation:

1. Weekly hours of commercial television viewing
2. Weekly hours of PBS television viewing
3. Frequency of watching various television programs
4. Daily hours of radio listening

5. Frequency of newspaper reading
6. Frequency of reading various magazines

Final Questionnaire

The final questionnaire (Appendix D) was divided into three parts as Table 8 depicts. The total number of responses was larger than the number of questions because some of the questions had more than one part. To estimate completion time, the questionnaire was administered to six individuals in the College of Human Resources, including secretaries, students, and faculty. The average completion time was about ten minutes. Although shoppers are often in a hurry, the researcher felt that most women would be willing to invest ten minutes of their time to complete the survey.

Statistical Analyses

The procedures for refinement and validation of the CAD scale were described earlier in this chapter. The same statistical evaluation was conducted following the final survey to reassess the reliability and consistency of the CAD scale.

In order to test the hypotheses, respondents were divided into three sections based on their CAD scores. The third with the highest scores was designated "high CAD consumers" (high CADs), and the third with the lowest scores was labeled "low CAD consumers" (low CADs).

Table 8

Questions and Responses in the Final Survey

Section	Variables	No. of questions	No. of responses
Part I	Behavior Index Media Habits	9	34
Part II	CAD Scale SRCB Scale	36	36
Part III	Sociodemographics	8	10*
	Total	<u>51</u>	<u>80</u>

*Number of responses for organizational membership varies.

Responses from these two CAD groups were analyzed using three statistical procedures: chi-square test of independence, t-test of independent means, and Pearson product moment correlation coefficient. Computer programs using the SAS and BMD systems were employed to generate the desired statistics in each case (Dixon et al., 1983; SAS Basics, 1982; SAS Statistics, 1982). The conventional .05 level of statistical significance was used for all tests.

Since the media usage and sociodemographic measures used ordinal and nominal scales, a nonparametric statistical test was appropriate. The χ^2 statistic is used to compare groups on a nominal variable with two or more categories. In these tests, observed frequencies (O) are compared to expected frequencies (E). For an $r \times c$ contingency table and a sample n , the expected cell frequencies are derived from the row (f_r) and column (f_c) frequencies using the formula:

$$\text{Expected frequency (E)} = \frac{f_r f_c}{n}$$

The chi-square test evaluates the significance of differences between the expected frequencies and the observed ones. The formula for χ^2 when k outcomes or categories are possible is:

$$\chi^2 = \sum_{i=1}^k \frac{(O - E)^2}{E}$$

The chi-square test does not indicate where significance lies in the case of a statistically significant result. However, inspection of the data usually reveals the major sources of group differences.

While the chi-square test resolves the question of independence between two variables, it does not measure the strength of association when they are dependent. There are several measures based on chi-square which provide an index of association. One is Cramer's V, defined as:

$$V = \frac{\chi^2}{n(q-1)} \quad 0 < V < 1$$

where:

- n = sample size
- q = no. of columns or rows
whichever is smaller

V varies between 0 (no association) and 1 (perfect association) and is used in conjunction with χ^2 tests in the data analysis.

Correlation coefficients describe the relationship between two variables or sets of data. The product moment (PM) correlation coefficient was originally developed for continuous variables, however, research has shown it to be robust to scale type and applicable in many cases to ordinal or nominal data (Aaker & Day, 1983; Churchill, 1983; Lehmann, 1979; Nunnally, 1978). Product moment correlation coefficients were used in the pretest analysis described earlier and also in the evaluation of the association between the CAD scale and sociodemographic variables,

SRCB scores, and consumption behaviors. The formula for the PM correlation coefficient between two variables X and Y is:

$$r = \frac{\sum z_x z_y}{N}$$

where:

- z_x = standard score on variable X
- z_y = standard score on variable Y
- N = number of bivariate observations

A t-test of means was used to determine if the two CAD groups differed on their mean SRCB scores. The test requires at least interval scale measurement. Since the SRCB scale was composed of Likert-type response categories, it was treated as interval data. T-tests require two additional assumptions: homogeneity of variance and normality. The SAS t-test procedure incorporates a test of the equality of variances (SAS Statistics, 1982). However, violation of the homogeneity assumption is unimportant in this case since the two samples are of equal size (both high and low CAD groups have 94 subjects). The normality of the distributions of SRCB scores for both CAD groups was also evaluated using a SAS program (UNIVARIATE) which performed the Kolmogorov-Smirnov Test (SAS Basics, 1982). This test compares the observed cumulative distribution with a theoretical distribution (e.g., normal). The maximum deviation between the two distributions is the Kolmogorov-Smirnov D statistic (Churchill, 1983).

The test statistic is calculated using the formula:

$$t = \frac{(\bar{X}_1 - \bar{X}_2)}{S_{\bar{X}_1 - \bar{X}_2}}$$

where:

\bar{X}_1, \bar{X}_2 = means of samples 1 and 2
respectively
 $S_{\bar{X}_1 - \bar{X}_2}$ = estimated standard error
of the difference between
sample means

One final statistical procedure was used in interpreting the data, discriminant analysis. This technique involves a categorical (nominal or nonmetric) dependent variable (CAD) and one or more independent variables which are evaluated simultaneously. In this case, the dependent variable consists of two classifications, high CADs and low CADs. The primary objectives of discriminant analysis are to determine which characteristics are useful in differentiating between the groups and to establish a procedure for classifying individuals into groups based on several independent variables. This is done by deriving the linear combination of independent variables that will discriminate best between the defined groups. The equation takes the form:

$$Z = w_1 x_1 + w_2 x_2 + w_3 x_3 + \dots + w_n x_n$$

where:

Z = discriminant score
w = discriminant weights
x = independent variables

By averaging the discriminant scores for all individuals in a group, one can arrive at a group mean or centroid. Discriminant analysis then tests the hypothesis that the group means are equal.

The BMDP7M stepwise discriminant analysis procedure (Dixon et al., 1983) involves entering the independent variables into the function one at a time according to their ability to discriminate, as measured by their partial F values. Once the discriminant function has been determined, the program develops a classification matrix which indicates the function's ability to discriminate between the categories of the dependent variable. The percentage of subjects that is correctly classified is a measure of the function's effectiveness as a tool for identification. The discriminant analysis procedure is discussed in more detail in Chapter V. Table 9 summarizes the statistical procedures used in this investigation and the purpose of each.

Limitations

A general limitation of nonexperimental research is that it assesses and compares phenomena that have already occurred. Manipulation of independent variables and strict control of extraneous variables are generally not possible in this design. Furthermore, subjects are selected on the basis of demographic (in this case income) or psychographic characteristics. These two factors, lack of control and subject selection, restrict the elimination of rival hypotheses. Thus the researcher can establish that a relationship between variables exists but cannot usually justify causal inference. This is not a serious limitation to the present study however, since the primary objective is to identify socially responsible clothing consumers and their characteristics, not to establish causal relationships.

Table 9

Statistical Procedures and Purposes

Purpose	Type of Data	Statistical Procedure
Refinement and validation of CAD scale	Interval	
a. Pretest I		
Homogeneity of content		
b. Pretest II		
Internal consistency		Correlation
External consistency		Partial corr.
Verify dimensionality		Similarity coeff.
		Factor analysis
c. Final survey (Part II, #1,2,4,5, 7,8,10-14,16,18-20, 22,23,25,26,28,29, 31,32,34-36)		
Consistency & dimensionality		Repeat all (b)
Predictive validity		Correlation
Construct validity		Correlation
Hypothesis testing		
a. Behavioral criteria		
H1: High CADs are not higher than low CADs in...		
A. Degree of analytical buying		Deleted
B. Frequency of purchase of secondhand clothing (Part I, #1)	Ordinal	χ^2 test
C. Portion of garments recycled (Part I, #2)	Ordinal	χ^2 test

Table 9 continued

Purpose	Type of Data	Statistical Procedure
D. Frequency of purchase of classic style clothes (Part I, #3)	Ordinal	χ^2 test
E. Frequency of purchase of multipurpose garments		Deleted
F. Set of CAD behaviors (Part I, #1,2,3)	Ordinal	χ^2 test
b. Attitudinal variables		
H2: High CADs are not higher than low CADs in SRCB (Part II, #3,6,9,15, 17,21,24,27,30,33)	Interval	T-test
c. Sociodemographic variables		
H3: No difference between high & low CADs on 7 sociodemographic variables:		
A. Marital status (married) (Part III, #1)	Ordinal	χ^2 test
B. Education (higher) (Part III, #2)	Ordinal	χ^2 test
C. Age (younger) (Part III, #3)	Ordinal	χ^2 test
D. Race (white) (Part III, #4)	Nominal	χ^2 test
E. Political preference (more liberal) (Part III, #5)	Ordinal	χ^2 test
F. Income (higher) (Part III, #6)	Ordinal	χ^2 test
G. Organization involvement (higher) (Part III, #7)	Ordinal	χ^2 test
H4: No relationship between CAD scale and 6 sociodemographic variables	See above	Correlation

Table 9 continued

Purpose	Type of Data	Statistical Procedure
Prediction of CAD group using sociodemographic variables	Nominal dependent variable	Discriminant analysis
d. Media usage variables		
H5: No difference between high and low CADs in media usage		
A. Hours of commercial TV (Part I, #4)	Interval	χ^2 test
B. Hours of educational TV (Part I, #5)	Interval	χ^2 test
C. Frequency of TV program watching (Part I, #6)	Ordinal	χ^2 test
D. Frequency of magazine reading (Part I, #7)	Ordinal	χ^2 test
E. Frequency of newspaper reading (Part I, #8)	Ordinal	χ^2 test
F. Hours of radio listening (Part I, #9)	Ordinal	χ^2 test

The research design is cross-sectional as opposed to longitudinal. Typically, the snapshot time frame of cross-sectional studies requires heavy reliance on respondent recall and does not permit time comparisons. Nonetheless, a cross-sectional design has several advantages. Research conducted over a short period of time is usually less susceptible to history effects. Samples used in cross-sectional research tend to be more representative of the general population since they generally do not receive compensation or agree to long-term commitments.

A common drawback of survey research is its intrusive nature which creates the possibility of contamination by participant reactivity. Knowledge of the survey gives rise to errors due to the good subject role and evaluation apprehension. Moreover, despite the best intentions, respondents may not possess the information desired by the researcher or may be unable to recall or articulate it. They also may be unwilling to provide certain facts, either because of the effort required or the sensitivity of the topic. Although these limitations are acknowledged, the advantages of versatility, speed, and cost (usually) are potent arguments for surveys (Churchill, 1983). In addition, the questionnaire used in this study does not rely on recall as much as it does on current attitudes and behaviors.

The population for this research is composed of female patrons of a Roanoke shopping mall. The nature of the sample (convenience) dictates that inferences from the sample to the population can be made only on a logical, not a statistical basis (Hinkle et al., 1979). However, the

designation of Roanoke as a national test market implies that this population is representative of female mall shoppers in other cities. Thus the inferences and implications derived from the findings can be generalized to similar populations in other locations.

Assumptions

This research is dependent on several assumptions.

1. The measures of media usage, clothing behaviors, and sociodemographic variables used in this study are valid and reliable.
2. Respondents were motivated to complete the questionnaires accurately.
3. Respondents were able to correctly recall data requested on the questionnaires.
4. Data provided by Likert type measures is interval in scale.

CHAPTER V

FINDINGS AND DISCUSSION

This chapter reports and discusses the statistical analyses and research results of the study. It includes descriptive data on the final sample, its size and characteristics. The findings related to each hypothesis are presented and, where appropriate, compared to results of similar studies.

Data Collection

The final survey was conducted over a four day period during mid-August 1985. A "survey table" was set up at a central location in the mall. Female shoppers who appeared to be high school age or older were asked to complete the survey as they passed by the table. During the data collection, the researcher was usually aided by one or two assistants who helped with the distribution of questionnaires.

Sample Size

A total of 405 questionnaires was distributed to shopping mall patrons, and all but one were returned. Several of the returned questionnaires were incomplete, however. Those with more than one third of the questions blank (27) were discarded leaving 377 or 93.0% for analysis. Seventeen of the discarded questionnaires contained no sociodemographic

data. Inspection of the remaining 10 indicated that these respondents were similar to the other 377 on most of the variables, with the exception of age and political preference. In general, the 10 subjects were older and more conservative. There is the possibility of bias because of these differences, however, the comparison group was so small that conclusions based on it would be highly suspect.

Since the CAD scale was a composite measure of 26 items and the basis for segmentation of the respondents, its completeness was particularly important to ensure unbiased results. Consequently, it was decided to eliminate any questionnaires that did not have complete CAD scales (95). Using chi-square tests, scores of these 95 respondents and scores of the remaining 282 were compared on each of the sociodemographic variables. The lack of any statistically significant differences between the two groups implied that the sample was not biased by the exclusion of the 95 subjects. The final sample then was composed of 282 women who completed the CAD scale or 70% of the original sample of 405.

Descriptive Statistics

The descriptive statistics are based on response frequencies which are presented in Appendix E. Each section of the questionnaire is discussed separately. Socially responsible consumption attitudes are based on responses to questions taken from Antil's SRCB scale which is considered an attitude measure for the purposes of this study.

Clothing Consumption Behavior

A small majority (51.4%) of the subjects bought secondhand clothing either sometimes or often (Table E-1). Few people bought it often (5.7%), however 45.7% said they purchased it at least sometimes. A large number (48.6%) never bought any secondhand apparel.

Recycling was a fairly common practice among sample members. Most (53.2%) recycled more than half of their clothing and many (29.1%) recycled over three fourths of their wardrobes.

Classic style clothing was purchased often or always by more women (73.5%) than either high fashion (10.8%) or current styles (46.7%). Many respondents avoided high fashion altogether; 42.2% said they never bought it. By comparison, the percentage of people who never bought current styles (4.3%) and/or classic styles (4.9%) was much smaller. In general, despite their youth, the sample subjects appeared to prefer more conservative styles or at least perceived their clothing to be conservative in nature.

Clothing Consumption Attitudes

Attitudes were usually in agreement with the behaviors just described. Almost half of the respondents (45.8%) said they would not buy more secondhand garments even if more shops were available (Table E-2). Nonetheless, 64.2% of the sample said they would be willing to purchase

used clothing, and most disagreed with statements suggesting that this kind of apparel was dirty/unsanitary, inconvenient, or unappealing. Although respondents generally felt they were capable of judging the quality of secondhand clothing, the group was less confident about their knowledge of used clothing sources. About 35% said they had little knowledge of where to buy secondhand garments.

On the whole, attitudes toward garment recycling were positive. Over 80% thought that recycling was a good idea, and 64.9% felt that people ought to be encouraged to recycle more of their clothes. The personal effort necessitated by recycling was a disincentive for some individuals, but a large number (48.5%) said they did not consider recycling too troublesome and were willing to spend time and money to do it.

While many respondents considered themselves to be very fashion conscious (48.2%), most thought that fashion had little effect on their discard practices (61.0%) and were not willing to pay more for fashionable garments (59.6%). The subjects were divided on their feelings about the importance of what others were wearing. Approximately equal numbers agreed and disagreed with the statement "When I select clothing, I don't really care what others are wearing." When asked about their attitudes on being in style, 57.8% of the sample said it was ridiculous for women to feel they must always have the latest styles, but only 35.1% felt that keeping up with fashion was impractical.

With regard to clothing waste, most subjects agreed that clothing was often wasted (76.9%), that many consumers bought more clothing than they needed (83.0%), and that people should be asked to conserve in clothing consumption (57.8%). However, they were predominantly indifferent about whether there was a relationship between conservation and clothing consumption (45.4% neutral) and whether resource conservation should be considered when buying apparel (42.6% neutral).

Socially Responsible Consumption Attitudes

Overall, the sample appeared to be quite concerned about pollution and its consequences. Many agreed that public concern about air and water pollution was justified (70.9%) or that attempts to control water pollution were worth the trouble (83.4%) (Table E-3). A majority said they were incensed about the damage done by pollution to plant and animal life (66.5%).

In some respects subjects were strong in their convictions about their own responsibilities and those of others in the fight against pollution and waste. A large number (68.0%) felt that the government should provide a list of agencies to which citizens could report pollution grievances, and over half (55.5%) thought commercial advertisers should mention the ecological disadvantages of their products. Respondents were not so sure about whether manufacturers should be forced to use recycled products; slightly fewer people agreed with this idea (30.6%) than disagreed (33.5%).

At the consumption level, the majority of participants thought that people should urge their friends to avoid products which utilize scarce resources (55.7%) or contribute to pollution (66.6%). Almost three-fourths of the sample were willing to pay a dollar more for electricity each month if it meant cleaner air. They were less enthusiastic about paying higher taxes. Although 28.0% were willing to pay 5% more taxes to control pollution, 37.6% were not willing.

Sociodemographics

Just over half (51.1%) of the respondents indicated that they were married and living with their spouses (Table E-4). With respect to racial identification, the overwhelming majority of participants was white (93.2%). Of the minorities, black subjects were more numerous (5.7%) than other groups (1.1%).

About a third (33.5%) of the respondents were under 25 years of age and over half (54.4%) were under 34. The relative youthfulness of the sample is partially explained by the fact that schools were not in session, and many students were at liberty to go shopping. Most people considered themselves to be middle-of-the-roaders in the political arena (55.0%). Liberals were the smallest political category (16.2%).

The majority of the shoppers (84.2%) were high school graduates. In fact, most had at least some college education (56.6%). Only 29.4% had completed college however. Nearly three quarters (73.9%) of the

shoppers had annual household incomes less than \$40,000, and most of those (53.9%) received less than \$30,000 in income a year.

Organizational activity was not a particularly strong characteristic of the sample. Over half of the respondents either were not involved in community organizations or left the question about organizational membership blank (51.2%). Only 15.0% of the subjects reported belonging to more than two organizations.

Table 10 shows the types of organizations that respondents listed in each of the four categories. Ecological associations were supported by the smallest number of women (4.6%) and community organizations by the largest (33.7%). The names of some associations were unrecognizable (e.g., initials used for identification instead of entire names). Moreover, the large number of organizations suggested the need for consolidation. Thus the organization titles often represent general types or themes of associations rather than specific names. Ecological organizations are an exception; all legible titles from the survey are listed in the table. Although the existence and ecological orientation of these organizations could not be verified in every case, several are familiar, such as the Sierra Club, Greenpeace, and Save the Whales.

Media Usage

The majority of participants watched 10 hours or less of commercial television per week (60.4%) and 5 hours or less of educational television

Table 10

Organizational Affiliation of Respondents

Community	Professional	Social	Ecological
Church	Teaching/	Sorority	Sierra Club
PTA	Education	Dance	Va. Wildlife
4H/extension	Nursing	Chorus	Preservation
Red Cross/	Real estate	Garden	Nat. Wildlife
Life saving	Insurance	Elks/Moose/	Clean Valley
Civic league	Student	etc.	Concerned Citiz.
Crime watch	Counseling/	Country club	against Uran-
Cheerleading/	therapy	Bowling	ium Mining
sponsor	Retail	Drama	Keep Roanoke
Women's club	Management	Golf	Clean
Fine arts		Bridge	Greenpeace
Hospital vol.		Swim	Save the Whales
Political		Senior	Nature
Org. to combat		citizens	Conservancy
disease		Volleyball	Forestry Club
Town council			Wildlife Society
Chamber of			Keep America
Commerce			Clean
Publications			National Geog.
			Association

(90.3%) (Table E-4). News programs seemed to be the most popular, with 42.8% of the sample watching them sometimes and another 52.2% watching them often. Sports programs were the least popular; 45.7% of the respondents never watched them and 41.5% watched them only sometimes (Table E-5). A large number of people also avoided nature programs; 35.2% never watched them, and 50.6% watched them occasionally.

Domestic magazines, like Family Circle and Woman's Day, were read by more women than any other magazine type (77.2%) (Table E-6). Other fairly popular magazine categories were fashion (read by 69.9%), home (69.7%), human interest (66.8%), news (64.8%), and educational (61.6%). Commentary magazines, like New Republic, were read by the fewest number of women (16.5%), followed closely by men's (17.6%) and automotive (18.7%) magazines. Nature magazines were relatively unpopular also; over half of the sample did not read them at all (58.1%). Respondents were much more consistent when it came to newspaper reading. Almost all of them read the newspaper (96.1%), usually on a daily basis (62.9%) (Table E-4).

Descriptive Statistics of the Mall Study

A table of some of the findings of the mall study (Martin Research, 1984) was developed for comparison with the present study (Table 11). Unfortunately, direct comparisons are not always possible since the categories are usually different. In addition, the mall survey included both sexes while the sample for this study was limited to women. The final variable from the mall study presented in the table, cable TV viewing

Table 11

Descriptive Statistics of Shoppers, Mall Study vs Present Study

Variable*	% of Shoppers Mall Study	Variable**	% of Shoppers Present Study
Race (n=288)		Race (n=279)	
white	92	white	93.2
black	7	black	5.7
other	1	other	1.1
Total	100.0	Total	100.0
Age (n=292)		Age (n=278)	
< 20	6	< 25	33.4
21 - 29	14	25 - 34	20.9
30 - 39	18	35 - 44	19.1
40 - 49	19	45 - 54	12.2
50 - 64	27	55 - 64	10.1
Total	100.0	Total	100.0
Total income		Annual HH income (n=269)	
< \$5,000	11.1	< \$10,000	12.6
\$5,000 - 9,999	15.7	\$10,001 - 20,000	19.7
\$10,000 - 14,999	15.0	\$20,001 - 30,000	21.6
\$15,000 - 19,999	14.0	\$30,001 - 40,000	19.7
\$20,000 - 24,999	12.8	\$40,001 - 50,000	11.5
\$25,000 - 29,999	9.0	\$50,001 - 60,000	7.8
\$30,000 - 34,999	7.0	\$60,001 and over	7.1
\$35,000 - 39,999	4.3	Total	100.0
\$40,000 - 49,999	4.6		
\$50,000 - 74,999	4.2		
> \$75,000	2.2		
Total	100.0		
Education		Education (n=279)	
elem - 3 yr. HS	24.9	≤ grade school	2.5
4 yr. HS	29.9	some HS	13.3
1 - 3 yr. college	21.7	completed HS	27.6
4 yr. college	14.7	some college	27.2
≥ 5 yr. college	8.9	completed college	12.9
Total	100.0	some graduate work	9.7
		graduate degree	6.8
		Total	100.0

Table 11 continued

Variable*	% of Shoppers Mall Study	Variable**	% of Shoppers Present Study
Time watched non-cable		Weekly hours of commercial	
TV yesterday		TV viewing (n=278)	
did not watch	27	0 - 10	60.4
1 1/2 hr. or less	24	11 - 20	21.9
1 1/2 - 3 hr.	27	21 - 35	13.0
3 - 5 hr.	14	> 35	4.7
5 hr. or more	8	Total	100.0
Total	100.0		
Time watched cable		Weekly hours of educational	
TV yesterday		TV viewing (n=279)	
did not watch	52	0 - 10	95.7
1 1/2 hr. or less	10	11 - 20	3.9
1 1/2 - 3 hr.	13	> 20	0.4
3 - 5 hr.	10	Total	100.0
5 hr. or more	6		
Total	100.0		

*Sample size is given when known.

**Sample size does not always equal 282 because of nonresponse.

time, obviously is not equivalent to the educational TV viewing time variable used in this research. However, the data on both variables is provided for information.

The two samples had approximately the same racial makeup but differed in several other respects. The shoppers in this study appeared to be younger and more educated, had higher incomes, and watched slightly less commercial (non-cable) television.

Reasons for the differences may be due to sampling techniques (the mall study does not describe the research procedures used), survey methods, time of year, or other situational variables. Whatever the cause, the higher incomes of the sample in this study are beneficial for the accomplishment of the research objectives (see Chapter IV, p. 104).

Validation of the CAD Scale

The PACKAGE computer program (Hunter & Cohen, 1969) was used to evaluate the CAD scale after the final survey. The alpha coefficient for each subscale showed an increase over pretest results, indicating stronger internal consistency and reliability (Table 12). Inter-item correlations, another measure of internal consistency, also improved. All average correlations increased, and in every case but one ("general"), the value of the lowest correlation rose. The following rule of thumb for interpreting the size of a correlation coefficient was suggested by one source (Hinkle et al., 1979):

Table 12

Validation of CAD Scale

Statistic	Pretest	Final
<u>Secondhand</u>		
Correlations	.25 & above (.42 avg.)	.30 & above (.50 avg.)
Partial corr.	-.13 to .14	-.15 to .12
Similarity coeff.	.91 to .98	.92 to .99
Factor loadings	.55 to .83 (.65 avg.)	.55 to .84 (.71 avg.)
Alpha coeff.	.85	.89
<u>Recycling</u>		
Correlations	.10 & above (.21 avg.)	.40 & above (.49 avg.)
Partial corr.	-.12 to .14	-.11 to .08
Similarity coeff.	.58 to .91	.93 to .99
Factor loadings	.38 to .59 (.46 avg.)	.65 to .83 (.70 avg.)
Alpha coeff.	.57	.83
<u>General</u>		
Correlations	.12 & above (.20 avg.)	.08 & above (.21 avg.)
Partial corr.	-.06 to .07	-.11 to .08
Similarity coeff.	.65 to .86	.74 to .92
Factor loadings	.39 to .51 (.45 avg.)	.33 to .64 (.47 avg.)
Alpha coeff.	.60	.62
<u>Fashion</u>		
Correlations	.18 & above (.32 avg.)	.25 & above (.36 avg.)
Partial corr.	-.13 to .27	-.21 to .33
Similarity coeff.	.65 to .97	.76 to .94
Factor loadings	.42 to .69 (.56 avg.)	.49 to .74 (.60 avg.)
Alpha coeff.	.76	.80

.90 - 1.00	very high
.70 - .90	high
.50 - .70	moderate
.30 - .50	low
.00 - .30	little if any

By these standards the average subscale product moment correlations of .50, .49, .21, and .36 are low. However the authors were quick to state that the decision about what correlation magnitude represents a noteworthy relationship is somewhat arbitrary. In the field of psychology, correlations larger than .60 are the exception rather than the rule (Nunnally, 1978, p.33).

Partial correlations showed mixed results. In a unidimensional cluster, these coefficients should be close to zero. The smaller range of values for the "secondhand" and "recycling" factors indicated an increase in internal consistency. However, the expanded range for the "general" and "fashion" subscales denoted a slight decline in internal consistency.

Similarity coefficients were inspected to determine the external consistency of the factors. These statistics are based on correlations between items of different scales and should be similar for all items in a particular factor. In all cases the range of coefficient values was small and represented an improvement over the pretest values. Based on these results, the factors were judged to be externally consistent.

The last evaluation of the subscales based on PACKAGE statistics was confirmatory factor analysis. The average loading for each factor increased in the final survey, indicating an improvement in the unidimensionality of each subscale.

The data analysis demonstrates that the CAD scale is composed of four relatively pure subscales. The strongest are "secondhand" and "recycling." As a result of item changes made after the pretest, the "recycling" subscale showed a marked improvement in all statistics. The "general" factor had the lowest correlations (.21 average) and in hindsight should have been revised in the same way as the "recycling" factor.

Table 13 compares the item correlations between the subscales using pretest and final survey data. For each set of subscales, the average correlation increased, and the range of correlations grew larger and more positive, with the exception of the "general" - "fashion" range. The lowest average correlations involved the "fashion" subscale. This factor was also the only one to exhibit negative inter-subscale correlations. Once again, the relatively low correlations between factors substantiate the idea that the CAD construct is multidimensional. The predictive and construct validity of the CAD scale are discussed following the first two hypotheses.

Table 13

CAD Subscale Item Correlations for Pretest II
and Final Survey Data

Correlated Subscales	DataSource	
	Pretest II	Final Survey
Second/Recycling		
range	-.03 to .25	.17 to .53
average	.11	.36
Second/General		
range	-.01 to .26	.02 to .38
average	.12	.18
Second/Fashion		
range	-.05 to .24	-.01 to .37
average	.08	.16
Recycling/General		
range	-.03 to .27	.07 to .46
average	.13	.24
Recycling/Fashion		
range	-.13 to .16	-.07 to .27
average	.05	.09
General/Fashion		
range	-.08 to .23	-.23 to .38
average	.05	.07

Tests of Hypotheses

For hypothesis testing, subjects were divided into three groups (94 in each) based on their CAD scores. The third with the highest CAD scores was designated "high CADs", and the third with the lowest scores was called "low CADs." Although the size of both CAD groups together (94 + 94 = 188) was slightly less than the desired minimum of 193 (see Chapter IV), the difference was not substantial.

The χ^2 test was used to evaluate most of the hypotheses posed in Chapter III. When the chi-square distribution is used to approximate the distribution of a discrete variable, the computed value can become inflated if too many of the expected frequencies are small (Churchill, 1983). Therefore whenever more than 20% of the cells showed frequencies less than five, smaller categories were combined to produce cells of an acceptable size.

For presentation of the results, hypotheses were restated in the null form. One or more tables present the statistical data used to test each hypothesis. Although both CAD groups possess 94 members, the tables occasionally show fewer subjects for a particular test because respondents did not always answer every question. For all analyses, the statistical significance level was set at .05.

Referring back to the theoretical framework, Hypothesis 1 deals with the relationship between attitudes (CAD scale) and behavior (behavior

index). Initially, each behavior is evaluated separately in Hypotheses 1A - 1E and then as a group in Hypothesis 1F.

Null Hypothesis 1A

High CAD consumers will not engage in analytical buying behavior more frequently than low CAD consumers.

This hypothesis was not tested because the scale developed for analytical buying behavior was not sufficiently discriminating (See Chapter IV). The analytical buying variable was dropped from the analysis after the first pretest.

Null Hypothesis 1B

High CAD consumers will not purchase secondhand clothing more often than low CAD consumers.

To test this hypothesis a chi-square test of independence was conducted using the responses of high and low CAD groups to the question:

How often do you buy secondhand clothing from family or friends, yard sales, consignment shops, or any other sources? (never, sometimes, often)

A chi-square value of 64.79 ($p = .0001$) was sufficient to reject the null hypothesis and support the contention that high CADs do tend to purchase secondhand clothing more often than low CADs (Table 14). Nearly 60% more high CADs purchased used clothing (79.8% versus 21.3%). Further, Cramer's

Table 14

CAD Group in Relation to Frequency of Secondhand Clothing Purchases and Portion of Clothing Recycled

Variable	CAD Group			
	High		Low	
	No.	%	No.	%
Frequency of second-clothing purchases				
never	19	20.2	74	78.7
sometimes	62	66.0	18	19.2
often	13	13.8	2	2.1
Total	94	100.0	94	100.0
$\chi^2 = 64.79$ $df = 2$ $p = .0001$ Cramer's V = .59				
Portion of clothing recycled				
0 - 25%	20	21.3	32	34.0
26 - 50%	12	12.8	26	27.6
51 - 75%	26	27.6	18	19.2
over 75%	36	38.3	18	19.2
Total	94	100.0	94	100.0
$\chi^2 = 15.38$ $df = 3$ $p = .0015$ Cramer's V = .29				

V = .59 (over halfway between the limits 0 and 1) indicated that the association between CAD category and self-reported frequency of used clothing purchases was moderate to high.

Null Hypothesis 1C

High CAD consumers will not recycle a larger portion of their discarded clothing than low CAD consumers.

Responses to the following question were used to test this hypothesis:

When you discard clothing, what portion do you recycle? That is, what portion is remodeled, sold, or given to charity, friends, or family? (0-25%, 26-50%, 51-75%, over 75%)

A test of high CAD and low CAD groups on this question yielded a chi-square statistic of 15.38 ($p = .0015$) and a rejection of the null hypothesis (Table 14). A majority of high CADs (66.0%) recycled over 50% of their discarded clothes. Only 38.4% of the low CADs recycled this much. The data endorse the argument that high CADs recycle more of their discarded clothes than low CADs. The relationship between the contingency table variables was considered to be of low to moderate strength ($V = .29$).

Null Hypothesis 1D

High CAD consumers will not purchase classic fashion garments more frequently than low CAD consumers.

The question used to test this hypothesis was:

When you shop for apparel, how often do you purchase the following types of clothing:

current fashion (never, sometimes, often, always)
high fashion (never, sometimes, often, always)
classic fashion (never, sometimes, often, always)?

Scores on the classic fashion portion of this question were of primary interest in the chi-square analysis (Table 15). About 20% more high CADs than low CADs (84.6% versus 65.5%) bought classic fashions often or always. On the basis of a chi-square value of 8.79 ($p = .0124$), the null hypothesis was rejected. Hence, high CADs purchase classic garments more frequently than low CADs.

Scores on the high fashion segment tended to support this finding. One would expect consumers who prefer classic, conservative styles to be less likely to purchase high fashion. Although not statistically significant ($\chi^2 = 5.28$, $p = .0715$), the proportion of high CADs who never purchased high fashion garments (53.3%) was higher than the proportion of low CADs (36.0%) who never bought them.

A statistically significant chi-square value of 13.40 ($p = .0012$) implied that the two groups differed in their preference for current fashion. Fewer high CADs (34.5%) than low CADs (52.7%) bought current style clothing often or always. Despite the interdependence of CAD attitudes and self-reported purchase behavior in two of the three fashion

Table 15

CAD Group in Relation to Frequency of Purchase of Classic, High, and Current Fashion

Frequency of Purchase	CAD Group			
	High		Low	
	No.	%	No.	%
Classic fashion				
never/sometimes	14	15.4	29	34.5
often	57	62.6	39	46.4
always	20	22.0	16	19.1
Total	91	100.0	84	100.0
$\chi^2 = 8.79 \quad df = 2 \quad p = .0124 \quad \text{Cramer's } V = .22$				
High fashion				
never	40	53.3	27	36.0
sometimes	29	38.7	36	48.0
often/always	6	8.0	12	16.0
Total	75	100.0	75	100.0
$\chi^2 = 5.28 \quad df = 2 \quad p = .0715 \quad \text{Cramer's } V = .19$				
Current fashion				
never/sometimes	55	65.5	31	37.3
often	23	27.4	39	47.0
always	6	7.1	13	15.7
Total	84	100.0	83	100.0
$\chi^2 = 13.40 \quad df = 2 \quad p = .0012 \quad \text{Cramer's } V = .28$				

categories, the corresponding V values indicated that the relationships were not especially strong.

Null Hypothesis 1E

High CAD consumers will not purchase multipurpose garments more often than low CAD consumers.

This hypothesis was not tested because of the poor performance of the "multipurpose" subscale during the scale validation process (see discussion of Pretest II, Chapter IV).

Null Hypothesis 1F

High CAD consumers will not exhibit a particular set of responsible clothing acquisition and discard behaviors more often than low CAD consumers.

The set of behaviors referred to in this hypothesis is a combination of behaviors previously discussed: (1) frequency of purchase of secondhand clothing, (2) portion of garments recycled, and (3) frequency of purchase of classic style clothes. Grouping of these three behaviors (Set I in Table 16) provided a more general, multi-item behavior index to correspond more nearly to the multi-item CAD attitude scale.

A chi-square test once again resulted in a statistically significant test value of 29.25 ($p = .0001$) and a rejection of the null hypothesis.

Table 16

CAD Group in Relation to Scores on Sets of Clothing Behaviors

Scores on Behavior Set*	CAD Group			
	High		Low	
	No.	%	No.	%
Set I				
3 - 5	1	1.3	16	21.3
6 - 8	43	57.3	52	69.3
9 - 11	31	41.4	7	9.4
Total	75	100.0	75	100.0
$\chi^2 = 29.25 \quad df = 2 \quad p = .0001 \quad \text{Cramer's } V = .44$				
Set II				
3 - 5	6	6.6	28	33.3
6 - 8	50	54.9	50	59.5
9 - 11	35	38.5	6	7.2
Total	91	100.0	84	100.0
$\chi^2 = 34.52 \quad df = 2 \quad p = .0001 \quad \text{Cramer's } V = .44$				

*minimum score = 3, maximum score = 11

The number of high CADs receiving high scores (9 - 11) on the index was notably larger than the number of low CADs receiving high scores.

As another test of this hypothesis, the third behavior in the set was changed to frequency of purchase of high fashion clothes (reverse coded). A test of this combination of three variables (Set II) corroborated the results of the first test, $\chi^2 = 34.52$ ($p = .0001$). Again, more high CADs received the higher scores even though the "high fashion purchasing" behavior was not statistically significant by itself (Null Hypothesis 1D). Cramer's V values suggested that the degree of association between CAD group and the two behavior sets was moderate.

Null Hypothesis 2

High CAD consumers do not hold attitudes which are more socially responsible than those of low CAD consumers.

Hypothesis 2 concerns the association between two attitudes, socially responsible consumption attitudes (SRCB scale) and responsible clothing acquisition and discard attitudes (CAD scale). Logically, the SRCB attitudes should be related to CAD attitudes and by association to CAD behaviors (based on results of Hypothesis 1).

To ensure that the shortened SRCB scale fulfilled expectations regarding its reliability, an alpha coefficient was calculated using final survey data. The resultant value of .78 was slightly higher than the

alpha estimated in Chapter IV (.76), indicating that the scale's reliability was even better than expected.

Prior to conducting a one-tailed t-test of mean SRCB scores, the observed distributions of the scores for both CAD groups were tested for normality. The Kolmogorov-Smirnov D for the low CAD group was .08 ($p = .13$) and for the high CAD group was .06 ($p = .15$). Neither D value was statistically significant indicating that the observed distributions were approximately normal (i.e., null hypothesis is normality).

With a mean of 38.44 for high CADs and a mean of 33.45 for low CADs, the calculated test statistic ($t = 6.95$, $p = .00005$) was sufficient to reject the null hypothesis and support the premise that high CADs have attitudes which are more socially responsible than low CADs (Table 17). A test for equality of variance was also performed using the folded F statistic (F') (SAS Statistics, 1982). An F' value of 1.03 ($p = .8744$) supported the assumption of equal variances.

Based on the results of Hypotheses 1 and 2, the CAD attitude scale appeared to be a good predictor of self-reported socially responsible consumption attitudes and clothing consumption behaviors which have been designated as socially responsible. To verify the scale's predictive validity, correlation coefficients were calculated between CAD scale scores and scores on the behavior index (Set I and Set II in Table 18). The attitudes expressed in the CAD scale had a substantial degree of correspondence with the acquisition and discard behaviors. Similar re-

Table 17

Comparison of Mean SRCB Scores for High and Low CAD Groups

CAD Group	N	Mean SRCB Score	T Value	P*
High	94	38.44	6.95	.00005
Low	94	33.45		

*one-tail probability

Table 18

Correlations Used in CAD Scale Validation*

CAD Scale or Subscale	Variable correlated with	Correlation	Prob.
<u>CAD vs Behavior</u>			
CAD scale	Set I	.50	.0001
CAD scale	Set II	.49	.0001
"Recycling"	Portion of clothes recycled	.28	.0001
"Secondhand"	Frequency of purchase of second-hand clothes	.63	.0001
"Fashion"	Frequency of purchase of classic clothes	.16	.0374
"Fashion"	Frequency of purchase of high fashion clothes (reversed)	.41	.0001
<u>CAD vs SRCB</u>			
CAD scale	SRCB scale	.51	.0001
"Recycling"	SRCB scale	.65	.0001
"Secondhand"	SRCB scale	.35	.0001
"General"	SRCB scale	.54	.0001
"Fashion"	SRCB scale	.13	.0689
<u>SRCB vs Behaviors</u>			
SRCB scale	Set I	.30	.0001
SRCB scale	Set II	.44	.0001
SRCB scale	Portion of clothes recycled	.33	.0001
SRCB scale	Frequency of purchase of second-hand clothes	.25	.0005
SRCB scale	Frequency of purchase of classic clothes	.17	.0284

*Data based on responses from high and low CADs. Sample size does not always equal 188 because of nonresponse.

sults were obtained when correlation coefficients were calculated between CAD subscales and their corresponding behavior index items. (There was no behavior item for the "general" factor). Although correlation coefficients do not indicate causality or even a meaningful relationship between the variables involved, they do express the degree to which one can generalize from scores on one variable to scores on another (Nunnally, 1978, p. 90). Thus, the magnitude of the coefficients between the CAD attitude and behavior measures implies that (1) there is a relationship between attitudes and behaviors as the theoretical framework suggested, and (2) the CAD scale may be useful in identifying individuals who practice certain clothing consumption behaviors.

The strong association between the CAD scale and the SRCB scale showed that the CAD scale was related to socially responsible consumption. With the exception of the "fashion" factor, correlations between the CAD subscales and the SRCB scale were also statistically significant. Another indication of the close connection between socially responsible consumption and clothing consumption is provided by correlations between the SRCB scores and the CAD behavior scores. Table 18 presents these statistics also. Overall, the CAD measure behaves as expected with respect to the SRCB scale, signifying that construct validity is present.

Null Hypothesis 3

High CAD consumers do not differ from low CAD consumers in selected sociodemographic characteristics. Specifically, high CAD consumers:

- A. Are not more often married and living with their spouses
- B. Do not have higher levels of education
- C. Are not younger
- D. Are not more often white
- E. Are not more liberal
- F. Do not have higher incomes
- G. Are not more involved in organizations

This hypothesis investigates the relationship between stimulus conditions (sociodemographic variables) and attitudes (CAD scale). Hypothesis 4 and the discriminant analysis are concerned with the same theoretical relationship but employ different statistical procedures to evaluate it. Chi-square tests of independence were calculated for all of the subhypotheses. Each is discussed individually.

Null Hypothesis 3A

Although a larger number of high CADs were married and living with their spouses (56.4% versus 44.1%), the chi-square value = 2.83 ($p = .0926$) did not support a rejection of the null hypothesis (Table 19). Marital status then was not a discriminating variable for CAD consumers.

Although not statistically significant, this finding tends to support that of O'Reilly et al. (1984) who determined that personal sale patrons

Table 19

CAD Group in Relation to Marital Status

Marital Status	CAD Group			
	High		Low	
	No.	%	No.	%
married & living with spouse	53	56.4	41	44.1
other	41	43.6	52	55.9
Total	94	100.0	93	100.0

$\chi^2 = 2.83$ $df = 1$ $p = .0926$ Cramer's V = -.12

and purchasers were differentiated from nonpatrons and nonpurchasers on the basis of marital status. That is, patrons and purchasers were more often married. CAD consumers, in contrast to the personal sale consumers, are not defined solely by their usage of a particular second-order marketing system. The broader scope of the CAD concept may account for the lack of a statistically significant result.

In the marketing literature, the relationship between marital status and social responsibility was not clearly established. Mitchell (1983) maintained that most (70%) socially conscious individuals were married, while Lindgren (1972) determined they were usually single. Conversely, Kassarian (1971) found that marital status was not a statistically significant segmentation variable in any case.

Null Hypothesis 3B

The original categories of the education variable were:

1. Grade school or less
2. Some high school
3. Completed high school
4. Some college
5. Completed college
6. Some graduate work
7. Graduate degree

The chi-square test yielded a statistic of 16.00 ($p = .0137$) which was sufficient for rejection of the null hypothesis (Table 20). In general, the proportion of high CADs in the upper education levels was greater than

Table 20

CAD Group in Relation to Education

Education	CAD Group			
	High		Low	
	No.	%	No.	%
All categories				
grade school or less	1	1.1	2	2.2
some H.S.	7	7.4	18	19.6
completed H.S.	22	23.4	30	32.6
some college	28	29.8	23	25.0
completed coll.	17	18.1	8	8.7
some grad work	14	14.9	4	4.3
graduate degree	5	5.3	7	7.6
Total	94	100.0	92	100.0
$\chi^2 = 16.00$ $df = 6$ $p = .0137$ Cramer's V = .29				
Two categories				
H.S. degree or less	30	31.9	50	54.4
more than H.S. degree	64	68.1	42	45.6
Total	94	100.0	92	100.0
$\chi^2 = 9.55$ $df = 1$ $p = .0020$ Cramer's V = .23				

that of the low CADs (Category 7 had slightly more low CADs, 7.6% versus 5.3%).

A natural division between high school graduates (or less) and those with at least some college seemed to emerge. Thus another test was conducted for the following two categories:

1. High school degree or less
2. More than high school degree

The chi-square value of 9.55 ($p = .0020$) again resulted in a rejection of the null hypothesis although the strength of the relationship was low to moderate ($V = .23$). The percentage of high CADs with more than a high school degree (68.1%) was larger than the percentage of low CADs (45.7%). Thus it appears that the two groups do differ with respect to education levels and that high CADs are generally better educated. This conclusion is in agreement with numerous studies reporting a positive relationship between education and social responsibility (Hogan & Paolucci, 1979; Lindgren, 1972; Nelson, 1974; Tognacci et al., 1972; Webster, 1975).

Null Hypothesis 3C

Initially, age was divided into six categories:

1. less than 25
2. 25 - 34
3. 35 - 44
4. 45 - 54
5. 55 - 64
6. 65 and older

All age categories above 25, with the minor exception of the over 65 category, had more high CADs than low CADs. The statistic for this test was $\chi^2 = 15.87$ ($p = .0084$) (Table 21).

Since the major difference between high and low CAD consumers centered around the age of 25, the above categories were collapsed to form two larger ones:

1. Less than 25 years
2. 25 years or more

Table 21 shows that there were 24.3% more people over 25 years of age in the high CAD group (78.7%) than in the low CAD group (54.4%). Once again, the value for Cramer's V indicated that the association between CAD group and age was not a strong one. Overall, it can be said that the CAD groups do differ with respect to age but in the opposite direction from that hypothesized, i.e., high CADs are generally older than low CADs.

This result implies that high CADs may differ somewhat from the larger group of all socially responsible consumers. Most researchers who detected an association between age and social consciousness, found an inverse relationship (Anderson, Henion, & Cox, 1975; Lindgren, 1972; Tognacci et al., 1972). An exception is Mitchell's (1983) group of societally conscious individuals who were predominantly middle-aged. Using multivariate discriminant analysis, O'Reilly et al. (1984) also discerned that those who purchased clothing at personal sales were older

Table 21

CAD Group in Relation to Age

Age	CAD Group			
	High		Low	
	No.	%	No.	%
All categories				
less than 25	20	21.3	42	45.6
25 - 34	22	23.4	10	10.9
35 - 44	19	20.2	15	16.3
45 - 54	18	19.1	9	9.8
55 - 64	11	11.7	11	12.0
65 or over	4	4.3	5	5.4
Total	94	100.0	92	100.0

$\chi^2 = 15.87$ $df = 5$ $p = .007$ Cramer's V = .29

Two categories

less than 25	20	21.3	42	45.6
25 or more	74	78.7	50	54.4
Total	94	100.0	92	100.0

$\chi^2 = 12.43$ $df = 2$ $p = .0001$ Cramer's V = .26

than nonpurchasers. However, age was not a significant discriminator of personal sale users when considered by itself in univariate analysis.

Null Hypothesis 3D

Unfortunately, race could not be analyzed in this study because the respondents were almost entirely white (95.7% high CADs, 96.8% low CADs). The remaining participants, blacks and other racial groups, were present in such small numbers that a valid test was not possible.

Null Hypothesis 3E

Political preference was not found to be a statistically significant variable ($\chi^2 = 4.60$, $p = .101$) (Table 22). The number of liberals in both CAD groups was almost identical (17.2% high CAD, 17.1% low CAD). More respondents in the high CAD group were politically middle-of-the-road (62.4% versus 48.9%), and fewer were conservative (20.4% versus 34.1%).

Although these figures suggest a trend toward nonconservatism, they do not reflect the strong liberal outlook evidenced in many investigations of the SRC (Anderson, Henion, & Cox, 1975; Antil, 1978; Belch, 1979; Constantini & Hanf, 1972; Dunlap, 1975; Lindgren, 1972; Mitchell, 1983; Tognicci et al., 1972). This finding seems to reinforce earlier results concerning age. The oft observed tendency of human beings to become more conservative with age is one possible reason for the findings. The gen-

Table 22

CAD Group in Relation to Political Preference and Annual Income

Variable	CAD Group			
	High		Low	
	No.	%	No.	%
Political preference				
conservative	19	20.4	30	34.1
liberal	16	17.2	15	17.0
middle of the road	58	62.4	43	48.9
Total	93	100.0	88	100.0
$\chi^2 = 4.60 \quad df = 2 \quad p = .101 \quad \text{Cramer's } V = .16$				
Annual income				
<\$10,000	13	14.0	9	10.2
\$10,001 - \$20,000	25	26.9	14	15.9
\$20,001 - \$30,000	18	19.3	19	21.6
\$30,001 - \$40,000	17	18.3	16	18.2
\$40,001 - \$50,000	13	14.0	11	12.5
\$50,001 - \$60,000	5	5.4	11	12.5
>\$60,001	2	2.1	8	9.1
Total	93	100.0	88	100.0
$\chi^2 = 9.77 \quad df = 6 \quad p = .135 \quad \text{Cramer's } V = .23$				

erally conservative reputation of Virginians is an alternative explanation.

Null Hypothesis 3F

The questionnaire listed seven income levels:

1. less than \$10,000
2. \$10,001 - \$20,000
3. \$20,001 - \$30,000
4. \$30,001 - \$40,000
5. \$40,001 - \$50,000
6. \$50,001 - \$60,000
7. over \$60,000

High CADs exceeded low CADs in the lower income levels (less than \$20,000) but lagged behind in the higher levels (over \$50,000) (Table 22). The two were nearly equal in the middle income categories (\$20,001 - \$50,000). Despite the differences, the chi-square value was not statistically significant ($\chi^2 = 9.77$, $p = .135$).

Null Hypothesis 3G

The last question in the survey asked respondents about their involvement in several kinds of organizations: community, professional, social, and ecological. Individuals were required to give the names of the organizations to which they belonged. This extra effort, added to the overall length of the questionnaire, may have caused many subjects to forego this question. Unfortunately, because of the wording of the question, the respondents who simply omitted it could not be distinguished

from those who actually did not belong to any organizations. Therefore, the data for each organization type were collapsed into two categories, no membership and membership, with the knowledge that the first category might include a number of people who did belong to organizations but left the question blank. For all four types of organizations, high CADs had a higher proportion of members than low CADs (Table 23). However, in each case the differences were not statistically significant.

Each respondent was assigned an organizational involvement score equal to the total number of memberships she held in any type of organization. Again the difference between the two groups was not statistically significant even though high CADs had about 20% more memberships in at least one organization (59.1%) than low CADs (39.4%) (Table 24).

Both Antil (1978) and Lindgren (1972) found that socially responsible consumers were more involved in organizations. Fratzke (1976) did not address organizational involvement per se but did investigate involvement in group activities. Women who participated in more group activities tended to sell goods at garage sales more often. It is logical to expect that greater exposure to other people would increase an individual's recycling options, i.e., more people to offer and/or accept used clothing, greater knowledge of personal sales, and so on. Moreover, as Winakor and Martin (1963) observed, organizations themselves often sponsor used clothing sales.

Table 23

CAD Group in Relation to Membership in Four Types of Organizations

Type of Organization	CAD Group			
	High		Low	
	No.	%	No.	%
Community				
no membership	57	60.6	65	69.2
membership	37	39.4	29	30.8
Total	94	100.0	94	100.0
$\chi^2 = 1.49 \quad df = 1 \quad p = .222 \quad \text{Cramer's } V = .09$				
Professional				
no membership	69	73.4	76	80.9
membership	25	26.6	18	19.1
Total	94	100.0	94	100.0
$\chi^2 = 1.48 \quad df = 1 \quad p = .224 \quad \text{Cramer's } V = .09$				
Social				
no membership	74	79.6	81	86.2
membership	19	20.4	13	13.8
Total	93	100.0	94	100.0
$\chi^2 = 1.44 \quad df = 1 \quad p = .231 \quad \text{Cramer's } V = .09$				
Ecological				
no membership	88	94.6	91	96.8
membership	5	5.4	3	3.2
Total	93	100.0	94	100.0
$\chi^2 = 0.55 \quad df = 1 \quad p = .460 \quad \text{Cramer's } V = .05$				

Table 24

CAD Group in Relation to Organizational Involvement

Organizational Involvement*	CAD Group			
	High		Low	
	No.	%	No.	%
0	38	40.9	57	60.6
1	24	25.8	12	12.8
2	14	15.0	10	10.6
3	12	12.9	9	9.6
≥ 4	5	5.4	6	6.4
Total	93	100.0	94	100.0

$\chi^2 = 8.98$ $df = 4$ $p = .062$ Cramer's V = .22

*Total number of organization memberships

Null Hypothesis 4

No relationship exists between CAD attitudes and selected sociodemographic variables.

In an attempt to get another measure of the relationship between the CAD scale and the sociodemographic variables, correlation coefficients were calculated between CAD scores and scores on the individual variables (Table 25). As previously stated, the Pearson correlation coefficient is robust to scale violations. However, interpretation of the relationship can be a problem when data do not follow any order. A dichotomous variable is automatically ordered since one category always exceeds the other with respect to the variable in question. Thus "marital status" was considered an ordinal variable. "Political preference" was also treated as ordinal since there was a ranking from conservative to liberal. Racial identification could not be ordered in any meaningful sense and therefore was not included in the correlation analysis.

Only three variables had statistically significant correlations with the CAD scale: education, age, and income. The statistics on education and age corroborate earlier findings. While income was not found to be dependent upon CAD group classification in the χ^2 analysis, there was a trend in the data which supports the correlation result.

The finding of a negative relationship between CAD scores and income levels is perplexing in light of differences in the educational background of the two groups. The higher education levels of the high CADs normally

Table 25

Correlations between CAD Scale and Sociodemographic Variables

Variable	Correlation	Probability
Marital status	-.13	.0718
Education	.16	.0309
Age	.16	.0254
Political preference	.10	.1634
Income	-.15	.0391
Org. involvement	.04	.6011

would be expected to correspond to higher income levels, as was the case in several studies of the SRC (Webster, 1975; Mitchell, 1983). One investigation, however, did obtain an inverse relationship in the income and education levels of environmentally concerned citizens (Constantini & Hanf, 1972). The high-concern group had higher levels of education and lower levels of income than the low-concern group. The investigators attributed this apparent inconsistency to occupational differences. Two-thirds of the low-concern group were businessmen, and two-thirds of the high-concern group were either professionals or government officials. Businessmen had relatively high incomes and low educational attainment, while government officials possessed the opposite characteristics. The researchers stated that the relationship between businessmen and low environmental concern appeared throughout the survey data.

Unfortunately, occupational data were not obtained in the present study. The professional organizations listed by respondents suggest that nursing and teaching were two well represented professions. Both require education beyond the high school level and are known for low salaries. These facts point toward an occupational influence on CAD behavior and attitudes.

Discriminant Analysis

The BMDP7M computer program for stepwise discriminant analysis (Dixon et al., 1983) was used to evaluate the effectiveness of the sociodemographic variables in identifying CAD group membership when con-

sidered together rather than one at a time. The eight predictor variables were: marital status, education, age, racial identification, political preference, annual income, and organizational involvement.

Table 26 is a summary of the stepwise analysis. The "F to enter" is the partial F for each variable that is still a candidate for inclusion in the discriminant function. Wilks' lambda is a general statistic used for testing centroid equality. The distribution of the lambda statistic is approximated by the F distribution. The variables selected for inclusion in the discriminant function were income, marital status, education, and political preference. Only two of these, income and education, were found to be related to CAD group in the individual analyses (χ^2 and correlation). Apparently marital status and political preference contribute to the prediction of CAD group membership only in the presence of the other sociodemographic variables.

Once the discriminant function has been computed, its statistical significance level must be assessed to test the equality of CAD group centroids. This can be done by evaluating the significance level of the Wilks' lambda generated after all contributing variables have been entered into the equation. Referring again to Table 26, the value of Wilks' lambda after the final step was .87. The equivalent F statistic of 6.16 was statistically significant at the .001 level indicating that the high and low CAD groups were statistically different from each other.

Table 26

Summary Table for Stepwise Discriminant Analysis

Step No.	Variable Entered	F to Enter	Wilks' Lambda	Approx. F	Df	Signif. level
1	Income	6.82	.96	6.82	(1,168)	.01
2	Marital status	7.00	.92	7.03	(2,167)	.001
3	Education	5.20	.89	6.54	(3,166)	.001
4	Political pref.	4.60	.87	6.16	(4,165)	.001

However, with large sample sizes it is not difficult to get a statistically significant F ratio. Consequently, a classification matrix was developed to provide a more accurate assessment of the function's discriminating power.

Classification or confusion matrices are constructed by assigning individuals to groups based on their classification or discriminant scores. For this purpose, the BMDP7M program essentially separates the discriminant function into two functions called classification functions. Each discriminant function coefficient is simply the difference between the classification function coefficients of the two groups multiplied by a constant (Table 27). Individuals are classified by substituting their independent variable values into each classification function. The function yielding the highest value determines the group to which the individual is assigned (Brown, 1980).

The discriminant function coefficient, or discriminant weight, for each variable is standardized by multiplying it by the pooled within groups standard deviation of that variable. All standardized coefficients are expressed in the same units and therefore can be compared to determine the relative importance of the variables as discriminators. In this case, marital status was the most effective discriminator, followed by political preference, annual income, and education respectively.

The classification matrix in the first section of Table 28 indicated that 68.1% of the high CAD and 60.8% of the low CADs were correctly

Table 27

Classification and Discriminant Function Coefficients
for High and Low CAD Groups

Predictor Variables	Classification Coefficients		Discrim. Function Coeff.	Stand- ardized Coeff.	Relative Import. of Var.
	High CAD	Low CAD			
Marital status	7.51	8.46	1.23	0.62	1
Political pref.	2.81	2.39	-0.54	-0.27	2
Income	1.59	1.96	0.48	0.24	3
Education	2.08	1.81	-0.35	-0.17	4
Constant	-16.39	-17.10		-0.89	

Table 28

Classification Tables for High and Low CAD Groups

Actual CAD Group	Predicted CAD Group		Total
	High	Low	
Classification Matrix			
High			
number	62	29	91
percent	68.1	31.9	100.0
Low			
number	31	48	79
percent	39.2	60.8	100.0
Total			
number	93	77	
percent	54.7	45.3	

Total percent correctly classified = 64.7

Jackknifed Classification

High			
number	60	31	91
percent	65.9	34.1	100.0
Low			
number	31	48	79
percent	39.2	60.8	100.0
Total			
number	91	79	
percent	53.5	46.5	

Total percent correctly classified = 63.5

classified by the discriminant function. Overall, the percent correctly classified was 64.7%. When both groups are of equal size, the percent of individuals that can be classified correctly by chance is 50%. In the present case, 18 of the 188 observations were not included in the analysis due to missing values, leaving two unequal groups (high CADs 91, low CADs 79). Consequently, the proportional criterion should be used to determine the chance classification (Hair et al., 1979):

$$C \text{ proportional} = p^2 + (1 - p)^2$$

where:

p = proportion of individuals in group 1

$(1-p)$ = proportion of individuals in group 2

Substituting the appropriate value for each group (.535 and .465) yielded a proportional chance criterion of .502. Thus the groups are essentially equal for the purposes of the analysis, and the predictive accuracy of 64.7% is better than chance.

Hair et al. (1979) suggested that classification accuracy should be at least 25% greater than by chance. Therefore, with chance accuracy of 50%, the predictive accuracy should be no less than 62.5% to justify interpretation of the discriminant function. Based on this criterion, the classification accuracy of the present analysis is acceptable.

The predictive accuracy is somewhat overstated because the data used to develop the discriminant model were also used to test the model. The jackknifed classification matrix is a method of correcting for this upward bias which excludes the element being classified from the computation of

the function (Dixon et al., 1983). The percent correctly classified using this procedure was 63.5%, a value not substantially different from the "uncorrected" accuracy measure. This level of classification accuracy also exceeds the minimum 62.5% criterion, indicating that differences on the predictor variables do provide meaningful information for identifying CAD group membership.

In summary, the discriminant function using four predictor variables, marital status, education, political preference, and annual income, was successful in predicting membership in the two CAD groups. Compared to low CADs, high CADs were more often married and living with their spouses. They were also less conservative politically, more highly educated, and had lower annual household incomes. Based on these results, it appears that marital status and political preference, while not strong identifiers of CAD group membership by themselves, would be helpful discriminators when combined with education and annual income.

Null Hypothesis 5

High CAD consumers and low CAD consumers do not differ in selected types of media usage:

- A. Hours of commercial TV viewing
- B. Hours of PBS TV viewing
- C. Frequency of program viewing
(9 program types)
- D. Frequency of magazine reading
(16 magazine types)
- E. Frequency of newspaper reading
- F. Hours of radio listening

The results of Hypothesis 1 confirmed that CAD attitudes are associated with CAD behaviors. However, these attitudes may be related to other behaviors as well. Hypothesis 5 is concerned with testing the relationship between CAD attitudes and media usage behaviors.

Since the data for hypotheses 5A and 5B are interval scale, the researcher had intended to test them with a t-test of means. However, a normality test of the distributions of both sets of data (i.e., commercial and educational) indicated that they deviated materially from the normal distribution. For commercial TV viewing, the Kolmogorov-Smirnov D for the low CAD group was .20 ($p = .01$) and for the high CAD group was .19 ($p = .01$). Both values were statistically significant indicating that the observed distributions were not normal. A test of the data on educational TV viewing produced similar results (high CAD $D = .30$, $p = .01$ and low CAD $D = .33$, $p = .01$).

In view of the foregoing statistics, it was decided to use chi-square tests to determine if the CAD groups differed in the number of hours they spent watching commercial and educational television each week. High CADs watched more of both types of television programs, but the differences were not statistically significant (Table 29).

Respondents were asked to indicate how often they watched nine different types of programs: news programs, dramas, comedies, game shows, soap operas, movies, talk shows, sports programs, and nature or wildlife shows. Using a chi-square test of independence, only three program types

Table 29

CAD Group in Relation to Weekly Hours of Commercial and Educational TV Viewing

Weekly Viewing Hours	CAD Group			
	High		Low	
	No.	%	No.	%
Commercial TV				
0 - 5	29	30.9	34	37.4
6 - 10	25	26.6	24	26.4
> 10	40	42.5	33	36.2
Total	94	100.0	91	100.0
$\chi^2 = 1.04$ $df = 2$ $p = .594$ Cramer's V = .08				
Educational TV				
0	45	47.9	56	60.9
> 0	49	52.1	36	39.1
Total	94	100.0	92	100.0
$\chi^2 = 3.17$ $df = 1$ $p = .075$ Cramer's V = .13				

were found to be statistically significant: news programs, game shows, and nature or wildlife shows (Table 30). High CADs watched news and nature programs more often and games shows less often than low CAD consumers. Cramer's V values were low to moderate for all three types of programs, with nature programs indicating a slightly stronger relationship to CAD classification.

In a similar manner, sixteen kinds of magazines were tested: business, major news, television, general sports, human interest, tabloids, automotive, specific sports, domestic, men's magazines, fashion, educational, home or garden, commentary, literary, and nature. Of these, two magazines exhibited statistically significant chi-squares values: educational and literary. High CADs read both types more often than low CADs (Table 31). This result seems to confirm the findings associated with the higher education levels of high CAD consumers. One would expect educational and literary magazines to appeal to individuals with more education.

Two other magazines had chi-square values approaching statistical significance: fashion and nature. More high CADs said that they never read fashion magazines (36.7% versus 27.8%) and slightly more said they sometimes read this type of magazine (50.5% versus 44.4%). However, fewer high CADs read fashion magazines often (13.3% versus 27.8%). With respect to nature magazines, high CADs read more magazines related to nature topics than low CADs (50.6% versus 33.3%).

Table 30

CAD Group in Relation to Frequency of Watching Three
Types of Television Programs

Frequency of Watching	CAD Group			
	High		Low	
	No.	%	No.	%
News programs				
never	3	3.2	10	10.9
sometimes	35	37.6	48	52.2
often	55	59.2	34	36.9
Total	93	100.0	92	100.0
$\chi^2 = 10.76$ $df = 2$ $p = .0046$ Cramer's V = .24				
Game shows				
never	39	44.3	19	21.8
sometimes	41	46.6	54	62.1
often	8	9.1	14	16.1
Total	88	100.0	87	100.0
$\chi^2 = 10.31$ $df = 2$ $p = .0058$ Cramer's V = .24				
Nature programs				
never	22	25.0	47	53.4
sometimes	45	51.1	34	38.6
often	21	23.9	7	8.0
Total	88	100.0	88	100.0
$\chi^2 = 17.59$ $df = 2$ $p = .0002$ Cramer's V = .32				

Table 31

CAD Group in Relation to Frequency of Reading Four Types of Magazines

Frequency of Reading	CAD Group			
	High		Low	
	No.	%	No.	%
Education magazines				
never	25	27.5	47	52.8
sometimes	43	47.2	31	34.8
often	23	25.3	11	12.4
Total	91	100.0	89	100.0
$\chi^2 = 12.89$ $df = 2$ $p = .0016$ Cramer's V = .27				
Literary magazines				
never	60	65.9	74	81.3
sometimes/often	31	34.1	17	18.7
Total	91	100.0	91	100.0
$\chi^2 = 5.55$ $df = 1$ $p = .0185$ Cramer's V = .18				
Nature magazines				
never	45	49.4	60	66.7
sometimes	30	33.0	21	23.3
often	16	17.6	9	10.0
Total	91	100.0	90	100.0
$\chi^2 = 5.69$ $df = 2$ $p = .0583^*$ Cramer's V = .18				
Fashion magazines				
never	33	36.7	25	27.8
sometimes	45	50.0	40	44.4
often	12	13.3	25	27.8
Total	90	100.0	90	100.0
$\chi^2 = 5.97$ $df = 2$ $p = .0507^*$ Cramer's V = .18				

*not statistically significant, but indicative of possible trend

To assess overall magazine reading, a composite score was calculated for each individual. This score was equal to the sum of all magazines which the subject read either sometimes or often. Since scores ranged from 16 to 48, those below 33 were considered low and those equal to or above 33 were labeled high. A chi-square test of these scores did not reveal any statistically significant differences between the CAD groups ($\chi^2 = .60$, $p = .4388$) (Table 32).

Newspaper reading was another media variable for which there were only minor differences. Both CAD groups had approximately the same number who read the paper on a daily basis (67.7% high CAD, 64.5% low CAD) and several times a week or never (32.3% high CAD, 35.5% low CAD). The chi-square value (.22) was not statistically significant ($p = .6421$).

The final media usage variable, daily hours of radio listening, could not be evaluated because of inconsistent data. The question read, "On an average weekday (Monday through Friday) about how much time do you spend listening to the radio?" Although the researcher intended to elicit daily hours of radio listening, many people responded with weekly hours of listening. Undoubtedly the question was worded inappropriately to obtain accurate responses.

Mitchell (1983) is the only researcher who considered these media usage variables. His results differed from those presented here in several respects. People who held societally conscious values displayed a low incidence of commercial TV watching, preferring instead to view edu-

Table 32

CAD Group in Relation to Magazine Reading Scores and
Frequency of Newspaper Reading

Variable	CAD Group			
	High		Low	
	No.	%	No.	%
Magazine reading score				
low	73	93.6	74	90.2
high	5	6.4	8	9.8
Total	78	100.0	82	100.0
$\chi^2 = 0.60$ $df = 1$ $p = .4388$ Cramer's V = -.06				
Frequency of newspaper reading				
never/several times a week	30	32.3	33	35.5
daily	63	67.7	60	64.5
Total	93	100.0	93	100.0
$\chi^2 = 0.22$ $df = 1$ $p = 0.6421$ Cramer's V = .03				

cational television. When they did look at commercial television programs, they watched more sports programs and fewer soap operas than the average viewer. They were above average readers of many sections of the newspaper (e.g., business) and many types of magazines. The obvious disparities between the high CADs and the societally conscious consumers may be a factor of sample gender. The fact that almost half of the societally conscious group was male could easily account for the dissimilar results.

Summary of Findings

Table 33 summarizes the research results. The CAD scale performed well in all analyses and was associated with clothing consumption behaviors, individually and as a set. Further it was related to the SRCB scale, indicating a connection with general social responsibility.

Respondents with complete CAD scales were divided into thirds. The top third was designated "high CADs," and the bottom third was called "low CADs." Sociodemographic and media usage variables were analyzed using chi-square tests and correlations. Education, age, educational and literary magazines, and news and nature television programs were positively related to CAD attitudes. Two variables, income and watching TV game shows, were negatively related to CAD attitudes. Discriminant analysis permitted the simultaneous evaluation of the sociodemographic variables to determine which were important in distinguishing high and low CADs. The analysis verified the importance of education and income as

discriminators and added marital status and political preference as significant variables in the discriminant function.

Table 33

Summary of Findings

Purpose	Statistical Procedure	Finding
Validation of CAD scale		
a. Internal consistency	correlation & partial corr.	CAD subscales are unidimensional & valid
b. External consistency	similarity coeff.	
c. Verify unidimensionality	factor analysis	
d. Predictive validity	correlation (Beh.)	
e. Construct validity	correlation (SRCB)	
Hypothesis testing		
a. Behavioral criteria		
H1: High CADs are not > low CADs in...		
A. Frequency of purchase of secondhand clothes	χ^2	higher
B. Portion of garments recycled	χ^2	higher
C. Frequency of purchase classic style clothes	χ^2	higher
D. Set of CAD behaviors	χ^2	higher
b. Attitudinal variable		
H2: High CADs are not > low CADs in SRCB		
	t-test	higher
c. Sociodemographic variables		
H3: No difference between high & low CADs on 7 sociodemog. variables:		
A. Marital status	χ^2	NS
B. Education	χ^2	higher
C. Age	χ^2	higher
D. Race	χ^2	NS
E. Political preference	χ^2	NS
F. Income	χ^2	NS
G. Org. involvement	χ^2	NS

Table 33 continued

Purpose	Statistical Procedure	Finding
H4: No relation between CAD scale & 6 socio-demographic variables:		
A. Education	r	+
B. Age	r	+
C. Income	r	-
D. Other 3 variables	r	NS
Prediction of CAD group using sociodemographic variables		
A. Marital status (married)	Discrim. Analysis	higher
B. Political preference (conservative)		lower
C. Income		lower
D. Education		higher
d. Media usage variables		
H5: No diff. between high & low CADs in media usage:		
A. Hours of commercial TV viewing	χ^2	NS
B. Hours of educ. TV viewing	χ^2	NS
C. Freq. of watching TV programs	χ^2	
- News		higher
- Games		lower
- Nature		higher
- all others		NS
D. Freq. of magazine reading	χ^2	
- Educational		higher
- Literary		higher
- all others		NS
E. Freq. of newspaper reading	χ^2	NS

CHAPTER VI

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

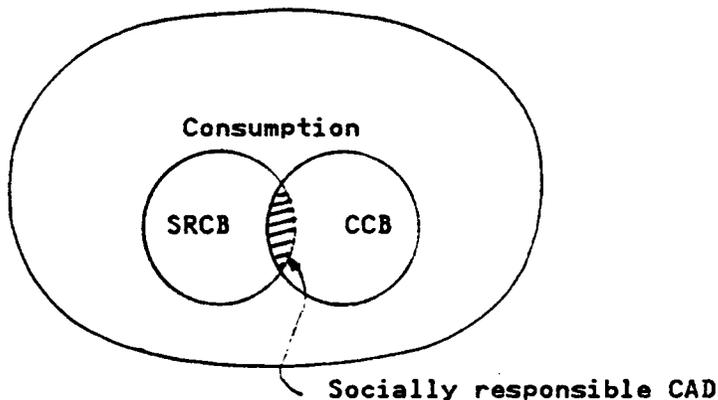
Conclusions

To draw conclusions from the findings, it is helpful to refer to the research objectives as presented in the introduction.

Objective 1. To understand the attitudes and behaviors involved in clothing waste and their relationship to socially responsible consumption.

The review of literature provided cursory knowledge of the factors involved in clothing waste and the nature of attitudes, behaviors, and their interaction. Using that background, it was hypothesized that people concerned about the environment would perceive a connection between resource conservation and apparel consumption. As a result they would try to reduce clothing waste by increasing the duration of garment ownership or by expanding the use-value of clothing. These individuals were expected to exercise a greater degree of analytical buying in order to increase garment satisfaction and reduce discards. They would utilize secondhand markets for clothing acquisition and discard and attempt to obtain greater use from garments through recycling or by purchasing multipurpose or classic styles.

Because of the relationship of attitudes to behavior, it was also expected that the individuals just described would exhibit attitudes consistent with their actions. An instrument (CAD scale) measuring attitudes about the hypothesized behaviors was developed. These attitudes were found to be closely associated with a measure of clothing acquisition and discard behaviors. Further, CAD attitudes were related to attitudes regarding socially responsible consumption. To the extent that attitudes are indicants of behavior, the findings imply that socially responsible consumption behavior does extend to the specific product field of clothing as conceptualized.



However, public awareness of the connection between clothing consumption and environmental issues is far from universal and decidedly less prevalent than awareness of the ecological impact of other consumer products, such as unleaded gasoline and returnable soft drink bottles. Although most respondents felt there was a relationship between resource conservation and clothing consumption, 74 (20.7%) of the larger sample of 377 did not perceive a relationship. Sixty-three (17.2%) agreed (or strongly agreed) that people should not be asked to conserve in clothing

consumption, and 43 (9.9%) did not think resource conservation should be considered when buying clothes.

As discussed in the literature review, there are a variety of sources of waste associated with clothing (Table 4). This research has concentrated on waste resulting from the underutilization or premature disposal of clothing, waste which often creates environmental problems in the form of trash. Many consumers did not consider this factor in their clothing acquisition and discard, perhaps placing a higher priority on minimizing other aspects of waste, e.g., loss of time or of psychological satisfaction. There is certainly room for argument about the relative importance of various sources of clothing waste. Eventually however, nature may determine these priorities for us. As the pollution problem worsens, considerations less crucial to human survival, such as psychological satisfaction, may become secondary to environmental ones or be redirected into other outlets (e.g., secondhand clothing or remodeling of garments).

An understanding of responsible clothing consumption attitudes and behaviors includes some awareness of the motivation behind them. Altruism and practicality (efficiency) were discussed earlier as possible motives (Chapter II). The selection of a sample from the middle- to high-income brackets was designed to address another possible explanation for responsible clothing consumption, namely that people who practice these behaviors (CAD) may be reflecting a desire to save money rather than a concern for the environment. Although high CADs tended to have lower incomes than low CADs, the strong relationship between the SRCB scale and

the CAD scale appears to indicate that CAD behavior is somehow connected to a sense of social responsibility. There are also indications that the price may be a secondary concern to this segment. The investigation of O'Reilly et al. (1984) concerning a similar group, personal sale shoppers, revealed that price by itself was not an important variable to them. It is conceivable that both motivations operate concurrently. In fact, the two may be inextricable since each is concerned with conserving resources. Hinton and Margerum's (1984) findings support this notion. Their study revealed that ecological and economic concern were related to each other and to the use of and attitudes toward used clothing.

Objective 2. To develop meaningful measures to assess the attitudes and behaviors related to clothing waste and socially responsible consumption.

As discussed above, the CAD scale was initially designed to measure attitudes about six areas of clothing consumption: garment recycling, purchase of secondhand clothing, importance of fashion in acquisition and discard, purchase of multipurpose garments, analytical buying, and general clothing wastefulness and conservation. From a pool of 99 items, 26 were selected for inclusion in the final CAD scale. Refinement of the scale was accomplished by means of two pretests. Pretest I, using a sample of 63 female college seniors, resulted in a reduction of the measure by 25 items. Fifty-two additional items were deleted following Pretest II, a survey of 376 college women. The data from the second pretest were analyzed by means of a computer program (PACKAGE) which calculated inter-item correlations, partial correlation coefficients,

similarity coefficients, factor loadings, and alpha coefficients. These statistics provided information on the internal consistency, external consistency, dimensionality, and reliability of the subscales or factors.

Pretesting resulted in the elimination of two factors which did not contribute to the scale's ability to discriminate. The "analytical buying" cluster of items was designed to measure the ability to judge clothing quality, consider pertinent information when shopping, and plan clothing purchases as opposed to buying on impulse. Judging from the pretest sample, most consumers engage in these practices when shopping for clothes. The universality of the behaviors included in "analytical buying" made the subscale a poor means of differentiating between groups of shoppers. Perhaps a more definitive concept of analytical buying would have been successful. It may be that socially responsible consumers tend to look at certain garment attributes (e.g., fiber content or care instructions) more often than other shoppers. Likewise when planning clothing purchases, they may prefer to buy small items like accessories to coordinate their wardrobes rather than larger, more expensive apparel items.

The "multipurpose" factor was also deleted from the CAD scale. The subscale items dealt with respondent feelings about garment versatility and variety and the importance of clothing which could be worn for different occasions. Low and/or negative correlations in this subscale indicated that there was a lack of consistency among the items. Apparently

people appreciate clothes which can serve several purposes, but they also want a large variety of garments.

The four subscales remaining in the final CAD scale were: "second-hand," "recycling," "general," and "fashion." Pretest results prompted a rewording of items in the "recycling" factor to improve its internal consistency. The measure was administered to a sample of 405 female patrons of a shopping mall in Roanoke, Virginia. The data were subjected to the same battery of tests used during pretesting and to additional analyses to determine construct and predictive validity. The findings indicated that the CAD scale is composed of four unidimensional subscales. In addition, the low inter-subscale correlations confirmed that the CAD construct is a multidimensional concept, not wholly defined by any one factor.

The theoretical model suggests that there is a connection between attitudes and behavior. Chi-square tests were used to evaluate the association of CAD scale attitudes with related behaviors, i.e., garment recycling and purchase of secondhand and classic clothing. In each case these tests were statistically significant, suggesting that CAD attitudes and behaviors were not independent. High correlations between the CAD scale and the behavior index also established the scale's predictive or concurrent validity.

Finally, the strong association between the CAD scale and the SRCB scale (t-test, correlation) indicated that the former was related to ec-

ological consciousness. In other words, the scale performed in accordance with theoretical expectations, thereby establishing construct validity. The overall performance of the CAD scale in testing leads to the conclusion that it is a reasonably reliable and valid measure of attitudes concerning socially responsible clothing acquisition and discard.

Objective 3. To determine the characteristics of consumers identified by their attitudes and behaviors relative to clothing waste and socially responsible consumption.

Based on the findings in Chapter V, a profile of consumers with favorable attitudes toward socially responsible clothing acquisition and discard behavior (high CADs) can be drawn. With respect to responsible clothing consumption, high CADs buy secondhand clothes more often, recycle a larger portion of their clothing, and purchase classic style garments more frequently than low CADs. High CADs also display attitudes which coincide with these behaviors. They are strongly in favor of garment recycling and feel that it should be encouraged. They agree that clothing is often wasted and conservation should be considered in clothing consumption. As a whole, the group is not particularly concerned about wearing the latest fashion or being in style. High CADs appreciate secondhand clothing, are aware of secondhand markets, and do not feel that shopping for used clothes is inconvenient or embarrassing. Several sociodemographic characteristics distinguish high CADs from low CADs. High CADs tend to be older and have lower annual household incomes and higher levels of education. They may also be less politically conserva-

tive and more prone to be married and living with their spouses (when considered in conjunction with other variables).

One reason for the disparity between income and education levels was discussed in the previous chapter. Namely, high CADs, despite their high education levels may choose or be forced to choose lower paying jobs. Alternatively, they may prefer to stay home with their families rather than work outside the home. These explanations suggest that high CADs may have an individualistic nature which rejects society's standard of success and emphasizes self-fulfillment. This individualism coincides with previous descriptions of the socially responsible consumer (Antil, 1978; Henion & Wilson, 1976; Mitchell, 1983).

High CADs also exhibit media usage habits which distinguish them from low CADs. They watch more news and nature television programs, but are less likely to watch game shows. High CADs read more educational and literary magazines, a practice which seems to agree with their higher education levels. The trends noted for fashion and nature magazines (i.e., read fewer fashion and more nature magazines) also seem reasonable in light of other characteristics identified with high CADs. Conceivably, their interest in classic fashions would make them less likely to read magazines that usually concentrate on current or high fashion. Also, since high CADs are more ecologically concerned (higher SRCB scores) than low CADs, they would be expected to show a greater interest in nature magazines.

Related studies suggest additional characteristics that might be associated with the high CAD consumer. For example, because of the relationship between the CAD scale and the SRCB scale, one might expect the characteristics which Antil found to be associated with high scores on the SRCB scale to be similarly related to high CAD scale scores. Table 34 shows his findings.

One should be cautious in assuming that all of the variables associated with high SRCB scores are also characteristics of high CADs. Although the two constructs are similar, they are not identical, as the results indicate. Antil (1978) found that his scale was not related to age, income, or education but was positively associated with a liberal outlook and organizational involvement. In contrast, the CAD scale had a statistically significant relationship with age, income, education, and political preference (discriminant analysis), but not with organizational involvement (although the trend for the latter variable was in the same direction as Antil's results). In the study by O'Reilly et al. (1984), consumers of clothing at personal sales were less inclined to talk with friends about products and less concerned with brand names. These findings also conflict with Antil's, and yet one suspects that they might be descriptive of high CADs, a group that enjoys shopping for used clothing.

Nonetheless, information given in Table 34 still offers opportunities for speculation and investigation. Socially responsible consumers (SRCs) are aware of specials, shop discount stores, budget for purchases, and

Table 34

Factors Positively Related to Antil's SRCB Scale

Factors

Demographic

population density and urbanization

Psychographic

organizational involvement
criticism of U.S. government
concern about health, diet, exercise
enjoyment of outdoors
liberal outlook on societal issues
satisfaction with life and job
belief in personal ability
taking direct action
individualism
not considering oneself a swinger
shopping at discount stores
awareness of specials and prices
budgeting for purchases
use of coupons
brand loyalty
use of publications like Consumer Reports
seeking advice from friends about products
to purchase
reading newspaper daily
subscribing to one or more magazines

Scales

nonconservatism (low scores on
"conservatism" scale)
perceived consumer effectiveness
effort in environmental areas
knowledge of environmental issues
traditional social responsibility
environmental concern
socially responsible behavior index
self designated SRCB

use coupons. These characteristics might be the specific buying behaviors that could be used to identify high CADs in an "analytical buying" scale (discussion on p. 201). SRCs possess satisfaction with their lives and jobs, a belief in their own abilities, and a sense of individualism. If high CADs also possess these traits, then their lower incomes may be a reflection of these qualities as was suggested earlier in this section (p. 204).

The characteristics of Mitchell's societally conscious individual (Table 35) are similar in many respects to those of the high CAD consumer. The societally conscious are well educated and middle aged, patronize secondhand stores, and wear conservative clothing. Their low economic motivation/high personal motivation may also be a trait which high CADs share. A major difference between the two groups lies in their annual household incomes. Additionally, they tend to watch different TV programs and read different magazines.

Implications

The consumer group just described is a segment of a larger population, female patrons of a Roanoke shopping mall. The designation of Roanoke as a national test market implies that this population is representative of similar populations in other locations. Thus, the implications can be generalized to those populations.

Table 35

Mitchell's Characteristics of the Societally Conscious*

Characteristics

Attitudes

Less traditional about women's role in society, legalization of marijuana, & unmarried sex
More concerned about environment, pollution, energy crisis
Less confidence in elected, company, military leaders
Believe industrial growth & spending on military arms should be limited

Financial Status

Substantial incomes and total assets
Low economic motivation--driven more by private convictions
More prone to go into debt & buy tangibles (gems, gold, art)
More likely to own own home and have mortgage

Activity Patterns

Participate in arts, cultural events, travel
Concerned about health aspects of food
Work at home
Use library and self-learning
Watch more educational TV and less commercial TV
Watch more sports programs and fewer soap operas
Engage in healthful outdoor sports & intellectual games
Patronize specialty shops & secondhand stores
Read more magazines (especially news), newspapers, books
More interested in solar heating
Have life & health insurance

Consumption Patterns

Own two or more cars, buy more subcompacts
Own dishwashers, garbage disposals, food processors
Own camping/backpacking equipment, exercise equipment, swimming pools
Own more color TV, video games, stereo components, blank recording tapes, pocket calculators, telephone extensions
More conservative in dress
Consume more alcohol, but have more varied preferences
Consume more seafood, mineral water, fruit juice, coffee, & sugar-free soft drinks, but fewer regular soft drinks

Table 35 continued

Characteristics

Demographics

Excellent education: 58% graduated from college, 15% not
beyond high school

Liberal politics

Intellectual jobs

Affluence: 50% HH incomes >\$25,000 (in 1979), average
\$27,200

Census regions: live in New England and Pacific states,
not South

Sex: balanced between male and female

Age: middle age, median age 39

Marital status: 70% married, above avg. divorced/separated

Race: 7% black (above other groups)

*Partial list

Knowledge of the characteristics of socially responsible clothing consumers could be of use to a number of individuals. Retailers of new clothing could approach this segment by emphasizing the classic styling and resale value of their clothing. Merchants of secondhand clothing might use the information to guide their efforts to reach new customers (high CADs) and increase sales. Services businesses could also target this group by emphasizing their role in recycling. For example, seamstresses and tailors could specialize in alterations or repairs for secondhand garments. Laundry and dry cleaning establishments could cater to consumers wanting to revitalize old clothes. If the popularity of secondhand clothing grows, a need may emerge for designers who remodel used garments. Zikmund and Stanton (1971) maintained that recycling was essentially a channels-of-distribution issue. Thus demand may increase for the once commonplace "rag and junk" man, who collected unwanted goods from discarders and delivered them to users.

Marketers wishing to target this segment through print media could use educational, literary, and possibly nature magazines. Fashion magazines would not be a particularly efficient means of communication since high CADs comprise a smaller percentage of the readership of these magazines. News or nature/wildlife television programs would provide an effective way of reaching this segment through broadcast media.

Consumers with a low to moderate interest in clothing conservation (low CADs) can also be identified using the results of this study. Their sociodemographic characteristics and media habits are essentially the re-

verse of the high CAD group. A large number of them are under 25 years of age with high school educations or less. They watch more television game shows and fewer news and nature programs. Fashion magazines are more popular with this group than educational or literary magazines. To reach this segment, marketers in the secondhand clothing business could advertise their stock of high fashion items and the fashionability of shopping at secondhand stores. Individuals with design skills might restyle used garments and market them as "one of a kind" or "like new." Merchants seeking usable secondhand goods to recycle might wish to concentrate on low CADs as a supply source since they tend to prefer new clothing. A possible media vehicle for those wishing to raise the eco-consciousness of this group might be television game shows which are non-consumption oriented.

One prevalent need highlighted by this study is the need for more information: facts about where to buy and how to select secondhand apparel, how to recycle garments, and how clothing waste can affect the environment. To fill the need, home economists and other professionals could emphasize these areas in their lectures to students or extension presentations. Many home economists are in a position to teach recycling and selection skills, explain the advantages of extending the use-value of garments, and suggest unique ways of improving the fashionability of older garments. In addition, they could influence consumer values and help to initiate a "redefinition of how we live" (Grossman, 1979, p. 5) by explaining the drawbacks of society's preoccupation with newness and encouraging an appreciation for the old.

Support for consumer education should also come from public officials attempting to protect the quality of life enjoyed by their constituencies. Cultivation of public demand for durable and/or secondhand clothing might help reduce solid waste. Public appeals could stress both altruistic and economic rationale, much as they did during the energy crisis of the 1970's.

The pollution problem is one which will necessitate an alteration of society's values. In many cases these changes will require inconveniences. To repeat Kardash's (1976) statement, "Virtually all of us are 'ecologically concerned consumers'--our degree of concern, however varying directly with the convenience/inconvenience of a particular 'eco-request'" (p. 5). Indeed, the findings of O'Reilly et al. (1984) strongly suggested that convenience was a key factor in clothing recycling. Purchasing and recycling of secondhand clothes demand an investment of money and, perhaps more importantly, time. Social stigma also acts as a deterrent to the acquisition and use of secondhand clothes. For many people the costs of responsible CAD behavior outweigh the benefits. These costs, combined with the natural resistance of attitudes to change (attitude stability), imply that strong measures will be required to promote socially responsible clothing acquisition and discard.

Recommendations for Future Study

Typically, research answers some questions and poses additional ones. That is the case here. The socially responsible CAD construct involves

clothing acquisition and discard practices which are motivated by personal needs and by a concern for society. As Winakor (1969) indicated, acquisition and discard are only two aspects of clothing consumption. Others which could be investigated are maintenance, usage, and storage. For instance, the electrical energy used in garment maintenance, the resources required for apparel storage, and the functionality and durability of clothing in use seem to be logically related to waste and conservation.

The CAD scale itself could be refined. Statistical data gathered on two of the subscales, "general" and "fashion", indicated that internal consistency could be improved. Although the "analytical buying" and "multipurpose clothing" subscales seem to be logically related to socially responsible clothing consumption, they were not used in this study. It is possible that revision and subsequent inclusion of these factors in the CAD scale might produce a more definitive measure.

The theoretical model for this research (Chapter III) allows for a two-way causal relationship between attitudes and behaviors. Although CAD attitudes were found to be associated with CAD behaviors, it was not the purpose of this study to establish the direction of that relationship. However, future researchers may wish to explore this area. If attitudes are the antecedent variable, then it should be possible to effect behavior changes by altering those attitudes. That is, promotion of socially responsible attitudes should in turn promote socially responsible behavior.

Investigation of the influence of economic considerations on CAD attitudes and behavior would provide clarification on consumer motivation. An attempt was made to control this variable by restricting the sample to shoppers at a mall patronized by predominantly middle- to upper-class consumers. Tighter control of the economic variable would help to define the role of economic factors in the formation of CAD attitudes and behavior. As an alternative or additional measure, shoppers could be asked about their reasons for holding certain attitudes or practicing particular behaviors. This information would also be helpful in clarifying other motivation questions, such as the importance of altruism and practicality (efficiency) in ecology-conscious clothing consumption.

There is a dimension element involved in conservation which was not addressed by this research. Those who demonstrate responsible clothing consumption attitudes and behaviors can do so on a number of levels. Geographic levels might include individual, family, neighborhood, city, state, country, or world. Distinctions could also be made according to racial, ethnic, religious, ideological, political, or other cultural affiliation. Clearly, responsible consumption at one level may conflict with that at other levels. The global society would derive the greatest ecological benefit from individual consumption attitudes and actions that promote world conservation, although admittedly, the information required for this type of orientation is not available. Nonetheless, evaluation of the scope of the consumer's attitudes would provide enlightening and useful information relative to the CAD construct. In a sense, this di-

mensional aspect can be thought of as "transcendence of the particular" (see p. 16) or the ability to expand one's attitudinal horizons beyond immediate circumstances.

A few studies have employed observation as a primary or secondary means of obtaining data. This method, if used covertly, lessens the influence of social desirability as a confounding variable. In conjunction with an overt technique, such as the CAD scale, it would serve as a check on the reliability of participant responses.

Testing with different samples would expand the base of information about the CAD construct. For example, the use of a racially or sexually heterogeneous group would permit interesting comparisons with the sample in this study. Administration of the CAD scale to a "known group" of environmentalists such as the Sierra Club, would provide another test of the scale's validity.

It has been stated previously that knowledge is an important factor in the formation of attitudes and behaviors. The effect of an increase in the knowledge level of subjects concerning CAD attitudes and related behaviors is a potentially rich research topic. A variety of educational or informational programs could be designed and evaluated to determine their relative effectiveness in raising public awareness and effecting change in consumer behavior.

BIBLIOGRAPHY

- Aaker, D. A., & Day, G. S. (1983). Marketing research (2nd ed.). New York: John Wiley & Sons.
- Abelson, R. P., & Rosenberg, M. J. (1958). Symbolic psycho-logic: A model of attitudinal cognition. Behavioral Science, 3, 1-13.
- Allport, G. W. (1935). Attitudes. In C. A. Murchison (Ed.), A handbook of social psychology (Vol. 2, pp. 798-844). Worcester, MA: Clark University Press.
- Allport, G. W., Vernon, P. E., & Lindzey, G. (1951). Study of values. Boston: Houghton Mifflin.
- Altpeter, B. K. (1963). An investigation of consumer behavior in clothing purchases as related to clothing values. Unpublished master's thesis, Cornell University, Ithaca, NY.
- Anderson, W. T., Jr., & Cunningham, W. H. (1972). The socially conscious consumer. Journal of Marketing, 36(3), 23-31.
- Anderson, W. T., Jr., Henion, K. E., & Cox, E. P., III. (1975). Socially vs ecologically responsible consumers. In R. C. Curhan (Ed.), 1974 Combined Proceedings (Series No. 36, pp. 304-311). American Marketing Marketing Association.
- Anspach, K. (1961). Clothing selection and the mobility concept. Journal of Home Economics, 53(6), 428-430.
- Antil, J. H. (1978). The construction and validation of an instrument to measure socially responsible consumption behavior: A study of the socially responsible consumer. Dissertation Abstracts International, 39, 5111A. (University Microfilms No. 7902570).
- Aronson, E. (1968). Dissonance theory: Progress and problems. In R. P. Abelson, E. Aronson, W. J. McGuire, P. M. Newcomb, M. H. Rosenberg, & P. H. Tannenbaum (Eds.), Theories of cognitive consistency: A sourcebook (pp. 3-27). Chicago: Rand McNally.
- Avery, C. E. W. (1967). Practices of homemakers concerning clothing discards. Unpublished master's thesis, University of Rhode Island, Providence.
- Bandura, A., & Walters, R. (1963). Social learning and personality development. New York: Holt, Rinehart, & Winston.
- Baron, R. A., & Byrne, D. (1984). Social psychology: Understanding human interaction (4th ed.). Boston: Allyn & Bacon.

- Bass, F. M., Pessemier, E. A., & Lehmann, D. R. (1972). An experimental study of relationships between attitude, brand, preferences, and choice. Behavioral Science, 17, 532-541.
- Batelle (Columbus Laboratories). (1972, June). A study to identify opportunities for increased solid waste utilization (Paper and textile report prepared for National Association of Secondary Material Industries, Inc.). Columbus, OH: Author.
- Bauer, R. A. (1968). Does attitude change take place before or after behavior change? In L. Alder & I. Crespi (Eds.), Attitude research on the rocks (pp. 3-7). Chicago: American Marketing Association.
- Baumgarten, S. A. (1975). The innovative communicator in the diffusion process. Journal of Marketing Research, 12, 12-18.
- Becker, G. S. (1965). A theory on the allocation of time. The Economic Journal, 75(299), 493-517.
- Belch, M. A. (1979). Identifying the socially and ecologically concerned segment through life-style research: Initial findings. In K. W. Henion, II & T. C. Kinnear (Eds.), The conserver society (pp. 69-81). Chicago: American Marketing Association.
- Bem, D. J. (1965). An experimental analysis of self-persuasion. Journal of Experimental Social Psychology, 1, 199-218.
- Bem, D. J. (1966). Inducing belief in false confessions. Journal of Personality and Social Psychology, 3, 707-710.
- Bem, D. J. (1968). Attitudes as self-descriptions: another look at the attitude-behavior link. In A. G. Greenwald & T. C. Brock (Eds.), Psychological foundations of attitudes (pp. 197-215). New York: Academic Press.
- Berkowitz, L. (1966). A laboratory investigation of social class and national differences in helping behavior. International Journal of Psychology, 1, 231-242.
- Berkowitz, L. (1972). Social psychology. Glenview, IL: Scott, Foresman.
- Berkowitz, L., & Daniels, L. R. (1964). Affecting the salience of the social responsibility norm: Effects of past help on the response to dependency relationships. Journal of Abnormal and Social Psychology, 68, 275-281.
- Berkowitz, L., & Lutterman, K. G. (1968). The traditional socially responsible personality. Public Opinion Quarterly, 32, 169-185.
- Berlyne, D. E. (1960). Conflict, arousal, and curiosity. New York: McGraw-Hill.

- Bogardus, E. S. (1931). Fundamentals of social psychology (2nd ed.). New York: Century.
- Bohannon, P. (1963). Social anthropology. New York: Holt, Rinehart, & Winston.
- Boyle, M. M. (1965). A study of the termination of use of selected items of women's clothing as related to attitudes on saving and use of clothing. Unpublished doctoral dissertation, The Pennsylvania State University.
- Bradlyn, B. J. (1965). An exploratory study of some factors affecting the disuse of clothing among two groups of women college graduates. Unpublished master's thesis, University of California, Los Angeles.
- Brehm, J. W., & Cohen, A. R. (1962). Explorations in cognitive dissonance. New York: John Wiley & Sons.
- Brew, M. L., O'Leary, R. R., & Dean, L. C. (1956). Family clothing inventories and purchases with an analysis to show factors affecting consumption (Agriculture Information Bulletin No. 148, U.S. Department of Agriculture). Washington, DC: U.S. Government Printing Office.
- Britton, V. (1968). Personal finance. New York: American Book.
- Britton, V. (1974, Spring). Clothing and textiles: Supplies, prices, and outlook for 1974. Family Economics Review, U. S. Department of Agriculture (ARS-NE-36, CFE 1), 18-20.
- Britton, V. (1975, Fall). Stretching the clothing dollar. Family Economics Review, U. S. Department of Agriculture (ARS-NE-36, CFE 1), 3-7.
- Brooker, G. (1976). The self-actualizing socially conscious consumer. Journal of Consumer Research, 3, 107-112.
- Brown, F. E. (1980). Marketing research: A structure for decision making. Reading, MA: Addison-Wesley.
- Burk, M. (1968). Consumption economics: A multidisciplinary approach. New York: John Wiley & Sons.
- Burns, M. D. (1964). Clothing purchase analysis used by a selected group of women consumers as related to their socio-economic levels, education, and values. Unpublished master's thesis, The Pennsylvania State University, University Park.
- Calahan, D. (1968). Correlates of respondent accuracy in the Denver validity study. Public Opinion Quarterly, 32, 607-622.

- Campbell, D. T. (1963). Social attitudes and other acquired behavioral dispositions. In S. Koch (Ed.), Psychology: A study of a science (Vol. 6, pp. 94-172). New York: McGraw-Hill.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 81-105.
- Cantril, H. (1934). Attitudes in the making. Understanding the child, 4, 13-15.
- Cantril, H. (1946). The intensity of an attitude. Journal of Abnormal Social Psychology, 41, 129-135.
- Carlsen, E. (1973). The economics of recycling. Environmental Affairs, 2, 653-666.
- Cartwright, D., & Harary, F. (1956). Structural balance: A generalization of Heider's theory. Psychological Review, 63, 277-293.
- Chic comes to secondhand clothes. (1981, February). Changing Times, pp. 79-80.
- Churchill, G. A., Jr. (1979). A paradigm for developing better measures of marketing constructs. Journal of Marketing Research, 16, 64-73.
- Churchill, G. A., Jr. (1983). Marketing research: Methodological foundations (3rd ed.). Chicago: Dryden Press.
- Clark, J., & Tiffit, L. (1966). Polygraph and interview validation of self reported deviant behavior. American Sociology Review, 31, 516-606.
- Clausen, A. (1968). Response validity: Vote report. Public Opinion Quarterly, 32, 588-606.
- Cohen, J. (1969). Statistical power analysis for the behavioral sciences. New York: Academic Press.
- Constantini, E., & Hanf, K. (1972). Environmental concern and Lake Tahoe: A study of elite perceptions, backgrounds, and attitudes. Environment and Behavior, 4(2), 209-242.
- Cook, S. W., & Selltitz, C. (1964). A multiple-indicator approach to attitude measurement. Psychological Bulletin, 62, 36-55.
- Creekmore, A. M. (1963). Clothing behaviors and their relation to general values and to the striving for basic needs. Unpublished doctoral dissertation, The Pennsylvania State University.

- Danes, J. E., & Mann, O. K. (1984). Unidimensional measurement and structural equation models with latent variables. Journal of Business Research, 12, 337-352.
- D'Arge, R. C., & Hunt, E. K. (1971). Environmental pollution, externalities, and conventional economic wisdom: A critique. Environmental Affairs, 1, 266-286.
- Day, G. S. (1970). Buyer attitudes and brand choice behavior. New York: Free Press.
- DeFleur, M. L., & Westie, F. R. (1958). Verbal attitudes and overt acts: An experiment on the salience of attitudes. American Sociological Review, 23, 667-673.
- DeFleur, M. L., & Westie, F. R. (1963). Attitude as a scientific concept. Social Forces, 42, 17-31.
- Deutscher, I. (1966). Words and deeds: Social science and social policy. Social Problems, 13, 235-254.
- Dixon, W. J., Engelman, L., Frane, W. J., Hill, M. A., Jennrich, R. J., & Toporek, J. D. (Eds.). (1983). BMDP statistical software manual 1985 printing. Berkley, CA: University of California Press.
- Doob, L. W. (1947). The behavior of attitudes. Psychological Review, 54, 135-156.
- Dunlap, R. E. (1975). The impact of political orientation on environmental attitudes and actions. Environment and Behavior, 7(4), 428-454.
- Ehrlich, H. (1969). Attitudes, behavior, and intervening variables. American Sociologist, 4, 29-34.
- Elgin, D. S., & Mitchell, A. (1977). Voluntary simplicity: Life-style of the future? The Futurist, 11, 200-209.
- Engel, J. F., & Blackwell, R. D. (1982). Consumer behavior (4th ed.) New York: Dryden Press.
- Falk, R. A. (1971). Toward a world order respectful of the global ecosystem. Environmental Affairs, 1, 251-265.
- Faramelli, N. J. (1971). Perilous links between economic growth, justice and ecology: A challenge for economic planners. Environmental Affairs, 1, 218-227.
- Feather, N. T. (1967). A structural balance approach to the analysis of communication effects. In L. Berkowitz (Ed.), Advances in exper-

- imental social psychology (Vol. 3, pp. 100-165). New York: Academic Press.
- Festinger, L. (1964). A theory of cognitive dissonance. Stanford, CA: Stanford University Press.
- Fishbein, M. (1966). The relationships between beliefs, attitudes, and behavior. In S. Feldman (Ed.) Cognitive consistency (pp. 199-223). New York: Academic Press.
- Fishbein, M. (1967). Attitude and the prediction of behavior. In M. Fishbein (Ed.), Readings in attitude theory and measurement (pp. 477-492). New York: John Wiley & Sons.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.
- Fisk, G. (1973). Criteria for a theory of responsible consumption. Journal of Marketing, 37(2), 24-31.
- Fiske, D. W., & Maddi, S. R. (1961). Functions of varied experience. Homewood, IL: Dorsey.
- Fitzsimmons, C., & Perkins, N. L. (1947). Some Illinois clothing consumption patterns. Journal of Home Economics, 39(8), 495-497.
- Fowler, H. (1965). Curiosity and exploratory behavior. New York: Macmillan.
- Francis, E. C. (1971). Selected clothing usage and buying practices of a specified group of college women and their mothers. Unpublished doctoral dissertation, The Pennsylvania State University.
- Fratzke, D. M. L. (1976). Clothing values as related to clothing inactivity and discard. Unpublished master's thesis, Iowa State University, Ames.
- Fritzsche, D. J. (1975). The environmental consistency of consumer purchases. In R. C. Curhan (ed.), 1974 Combined Proceedings (Series No. 36, pp. 312-315). American Marketing Association.
- Gilgo, B. L. (1962). A comparison of clothing values held by college students and reasons why they seldom or never wear the unused garments they keep in their wardrobe. Unpublished master's thesis, The Pennsylvania State University, University Park.
- Gilmore, L., & Rosencranz, M. L. (1961, January). Mothers' preferences and buying practices for boys' shirts, jeans, and slacks (Research Bulletin 873, North Central Regional Publication 116). Wooster, OH: Ohio Agricultural Experiment Station.

- Gregory, P. M. (1948). Fashion and monopolistic competition. Journal of Political Economy, 56, 69-75.
- Greeno, D. W., Sommers, M. S., & Kernan, J. B. (1973). Personality and implicit behavior patterns. Journal of Marketing Research, 10, 63-39.
- Grieg, N. V. (1975). Infrequently worn women's clothing: Reasons for and relationship to certain socio-economic variables. Unpublished master's thesis, Washington State University, Pullman.
- Grossman, M. A. (1979, July 29). Families fight energy price increases. St. Paul Sunday Pioneer Press (Trends Section), pp. 1, 5.
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Grablovsky, B. J. (1979). Multivariate data analysis with readings. Tulsa, OK: Petroleum Publishing.
- Hansen, F. (1968). An attitude for analyzing consumer behavior. In L. Alder & I. Crespi (Eds.), Attitude research on the rocks (pp. 139-159). Chicago: American Marketing Association.
- Hartley, E. L., & Hartley, R. E. (1952). Fundamentals of social psychology. New York: Knopf.
- Hartmann, G. W. (1949). Clothing: Personal problem and social issue. Journal of Home Economics, 41(6), 295-298.
- Hawes, D. A., & Gilmore, D. L. (1967). Clothing utilization: Length of wear in married women's wardrobes. Journal of Home Economics, 59(2), 112-115.
- Heider, F. (1946). Attitudes and cognitive organization. Journal of Psychology, 21, 107-112.
- Henion, K. E. (1972). The effect of ecologically relevant information on detergent sales. Journal of Marketing Research, 9(1), 10-14.
- Henion, K. E., II. (1982). Ecological marketing: Will the normative become descriptive? In D. A. Aaker & G. S. Day (Eds.), Consumerism: Search for the consumer interest. (pp. 280-291). New York: Free Press.
- Henion, K. E., II, & Wilson, W. H. (1976). The ecologically concerned consumer and locus of control. In K. E. Henion, II & T. C. Kinnear (Eds.), Ecological Marketing (pp. 131-144). Chicago: American Marketing Association.
- Herberger, R. A., Jr., & Buchanan, D. I. (1971). The impact of concern for ecological factors on consumer attitudes and buying behavior. In F. C. Allvine (Ed.), Combined Proceedings: 1971 Spring and Fall Conferences (Series No. 33, pp. 644-646). American Marketing Association.

- Hinkle, D. E., Wiersma, W., & Jurs, S. G. (1979). Applied statistics for the behavioral sciences. Chicago: Rand McNally.
- Hinton, K., & Margerum, B. J. (1984). Adolescent attitudes and value concerning used clothing. Adolescence, 19(74), 397-402.
- Hoffman, A. M. (1956). Clothing behavioral factors for a specific group of women related to aesthetic sensitivity and certain socio-economic and psychological background factors. Unpublished doctoral dissertation, The Pennsylvania State University.
- Hogan, M. J., & Paolucci, B. (1979). Energy conservation: Family values, household practices and contextual variables. Home Economics Research Journal, 7, 210-218.
- Hovland, C., Harvey, O., & Sherif, M. (1957). Assimilation and contrast effects in reactions to communication and attitude change. Journal of Abnormal Social Psychology, 55, 244-252.
- Hunter, J. E., & Cohen, S. H. (1969). PACKAGE: A system of computer routines for the analysis of correlational data. Educational and Psychological Measurement, 29, 697-700.
- Hunter, J. E., & Gerbing, D. W. (1982). Unidimensional measurement, second order factor analysis, and causal models. Research in Organizational Behavior, 4, 267-320.
- Jacoby, J., Berning, C. K., & Dietvorst, T. F. (1977). What about disposition? Journal of Marketing, 41(2), 22-28.
- Jeffries, V., & Ransford, H. E. (1972). Ideology, social structure, and the Yorty-Bradley mayoralty election. Social Problems, 19, 358-372.
- Joyce, M. C. (1966). A study of 236 families' purchases of children's clothing. Journal of Home Economics, 58(6), 445-447.
- Kardash, W. J. (1976). Corporate responsibility and the quality of life: Developing the ecologically concerned consumer. In K. E. Henion, II & T. C. Kinnear (Eds.), Ecological marketing (pp. 5-9). Chicago: American Marketing Association.
- Kassarjian, H. H. (1971). Incorporating ecology into marketing strategy: The case of air pollution. Journal of Marketing, 55(3), 61-65.
- Katz, D., & Stotland, E. (1959). A preliminary statement to a theory of attitude structure and change. In S. Koch (Ed.), Psychology: A study of a science (Vol. 3, pp. 423-475). New York: McGraw-Hill.
- Kelley, E. A., Daigle, C. W., LaFleur, R. S., & Wilson, L. J. (1973). Clothing acquisition and use practices of early adolescents (Home Economics Research Report No. 2). Baton Rouge: Louisiana State Uni-

versity and Agricultural & Mechanical College, Agricultural Experiment Station.

Kelley, E. A., Geiger, C. A., & Bailey, J. N. B. (1975a). Clothing practices of rural adolescents: Part 2. Wardrobe planning practices, shopping standards, and clothing resources of rural adolescents from lower social class families (Home Economics Research Report No. 4). Baton Rouge: Louisiana State University and Agricultural & Mechanical College, Agricultural Experiment Station.

Kelley, E. A., Geiger, C. A., & Bailey, J. N. B. (1975b). Clothing practices of rural adolescents: Part 4. Patterns of clothing use of rural adolescents from lower social class families (Home Economics Research Report No. 6). Baton Rouge: Louisiana State University and Agricultural & Mechanical College, Agricultural Experiment Station.

Kiesler, C. A., Collins, B. E., & Miller, N. (1969). Attitude change. New York: John Wiley & Sons.

Kinney, T. C., & Taylor, J. R. (1973). The effect of ecological concern on brand perceptions. Journal of Marketing Research, 10(2), 191-197.

Kinney, T. C., & Taylor, J. R. (1974). Identifying ecological buying segments through attitude measurement. Journal of Business Administration, 5(2), 33-43.

Kinney, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically concerned consumers: Who are they? Journal of Marketing, 38(2), 20-24.

King, C. W., & Sproles, G. B. (1973). Predictive efficacy of psychopersonality characteristics in fashion change-agent identification. Proceedings of the 81st Annual Convention of the American Psychological Association, 8, 841-842.

Krebs, D. L. (1970). Altruism--An examination of the concept and a review of the literature. Psychological Bulletin, 73, 258-302.

Krech, C., & Crutchfield, R. S. (1948). Theory and problems in social psychology. New York: McGraw-Hill.

Krech, D., Crutchfield, R. S., & Ballachey, E. L. (1962). Individual in society. New York: McGraw-Hill.

Krugman, H. E. (1943). Affective response to music as a function of familiarity. Journal of Abnormal and Social Psychology, 38, 338-392.

Krugman, H. (1965). The impact of television advertising: Learning without involvement. Public Opinion Quarterly, 30, 583-596.

LaPiere, R. T. (1934). Attitudes vs. actions. Social Forces, 13, 230-237.

- Lapitsky, M. (1952). An analysis of economic waste in the wardrobes of a group of home economics trained women. Unpublished master's thesis, Ohio State University, Columbus.
- Lapitsky, M. (1961). Clothing values and their relation to general values and social security and insecurity. Dissertation Abstracts International, 34, 244-245. (University Microfilms No. MIC 61-2382).
- Lazer, W. (1969). Marketing's changing social relationships. Journal of Marketing, 33(1), 3-9.
- Lehmann, D. R. (1979). Market research and analysis. Homewood, IL: Richard D. Irwin.
- Lewin, K. (1935). Dynamic theory of personality. New York: McGraw-Hill.
- Lindgren, D. R. (1972). The nature and prevalence of the ecologically motivated consumer. Unpublished master's thesis, University of Minnesota, Minneapolis.
- Liska, A. E. (1974). Emergent issues in the attitude-behavior consistency controversy. American Sociological Review, 39, 261-272.
- Lohman, J. D., & Reitzes, D. C. (1954). Deliberately organized groups and racial behavior. American Sociological Review, 19, 342-344.
- Lowry, R. P. (1971). Toward a radical view of the ecological crisis. Environmental Affairs, 1, 350-359.
- Maloney, M. P., & Ward, M. P. (1973). Ecology: Let's hear from the people. American Psychologist, 28, 583-586.
- Maloney, M. P., Ward, M. P., & Braucht, G. N. (1975). Psychology in action: A revised scale for the measurement of ecological attitudes and knowledge. American Psychologist, 30, 787-790.
- Manoushagian, M. B. (1977). A study of characteristic practices to be found in selected families purchasing used clothing in a rural community. Unpublished master's thesis, Texas Woman's University, Denton.
- Margerum, B. J. (1978, May). (Article, no title). ACPTC Newsletter, p. 4.
- Margerum, B. J. (1981). The clothing scene--A teaching guide. Journal of Home Economics, 73(1), 45-47.
- Margerum, B. J., Walker, N. E., & Kernaleguen, A. (1977). Men's clothing practices. Journal of Home Economics, 69(1), 39-40.
- Marquardt, R. A., McGann, A. F., & Makens, J. C. (1974). Consumer responses to the problem of disposable containers. In S. Ward & P.

- Wright (Eds.), Advances in consumer research (Vol. 1, pp. 38-50). Urbana, IL: Association for Consumer Research.
- Martin, C. R., Jr. (1971-72). What consumers of fashion want to know. Journal of Retailing, 47(4), 65-71, 94.
- Martin Research Associates, Inc. (1984). Tanglewood mall. Roanoke, VA: Martin Research Associates.
- Maslow, A. H. (1937). The influence of familiarization on preference. Journal of Experimental Psychology, 21, 162-180.
- McGuire, W. J. (1966). The current status of cognitive consistency theories. In S. Feldman (Ed.), Cognitive consistency (pp. 1-46). New York: Academic Press.
- McGuire, W. J. (1968). The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), The handbook of social psychology (Vol. 3, 2nd ed., pp. 136-314). Reading, MA: Addison-Wesley.
- McGuire, W. J. (1976). Some internal psychological factors influencing consumer choice. Journal of Consumer Research, 2, 302-319.
- Minard, R. D. (1952). Race relationships in the Pocahontas coal field. Journal of Social Issues, 8(1), 29-44.
- Mitchell, A. (1983). The nine American lifestyles. New York: Macmillan.
- Mitchell, T. R., & Biglan, A. (1971). Instrumentality theories: Current issues in psychology. Psychological Bulletin, 76, 432-454.
- Murphy, P. E., Kangun, N., & Locander, W. B. (1978). Environmentally concerned consumers--Racial variations. Journal of Marketing, 42(4), 61-66.
- Nelson, J. E. (1974). An empirical investigation of the nature and incidence of ecologically responsible consumption of housewives. Dissertation Abstracts International, 35, 3222A. (University Microfilms No. 74-26, 215).
- Nettler, G., & Golding, E. H. (1946). The measurement of attitudes toward the Japanese in America. American Journal of Sociology, 52, 31-39.
- Newcomb, T. M. (1943). Personality and social change. New York: Holt.
- Nicosia, F. M., & Mayer, R. N. (1976). Toward a sociology of consumption. Journal of Consumer Research, 3(2), 65-75.
- Nunnally, J. C. (1978). Psychometric theory (2nd ed.). New York: McGraw-Hill.

- O'Brien, H. T. (1970). Selection and use of handbags, hosiery, shoes, and specific outerwear garments by secretarial trainees. Unpublished master's thesis, The Pennsylvania State University, University Park.
- O'Connor, A. R. (1967). Clothing behaviors as related to selected general values for a group of male students. Unpublished master's thesis, The Pennsylvania State University, University Park.
- O'Reilly, L., Rucker, M., Hughes, R., Gorang, M., & Hand, S. (1984). The relationship of psychological and situational variables to usage of a second-order marketing system. Journal of the Academy of Marketing Science, 12(3), 53-76.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). The measurement of meaning. Urbana: University of Illinois Press.
- Osgood, C. E., & Tannenbaum, P. H. (1955). The principle of congruity in the prediction of attitude change. Psychological Review, 62, 42-55.
- Otis, M. J. R. (1958). Selective use of clothing by twenty-five freshman and twenty-five sophomore girls in the college of home economics at The Pennsylvania State University. Unpublished master's thesis, The Pennsylvania State University, University Park.
- Packard, V. (1960). The waste makers. New York: David McKay.
- Paolucci, B. (1978). Energy decisions and quality living. Journal of Home Economics, 70(5), 22-23.
- Paolucci, B., & Hogan, M. J. (1973). The energy crisis and the family. Journal of Home Economics, 65(9), 12-15.
- Pasnak, M. F. D., & Ayers, R. W. (1969). Clothing attitudes and personality characteristics of fashion innovators. Journal of Home Economics, 61(9), 698-702.
- Pennock, J. L., & Jaeger, C. M. (1964). Household service life of durable goods. Journal of Home Economics, 56(1), 22-26.
- Pepitone, A. (1966). Some conceptual and empirical problems of consistency models. In S. Feldman (Ed.), Cognitive consistency (pp. 257-297). New York: Academic Press.
- Pershing, P. L. (1974). The acquisition, type, use and disposal of clothing worn by faculty men from selected colleges. Unpublished master's thesis, University of Missouri, Columbia.
- Peters, R. S. (1974). Psychology and ethical development. London: George Allen & Unwin.

- Peters, S. C. (1968). Clothing acquired from selected supplementary sources by low to moderate income families in a midwestern city. Unpublished master's thesis, Iowa State University, Ames.
- Phillips, D. L. (1971). Knowledge from what. Chicago: Rand McNally.
- Pinard, L. D. (1974). Factors contributing to men's discard of selected items of business clothing. Unpublished master's thesis, University of Nevada, Reno.
- Pirages, D., & Ehrlich, P. R. (1972, March 16). If all Chinese had wheels. The New York Times, p. 47.
- Reizenstein, R. C., Hills, G. E., & Philpot, J. W. (1975). Willingness to pay for control of air pollution: A demographic analysis. In R. C. Curhan (Ed.), 1974 combined proceedings (pp.323-328). American Marketing Association.
- Richards, E. A., & Hawthorne, R. E. (1971). Values, body cathexis, and clothing of male university students. Journal of Home Economics, 63(3), 190-194.
- Richardson, S. O. (1981). Consumers of used clothing. Unpublished master's thesis, Oregon State University, Corvallis.
- Rokeach, M. (1968). Beliefs, attitudes, and values. San Francisco: Jossey-Bass.
- Rosenberg, M. J., & Hovland, C. I. (1960). Cognitive, affective, and behavioral components of attitudes. In C. I. Hovland & M. J. Rosenberg (Eds.), Attitude organization and change (pp. 1-14). New Haven, CT: Yale University Press.
- Rosencranz, M. L. (1958, August). Relevance of occupation and income to mothers' selection of clothing for daughters (Technical Bulletin 268). East Lansing: Michigan State University, Agricultural Experiment Station.
- Rucker, M. H. (1981). The thrift shop as a source of used textile products: An alternative marketing system. Combined Proceedings, Central, Eastern and Western Regional Meetings, Association of College Professors of Textiles and Clothing, 221.
- Ryan, M. S. (1966). Clothing: A study in human behavior. New York: Holt, Rinehart, & Winston.
- SAS Institute Inc. (1982). SAS user's guide: Basics, 1982 Edition. Cary, NC: SAS Institute.
- SAS Institute Inc. (1982). SAS user's guide: Statistics, 1982 Edition. Cary, NC: SAS Institute.

- Schrank, H. L., & Gilmore, D. L. (1973). Correlates of fashion leadership: Implications for fashion process theory. Sociological Quarterly, 14, 534-543.
- Schuman, H., & Johnson, M. (1976). Attitudes and behavior. In A. Inkeles, J. Coleman, & N. Smelser (Eds.), Annual review of sociology (Vol. 2, pp. 161-207). Palo Alto, CA: Annual Reviews.
- Schwartz, S. H. (1968). Words, deeds, and the perception of consequences and responsibility in action situations. Journal of Personality and Social Psychology, 10, 232-242.
- Scitovsky, T. (1976). The joyless economy. New York: Oxford University Press.
- Scott, W. A. (1968). Attitude measurement. In G. Lindzey & E. Aronson (Eds.), The handbook of social psychology (Vol. 2, 2nd ed., pp. 204-273). Reading, MA: Addison-Wesley.
- Shapiro, S. J. (1978). Marketing in a conserver society. Business Horizons, 21, 3-13.
- Sherif, C. W., Sherif, M., & Nebergall, R. (1965). Attitude and attitude change. Philadelphia: Saunders.
- Sherif, M., & Hovland, C. I. (1961). Social judgment: Assimilation and contrast effects in communication and attitude change. New Haven, CT: Yale University Press..
- Sherif, M., & Sherif, C. W. (Eds.) (1967). Attitude, ego-involvement and change. Westport, CT: Greenwood Press.
- Sherrill, S. J. (1949). A study of the economic waste in clothing among young women employed in Greensboro, North Carolina. Unpublished master's thesis, Consolidated University of North Carolina,
- Short, M. L. (1963). Some social factors influencing the family acquisition, use and disposal of clothing. Unpublished master's thesis, University of Missouri, Columbia.
- Slocum, A. C. (1975). Acquisition, inventory and discard of shoes as related to values, goals, satisfactions, and other selected variables. Unpublished doctoral dissertation, The Pennsylvania State University.
- Smith, B. (1974). Fashion preferences and fashion buying practices of professional black women. Unpublished master's thesis, Louisiana State University, Baton Rouge.
- Spranger, E. (1966). Types of Men (P. J. W. Pigors, Trans.). New York: Johnson Reprint. (Original work published 1928).

- Sproles, G. B. (1979). Fashion: Consumer behavior toward dress. Minneapolis: Burgess.
- Sproles, G. B. (1981). Perspectives of fashion. Minneapolis: Burgess.
- Sproles, G. B., & Geistfeld, L. V. (1978). Issues in analyzing consumer satisfaction/dissatisfaction with clothing and textiles. In Advances in Consumer Research (Vol. 5, pp. 383-391). Ann Arbor, MI: Association for Consumer Research.
- Staats, C., & Staats, A. (1957). Meaning established by classical conditioning. Journal of Experimental Psychology, 54, 74-80.
- Stampfl, R. W. (1978). The postindustrial consumer. Journal of Home Economics, 70(1), 25-28.
- Suedfeld, P. (Ed.) (1971). Attitude change: The competing views. Chicago: Aldine Atherton.
- Summers, J. O. (1970). The identity of women's clothing fashion opinion leaders. Journal of Marketing Research, 7, 178-185.
- Tittle, C. R., & Hill, R. J. (1967a). The accuracy of self-reported data and prediction of political activity. Public Opinion Quarterly, 31, 103-106.
- Tittle, C. R., & Hill, R. J. (1967b). Attitude measurement and prediction of behavior: An evaluation of conditions and measurement techniques. Sociometry, 30, 199-213.
- Thurstone, L. L. (1931). The measurement of social attitudes. Journal of Abnormal and Social Psychology, 26, 249-269.
- Tognacci, L. N., Weigel, R. H., Wideen, M. F., & Vernon, D. T. A. (1972). Environmental quality: How universal is public concern? Environment and Behavior, 4(1), 73-86.
- Veblen, T. (1912). The theory of the leisure class. New York: MacMillan.
- VeVerka, M. J. (1974). Inactive clothing of selected families. Unpublished master's thesis, Iowa State University, Ames.
- Walker, N. P. (1968). Clothing expenditures as related to selected values, self-actualization, and buying practices, an exploratory study. Unpublished doctoral dissertation, The Pennsylvania State University.
- Walker, B. A. (1967). Degree of analytical buying, selected attitudes and practices of women in the purchase of their outerwear garments.

Unpublished master's thesis, The Pennsylvania State University, University Park.

Walters, C. G. (1978). Consumer behavior, theory and practice (3rd ed.) Homewood, IL: Richard D. Irwin.

Wasson, C. R. (1975). Consumer behavior: A managerial viewpoint. Austin, TX: Austin Press.

Wasson, C. R. (1968). How predictable are fashion and other product life cycles? Journal of Marketing, 32(3), 36-43.

Watson, V. C. K. (1974). Consumer expectations versus consumer experiences with selected items of men's clothing in relation to wear life and fashion life. Unpublished master's thesis, University of Nevada, Reno.

Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrist, L. (1966). Unobtrusive measures: Nonreactive research in the social sciences. Chicago: Rand McNally.

Webster, F. E., Jr. (1975). Determining the characteristics of the socially conscious consumer. Journal of Consumer Research, 2(3), 188-196.

Weinblatt, I. (1983). Dancer Fitzgerald Sample guide to test marketing. New York: Dancer Fitzgerald Sample.

Williams, T. G. (1982). Consumer behavior fundamentals and strategies. St. Paul: West.

Winakor, G. (1969). The process of clothing consumption. Journal of Home Economics, 61(8), 629-634.

Winakor, G., & Martin, M. (1963). Used clothing sales in a small city. Journal of Home Economics, 55(5), 357-359.

Zikmund, W. G., & Stanton, W. J. (1971). Recycling solid wastes: A channels-of-distribution problem. Journal of Marketing, 35(3), 34-39.

APPENDICES

Appendix A - Pretest I Questionnaire*

Appendix B - Pretest II Questionnaire*

Appendix C - PACKAGE Statistics

Appendix D - Final Questionnaire

Appendix E - Frequency Tables

*Subscale designations have been added to the original questionnaires: S = secondhand, R = recycling, G = general, M = multipurpose, F = fashion, A = analytical. The relationship of the item to the subscale is indicated by + (positively related) or - (negatively related).

APPENDIX A

Pretest I Questionnaire

CLOTHING QUESTIONNAIRE

This questionnaire contains a number of statements about the way you feel about clothing. For each statement listed please indicate whether you personally agree or disagree with the statement by placing a check in the appropriate space. There are no right or wrong answers. The best answer is what you believe is true for yourself. The response categories are as follows:

- SD - I strongly disagree with the statement.
- D - I disagree with the statement.
- N - I neither agree nor disagree with the statement.
- A - I agree with the statement.
- SA - I strongly agree with the statement.

If a statement is ambiguous or unclear please place a check in the left hand margin next to that question.

		SB	D	N	A	SA
A+	1. I usually look at several garments before deciding which one to buy.	___	:___	:___	:___	:___
S+	2. Buying used clothing doesn't bother me.	___	:___	:___	:___	:___
R+	3. I think people should recycle their old clothes.	___	:___	:___	:___	:___
A+	4. I'm a pretty good judge of garment quality.	___	:___	:___	:___	:___
G-	5. I don't think much clothing is really wasted.	___	:___	:___	:___	:___
R-	6. Repairing a damaged garment is usually more trouble than buying a new one.	___	:___	:___	:___	:___
S-	7. I think it is embarrassing to shop for clothes at yard sales.	___	:___	:___	:___	:___
R-	8. I think throwing clothes away is the best method for disposing of them.	___	:___	:___	:___	:___
S-	9. I don't like buying used clothing because it often lacks labels and care instructions.	___	:___	:___	:___	:___
A+	10. I am able to keep my clothes for a long time because I shop carefully.	___	:___	:___	:___	:___
S+	11. I like shopping in stores that offer secondhand apparel.	___	:___	:___	:___	:___
F+	12. Fashion generally has little to do with my reasons for discarding garments.	___	:___	:___	:___	:___

- | | SD | D | N | A | SA |
|---|-----|------|------|------|------|
| S 13. The reason people buy used clothing is because they cannot afford new clothing. | ___ | :___ | :___ | :___ | :___ |
| F+ 14. I think it is irresponsible for the clothing industry to encourage frequent style changes. | ___ | :___ | :___ | :___ | :___ |
| S+ 15. I would be willing to purchase some clothing in a secondhand store. | ___ | :___ | :___ | :___ | :___ |
| A- 16. People spend too much time trying on garments before making a purchase. | ___ | :___ | :___ | :___ | :___ |
| S- 17. Shopping for used clothing is just too inconvenient. | ___ | :___ | :___ | :___ | :___ |
| A+ 18. Planning for apparel purchases is an important part of shopping. | ___ | :___ | :___ | :___ | :___ |
| S- 19. Secondhand clothing is generally dirty and unsanitary. | ___ | :___ | :___ | :___ | :___ |
| F+ 20. I like to buy classic fashions that don't go out of style. | ___ | :___ | :___ | :___ | :___ |
| R+ 21. I would be willing to spend time and/or money to repair a used garment. | ___ | :___ | :___ | :___ | :___ |
| G- 22. Very few garments are discarded before they are worn out. | ___ | :___ | :___ | :___ | :___ |
| S- 23. I can usually tell if someone is wearing a secondhand garment. | ___ | :___ | :___ | :___ | :___ |
| F+ 24. I would rather be out of style than have to buy clothing that is unflattering. | ___ | :___ | :___ | :___ | :___ |
| S+ 25. I like to encourage others to buy used clothes. | ___ | :___ | :___ | :___ | :___ |
| A+ 26. I would rather not buy a garment than have to buy it under pressure. | ___ | :___ | :___ | :___ | :___ |
| S+ 27. Shopping for secondhand clothing is fun. | ___ | :___ | :___ | :___ | :___ |
| G- 28. Surplus clothing is not a major problem because organizations like Goodwill ensure that most discards are given to others. | ___ | :___ | :___ | :___ | :___ |
| S+ 29. Flea markets and thrift shops have some very good apparel buys. | ___ | :___ | :___ | :___ | :___ |
| R 30. I would give more garments away if I had someone to give them to. | ___ | :___ | :___ | :___ | :___ |
| S- 31. Secondhand garments just don't appeal to me. | ___ | :___ | :___ | :___ | :___ |
| A+ 32. Consumers should be aware of fibers, fabrics, construction, and care of garments before buying them. | ___ | :___ | :___ | :___ | :___ |

- S- 33. I have very little knowledge about where to buy secondhand clothes. _____:_____:_____:_____:_____
- A+ 34. Garments bought on impulse often turn out to be less satisfactory than those which are planned purchases. _____:_____:_____:_____:_____
- S 35. People dislike wearing used garments. _____:_____:_____:_____:_____
- F+ 36. I think it is ridiculous for women to feel they must always have the latest styles. _____:_____:_____:_____:_____
- R+ 37. I like to make my garments last as long as possible before getting rid of them. _____:_____:_____:_____:_____
- S- 38. I would not be willing to buy secondhand clothing under any circumstances. _____:_____:_____:_____:_____
- F+ 39. I think that keeping up with fashion is very impractical. _____:_____:_____:_____:_____
- R- 40. There's not much difference between buying a new dress and paying to have an old one remodeled. _____:_____:_____:_____:_____
- A+ 41. Consumers should be given instructions on how to evaluate the quality of used clothes. _____:_____:_____:_____:_____
- G+ 42. Discarded clothing adds to our pollution problem. _____:_____:_____:_____:_____
- S+ 43. I wouldn't mind receiving used clothing as a gift. _____:_____:_____:_____:_____
- R+ 44. I would be willing to take extra time to give clothes away rather than throw them out. _____:_____:_____:_____:_____
- R+ 45. Consumers should be provided with information about ways to recycle garments. _____:_____:_____:_____:_____
- R+ 46. There should be more opportunities for people to sell their unwanted clothes. _____:_____:_____:_____:_____
- F- 47. I consider myself a fashion conscious person. _____:_____:_____:_____:_____
- G+ 48. I get irritated when I think about how much clothing is wasted. _____:_____:_____:_____:_____
- G+ 49. If people limited their wardrobes to classic clothes, it would help prevent pollution. _____:_____:_____:_____:_____
- G- 50. There isn't much of a relationship between conservation of resources and clothing consumption. _____:_____:_____:_____:_____
- A- 51. People who are deliberate a long time before buying a garment are indecisive. _____:_____:_____:_____:_____
- F+ 52. It doesn't bother me to be out of style. _____:_____:_____:_____:_____
- F- 53. I think people should dress fashionably even if styles aren't flattering to them. _____:_____:_____:_____:_____

- F+ 54. Consumers should try to buy more classic fashions. _____:_____:_____:_____:_____
- G+ 55. Before acquiring a garment, people should consider the energy resources needed to care for it. _____:_____:_____:_____:_____
- F+ 56. Selecting clothes that please me is more important than choosing the latest style. _____:_____:_____:_____:_____
- A+ 57. People should spend more time planning their clothing acquisitions. _____:_____:_____:_____:_____
- G+ 58. I would try to avoid waste in clothing if I knew how to go about it. _____:_____:_____:_____:_____
- S+ 59. Local officials should publish lists of secondhand clothing stores in their areas. _____:_____:_____:_____:_____
- M+ 60. It is wasteful to buy clothes which can be used for only one purpose. _____:_____:_____:_____:_____
- F+ 61. When I select clothing, I don't really care what others are wearing. _____:_____:_____:_____:_____
- M+ 62. It is wiser to rent or borrow clothing for special occasions rather than buy a garment that will be used only a few times. _____:_____:_____:_____:_____
- G- 63. I am willing to accept solid waste pollution and resource depletion in order to have attractive clothes. _____:_____:_____:_____:_____
- G- 64. People should not be asked to conserve in clothing consumption because they are already expected to conserve in so many other ways. _____:_____:_____:_____:_____
- R+ 65. Instead of buying new garments, consumers should remodel what they already have. _____:_____:_____:_____:_____
- S- 66. I doubt that I would obtain more used clothing even if more shops were available. _____:_____:_____:_____:_____
- F- 67. I would be willing to pay more for very fashionable garments. _____:_____:_____:_____:_____
- S+ 68. Buying used garments is less wasteful than buying new ones. _____:_____:_____:_____:_____
- R- 69. The main advantage of giving clothes to the Salvation Army is the tax deduction. _____:_____:_____:_____:_____
- S+ 70. People should make an effort to find out where they can obtain used clothing. _____:_____:_____:_____:_____
- R+ 71. I don't think we are doing enough to encourage people to recycle clothing. _____:_____:_____:_____:_____
- G+ 72. Solid waste pollution resulting from clothing discards is a significant problem. _____:_____:_____:_____:_____

- | | SD | D | N | A | SA |
|---|-----|------|------|------|------|
| A+73. People really need more guidance on wardrobe planning so they can make better apparel selections. | ___ | :___ | :___ | :___ | :___ |
| S+74. Shopping in secondhand clothing stores is a chic thing to do. | ___ | :___ | :___ | :___ | :___ |
| S+75. Consignment shops often have clothes that look like new. | ___ | :___ | :___ | :___ | :___ |
| S+76. I don't think we are doing enough to make recycled clothing socially acceptable. | ___ | :___ | :___ | :___ | :___ |
| R+77. I would be willing to give my old clothes to other people even if I had to deliver them personally. | ___ | :___ | :___ | :___ | :___ |
| S-78. I don't like to purchase used clothing because I can't judge its quality. | ___ | :___ | :___ | :___ | :___ |
| S+79. I enjoy telling people I buy secondhand apparel. | ___ | :___ | :___ | :___ | :___ |
| F-80. It doesn't make sense to buy really durable garments because they go out of style before they wear out. | ___ | :___ | :___ | :___ | :___ |
| G+81. Most consumers buy much more clothing than they need. | ___ | :___ | :___ | :___ | :___ |
| G-82. In the near future, advanced technology will probably eliminate pollution problems resulting from discarded clothing. | ___ | :___ | :___ | :___ | :___ |
| G-83. It doesn't matter if people don't keep their clothing for long because eventually it will be passed on to the needy. | ___ | :___ | :___ | :___ | :___ |
| G-84. It is important for people to continue buying clothes so the garment industry can survive. | ___ | :___ | :___ | :___ | :___ |
| F-85. I would not be willing to limit my wardrobe to classic clothes just to conserve resources. | ___ | :___ | :___ | :___ | :___ |
| G+86. I would be willing to pay an additional tax on clothing to help with solid waste pollution. | ___ | :___ | :___ | :___ | :___ |
| R 87. The reason most people give used clothing to Goodwill is to aid the less fortunate. | ___ | :___ | :___ | :___ | :___ |
| R+88. There are more options available now for disposing of used clothing than in the past. | ___ | :___ | :___ | :___ | :___ |
| F+89. People should refuse to buy styles that will be popular for only a short time. | ___ | :___ | :___ | :___ | :___ |
| F+90. I would be willing to wear out of style garments as a protest against a fashion change I disliked. | ___ | :___ | :___ | :___ | :___ |

SD D N A SA

- G+91. People should consider ecological issues when they buy clothes. _: _: _: _: _:
- R-92. I don't like giving my old clothes to others because I'm afraid it will embarrass them. _: _: _: _: _:
- A+93. I don't like to buy a garment until I've shopped around. _: _: _: _: _:
- M+94. I like to buy clothes that can be worn for several occasions. _: _: _: _: _:
- R-95. I don't like to keep clothes very long because I tire of them so quickly. _: _: _: _: _:
- A+96. Before making a purchase, I consider how the garment will go with the rest of my wardrobe. _: _: _: _: _:
- S+97. Many people who buy secondhand apparel can afford full-price clothing. _: _: _: _: _:
- F-98. A garment should not be expected to be stylish for more than one or two seasons. _: _: _: _: _:
- G+99. Most people buy clothes even when they already have all they need. _: _: _: _: _:

Comments or suggestions about this questionnaire:

APPENDIX B

Pretest II Questionnaire

CLOTHING SURVEY

This questionnaire contains a number of statements that deal with your feelings about clothing. For each statement listed please place a check in the appropriate space. There are no right or wrong answers. For a few of these, it is possible that the statement does not apply to you. In those cases, please check DNA for "does not apply." (Only some of the statements will have spaces for this response). If you are uncertain about other statements, give the answer that best describes your general opinion or impression. The response categories are as follows:

- SD - I strongly disagree with the statement.
- D - I disagree with the statement.
- N - I neither agree nor disagree with the statement.
- A - I agree with the statement.
- SA - I strongly agree with the statement.
- DNA - Does not apply

If a statement is ambiguous or unclear please place a check in the left hand margin next to that question. Several definitions are provided to help you complete the questionnaire.

SECONDHAND OR USED CLOTHING - clothing which has been worn previously by someone else.

RECYCLE - remodel or make over.

SOLID WASTE - consumer products which have been disposed of in public or private dumping grounds.

CONSIGNMENT SHOP - a store that acts as a retail agent for individuals who want to sell secondhand clothes.

CLASSIC CLOTHES - garments designed to remain in style indefinitely.

SECONDHAND CLOTHING STORE - any store or market which sells secondhand clothing including consignment shops, thrift shops, yard sales, flea markets, etc.

	SD	D	N	A	SA	DNA
S+19. I like to encourage others to buy used clothing.	/	/	/	/	/	—
M-20. I prefer to have garments that I wear only once in a while because they make me feel well dressed.	/	/	/	/	/	—
S+21. Shopping for secondhand clothing is fun.	/	/	/	/	/	—
G-22. Surplus clothing is not a major problem because organizations like Goodwill ensure that most discards are given to others.	/	/	/	/	/	—
S+23. Flea markets and thrift shops have some very good apparel buys.	/	/	/	/	/	—
S-24. Secondhand garments just don't appeal to me.	/	/	/	/	/	—
S-25. I have very little knowledge about where to buy secondhand clothes.	/	/	/	/	/	—
F+26. I think it is ridiculous for women to feel they must always have the latest styles.	/	/	/	/	/	—
S-27. I would not be willing to buy secondhand clothing under any circumstances.	/	/	/	/	/	—
F+28. I think that keeping up with fashion is very impractical.	/	/	/	/	/	—
G+29. Discarded clothing adds to our pollution problem.	/	/	/	/	/	—
S+30. I wouldn't mind receiving used clothing as a gift.	/	/	/	/	/	—
R+31. Consumers should be provided with information about ways to recycle garments.	/	/	/	/	/	—
R+32. There should be more opportunities for people to sell their unwanted clothes.	/	/	/	/	/	—
F-33. I consider myself a fairly fashion conscious person.	/	/	/	/	/	—
G+34. I get irritated when I think about how much clothing is wasted.	/	/	/	/	/	—
G+35. If people limited their wardrobes to classic clothes, it would help prevent pollution because fewer garments would be discarded.	/	/	/	/	/	—

- M+36. I enjoy thinking of different accessories that will make my clothes more versatile. _/_/_/_/_
- G-37. There isn't much of a relationship between conservation of resources and clothing consumption. _/_/_/_/_
- F+38. It doesn't bother me to be out of style. _/_/_/_/_
- F+39. Consumers should try to buy more classic fashions. _/_/_/_/_
- G+40. Before acquiring a garment, people should consider the energy resources needed to care for it. _/_/_/_/_
- G+41. I would try to avoid waste in clothing if I knew how to go about it. _/_/_/_/_
- S+42. Local officials should publish lists of secondhand clothing stores in their areas. _/_/_/_/_
- M+43. It is wasteful to buy clothes which can be used for only one purpose. _/_/_/_/_
- F+44. When I select clothing, I don't really care what others are wearing. _/_/_/_/_
- M+45. It is wiser to rent or borrow clothing for special occasions rather than buy a garment that will be used only a few times. _/_/_/_/_
- G-46. People should not be asked to conserve in clothing consumption because they are already expected to conserve in so many other ways. _/_/_/_/_
- R+47. Instead of buying new garments, consumers should remodel what they already have. _/_/_/_/_
- S-48. I doubt that I would obtain more used clothing even if more shops were available. _/_/_/_/_
- F-49. I would be willing to pay more for very fashionable garments. _/_/_/_/_
- M-50. Clothes that can be worn for several occasions tend to be unattractive. _/_/_/_/_
- S+51. Buying used garments is less wasteful than buying new ones. _/_/_/_/_
- R-52. The main advantage of giving clothes to the Salvation Army is the tax deduction. _/_/_/_/_

SD D N A SA DNA

- S+ 53. People should make an effort to find out where they can obtain used clothing. / / / / /
- R+ 54. I don't think we are doing enough to encourage people to recycle clothing. / / / / /
- S+ 55. Shopping in secondhand clothing stores is a chic thing to do. / / / / /
- S+ 56. Consignment shops often have clothes that look like new. / / / / /
- S+ 57. I don't think we are doing enough to make recycled clothing socially acceptable. / / / / /
- R+ 58. I would be willing to give my old clothes to other people even if I had to deliver them personally. / / / / /
- M- 59. I don't like to buy garments that are suitable for several different occasions because then I'm forced to wear the same clothes too often. / / / / /
- S- 60. I don't like to purchase used clothing because I can't judge its quality. / / / / /
- S+ 61. I enjoy telling people I buy secondhand clothes. / / / / /
- G+ 62. Most consumers buy much more clothing than they need. / / / / /
- G- 63. In the near future, advanced technology will probably eliminate pollution problems resulting from discarded clothing. / / / / /
- G- 64. It doesn't matter if people don't keep their clothing for long because eventually it will be passed on to the needy. / / / / /
- G- 65. It is important for people to continue buying clothes so the garment industry can survive. / / / / /
- F- 66. I would not be willing to limit my wardrobe to classic clothes just to conserve resources. / / / / /
- R+ 67. There are more options available now for disposing of used clothing than in the past. / / / / /
- F+ 68. People should refuse to buy styles that will be popular for only a short time. / / / / /

SD D N A SA DNA

- F+69. I would be willing to wear out of style garments as a protest against a fashion change I disliked.
- G+70. People should consider ecological issues when they buy clothes.
- M-71. I like to have lots of different types of clothes because I like variety.
- R-72. I don't like giving my old clothes to others because I'm afraid it will embarrass them.
- R-73. I don't like to keep clothes very long because I tire of them so quickly.
- S+74. Many people who buy secondhand apparel can afford full-price clothing.

APPENDIX C

PACKAGE Statistics

CONFIRMATORY FACTOR ANALYSIS
AND CORRELATIONAL ANALYSIS PROGRAM

MULTIPLE GROUPS PROGRAM

SECOND(1,5,7,8,11,12,13,17,19,21,23,24,25,27,30,42,48,51,53,55,56,57,60,61,74)*

DISCARD(2,4,15,31,32,47,52,54,58,67,72,73)*

GENERAL(3,16,22,29,34,35,37,40,41,46,62,63,64,65,70)*

MULTI(6,20,36,43,45,50,59,71)*

FASHION(9,10,14,18,26,28,33,38,39,44,49,66,68,69)*

STANDARD SCORE COEFFICIENT ALPHAS

87. 62. 69. 27. 78.

FACTOR INTERCORRELATIONS AND LOADING MATRIX

COMMUNALITY IN THE DIAGONAL

	1	5	7	8	11	12	13	17	19	21	23	24	25	27	30	42	48	51	53	55	56	57	60	61	74	2	4	15	31	32
1	44	34	27	58	53	39	41	8	39	35	22	54	36	38	35	10	45	13	19	32	15	1	38	5	20	16	-5	18	6	15
5	34	30	29	32	38	35	38	14	16	15	20	53	36	35	29	8	44	16	10	25	15	3	37	0	15	12	2	16	13	13
7	27	29	16	19	35	35	27	8	8	5	14	35	29	28	20	3	29	12	7	15	-4	-6	44	-5	21	6	2	3	2	5
8	58	32	19	41	50	24	35	4	45	42	26	50	25	33	32	8	46	10	16	41	20	5	34	16	16	18	4	17	2	10
11	53	38	35	50	57	37	43	18	26	23	36	64	33	58	43	10	54	18	25	44	25	8	50	-9	24	16	-2	19	12	17
12	30	35	35	24	37	20	34	8	8	6	10	45	41	32	17	6	33	16	15	15	3	0	37	-10	15	9	-3	8	3	8
13	41	38	27	35	43	34	32	20	21	22	23	42	26	44	23	5	34	11	19	24	17	6	39	1	22	19	8	14	7	21
17	8	14	8	4	18	8	20	6	4	5	5	18	10	23	12	21	14	17	17	6	22	15	12	-8	9	13	15	14	18	13
19	39	16	8	45	26	8	21	4	17	44	19	26	3	20	28	11	18	9	16	32	15	4	16	18	6	11	2	15	10	7
21	35	15	5	42	23	6	22	5	44	19	28	28	9	16	22	12	19	10	21	36	19	1	11	35	15	0	0	7	-2	13
23	22	20	14	26	36	10	23	5	19	28	19	35	12	29	27	5	27	9	14	34	40	1	17	13	13	5	-4	7	1	3
24	54	53	35	50	64	45	42	18	26	28	35	64	49	55	36	18	57	19	23	42	28	4	49	-4	25	21	-2	25	12	18
25	36	36	29	25	33	41	26	10	3	9	12	49	22	34	17	13	30	21	11	20	9	-2	39	-7	16	20	1	5	3	11
27	38	35	28	33	58	32	44	23	20	16	29	55	34	40	27	17	38	14	20	37	23	7	36	-15	28	22	4	18	16	15
30	35	29	20	32	43	17	23	12	28	22	27	36	17	27	25	11	40	14	21	34	10	9	31	0	8	15	7	17	12	19
42	10	8	3	8	10	6	5	21	11	12	5	18	13	17	11	6	16	9	35	12	8	18	7	-6	13	22	9	12	40	29
48	45	44	29	46	54	33	34	14	18	19	27	57	30	38	40	16	43	21	24	36	13	3	47	-9	27	18	0	20	6	26
51	13	16	12	10	18	16	11	17	9	10	9	19	21	14	14	9	21	8	22	10	17	18	16	-6	5	15	1	11	22	15
53	19	10	7	16	25	15	19	17	16	21	14	23	11	20	21	35	24	22	25	28	20	22	14	2	4	19	4	11	21	22
55	32	25	15	41	44	15	24	6	32	36	34	42	20	37	34	12	36	10	28	31	22	-7	25	14	25	14	2	20	2	9
56	15	15	-4	20	25	3	17	22	15	19	40	28	9	23	10	8	13	17	20	22	11	22	3	0	13	14	-3	10	9	10
57	1	3	-6	5	8	0	6	15	4	1	1	4	-2	7	9	18	3	18	22	-7	22	1	1	-9	-1	20	11	10	31	18
60	38	37	44	34	50	37	39	12	16	11	17	49	39	36	31	7	47	16	14	25	3	1	32	-15	23	13	3	18	9	11
61	5	0	-5	16	-9	-10	1	-8	18	35	13	-4	-7	-15	0	-6	-9	-6	2	14	0	-9	-15	0	-17	-11	-8	-2	-11	-10
74	20	15	21	16	24	15	22	9	6	15	13	25	16	28	8	13	27	5	4	25	13	-1	23	-17	10	16	5	-2	7	6
2	16	12	6	18	16	9	19	13	11	0	5	21	20	22	15	22	18	15	19	14	14	20	13	-11	16	31	14	12	34	22
4	-5	2	2	4	-2	-3	8	15	2	0	-4	-2	1	4	7	9	0	1	4	2	-3	11	3	-8	5	14	10	36	16	9
15	18	16	3	17	19	8	14	14	15	7	7	25	5	18	17	12	20	11	11	20	10	10	18	-2	-2	12	36	11	14	4
31	6	13	2	2	12	3	7	18	10	-2	1	12	3	16	12	40	6	22	21	2	9	31	9	-11	7	34	16	14	27	38
32	15	13	5	10	17	8	21	13	7	13	3	18	11	15	19	29	26	15	22	9	10	18	11	-10	6	22	9	4	38	13
47	5	12	-2	6	8	12	7	4	16	3	1	11	10	10	10	20	13	16	26	8	7	25	0	-3	-3	35	10	18	19	7
52	1	10	8	6	9	7	16	13	-6	-4	4	5	8	12	8	-3	9	7	3	-4	7	12	12	-5	-3	9	10	10	1	2
54	14	8	15	13	19	6	11	10	11	9	7	21	10	15	15	33	16	24	35	12	16	37	8	-10	5	22	13	11	37	34
58	6	10	5	2	4	5	15	5	7	3	0	3	10	4	10	3	2	0	8	-5	11	11	9	2	2	6	3	-1	2	9
67	-1	-1	-7	-5	-6	3	4	6	-9	3	6	3	6	0	-9	9	-8	7	0	-4	10	4	-8	-3	13	6	-3	-1	10	3
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73	10	8	8	6	14	10	17	9	3	6	15	17	12	10	14	3	11	4	16	10	1	3	13	-3	-4	17	9	9	9	6
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502	43	24	48	23	6	32	31	27	5	7	24	42	20	29	28	42	34	39	-3	31	9	28	23	11	18	24	31	26	24	4
503	40	13	35	11	-8	21	23	47	21	42	41	39	19	39	31	41	50	35	18	47	25	42	4	12	-9	34	30	15	13	21
504	54	50	36	16	-2	29	41	27	7	23	19	28	17	7	11	38	48	44	2	38	31	8	21	28	-20	28	40	30	62	-5
505	39	-1	15	5	-7	-2	36	7	-5	3	30	24	44	3	23	24	16	26	0	19	33	31	3	2	-19	41	23	1	18	31

	9	10	14	18	26	28	33	38	39	44	49	66	68	69	501	502	503	504	505
1	13	5	2	1	8	7	5	18	-2	17	18	3	1	11	66	24	15	3	17
5	7	9	-7	-4	21	5	12	14	-15	10	20	9	11	8	55	30	22	27	16
7	4	-9	-1	-2	0	1	3	-2	-12	9	6	-4	1	1	40	13	10	14	-1
8	12	8	4	-1	9	4	10	19	-9	11	19	3	7	4	64	22	19	-1	16
11	5	12	2	1	11	11	-1	8	-5	6	20	0	9	10	76	29	35	28	14
12	4	3	2	1	7	7	2	4	3	4	14	4	6	10	45	18	12	25	11
13	5	-2	-5	4	11	-5	0	6	-8	5	14	-4	-1	5	57	39	30	26	4
17	4	8	-2	3	8	4	3	-3	6	-12	10	9	-3	8	25	32	21	24	7
19	13	13	13	3	11	14	6	20	8	17	25	1	11	8	41	17	24	7	25
21	7	0	2	-2	6	-2	-3	3	-1	0	5	-8	-3	0	44	10	14	-2	1
23	6	8	1	10	5	2	5	14	2	13	14	-9	8	-1	44	14	16	6	12
24	9	11	-2	-2	15	12	-1	15	-5	13	24	4	4	7	80	35	23	18	16
25	1	8	-2	3	0	5	-1	5	-4	6	16	7	0	0	47	26	12	11	7
27	-1	15	-2	4	13	3	-4	2	-3	-1	17	4	9	13	63	34	34	31	11
30	9	13	-2	9	16	13	4	27	-3	9	13	1	8	20	50	31	37	21	21
42	9	10	18	11	8	-1	-16	6	23	-1	11	10	15	16	24	43	26	26	19
48	4	10	-3	-1	15	12	8	15	0	9	19	4	12	17	66	29	29	31	19
51	2	19	8	11	11	20	5	10	-1	0	4	6	2	7	29	30	39	19	17
53	-1	10	9	17	9	5	-4	16	19	-2	9	7	14	20	39	40	39	13	20
55	10	10	5	4	13	1	3	14	3	13	19	5	5	12	56	15	18	4	19
56	-4	6	5	11	2	1	-5	9	5	3	1	-7	-6	-2	34	25	18	0	3
57	-1	14	3	14	3	9	-2	4	23	-11	3	15	21	12	11	45	46	34	17
60	2	3	1	-4	8	7	0	3	-10	9	16	5	8	7	56	26	33	33	9
61	7	-4	5	-5	4	-5	-3	4	-3	-4	1	-1	-2	-4	-1	-15	-9	-14	-1
74	3	2	8	0	4	-4	4	-6	0	5	3	-6	9	-10	31	11	15	13	2
2	11	25	16	14	16	8	-6	12	15	7	11	16	14	12	30	56	34	38	27
4	6	2	0	-3	0	-1	-6	5	-5	5	5	6	5	-1	5	32	16	22	3
15	7	10	4	5	11	8	0	13	4	5	15	11	2	16	27	33	24	24	17
31	6	10	9	6	11	9	-13	2	15	-8	9	12	12	11	22	52	37	38	14
32	-5	3	13	9	5	-4	-15	-11	13	-11	5	3	8	6	28	36	31	20	3
47	16	24	9	19	13	21	2	15	26	6	20	25	30	20	20	43	40	54	39
52	4	0	5	-4	1	-6	3	-1	-2	-4	-6	3	-3	3	12	24	13	50	-1
54	12	11	6	5	7	14	-1	9	15	-6	4	-3	13	9	31	48	35	36	15
58	-1	-10	8	4	6	-3	3	2	3	-2	3	11	7	-1	12	23	11	16	5
67	2	0	1	4	0	-8	-5	-1	1	-4	-5	-14	-6	-11	1	6	-8	-2	-7
72	2	-5	2	2	2	0	-6	-2	-9	4	6	-1	-3	-5	21	32	21	29	-2
73	30	14	15	10	23	15	7	20	8	15	28	13	18	11	19	31	23	41	36
3	-5	3	3	-1	5	5	0	3	3	2	3	6	7	11	23	27	47	27	7
16	-12	1	-1	-1	0	-1	-5	-7	-4	-8	-5	2	1	6	13	5	21	7	-5
22	-3	6	-3	-2	-1	0	7	1	-2	1	0	8	8	2	18	7	42	23	3
29	13	26	7	10	23	24	8	15	11	1	10	11	21	12	11	24	41	19	30
34	5	23	14	8	11	15	-2	12	16	-3	8	7	27	9	24	42	39	28	24
35	8	31	24	8	18	27	1	11	53	3	16	27	33	16	5	20	19	17	44
37	-3	9	1	4	4	-4	-3	-3	3	-8	-5	2	9	11	15	29	39	7	3
40	-3	19	13	18	8	15	-3	8	26	-5	1	10	17	24	7	28	31	11	23

41	3	16	8	14	11	12	2	14	7	-6	10	10	21	26	15	42	41	38	24
46	-9	9	12	3	11	6	5	1	6	0	10	19	15	11	25	34	50	48	16
62	9	20	12	10	20	21	-4	11	18	0	11	5	24	11	19	39	35	44	26
63	-7	0	-3	-4	4	-2	8	0	-8	1	-1	1	6	8	16	-3	18	2	0
64	8	18	0	8	23	9	5	6	1	1	15	1	13	11	36	31	47	38	19
65	15	19	7	1	25	21	14	11	4	15	21	18	30	8	17	9	25	31	33
70	3	18	3	10	14	13	10	19	16	-4	17	23	29	28	29	28	42	8	31
6	-3	-1	6	10	5	5	-5	-7	10	-8	0	-2	2	8	9	23	4	21	3
20	3	-6	-6	-17	10	7	6	-2	0	-1	9	2	11	-2	6	11	12	28	2
36	-6	-12	8	13	-21	-18	-23	-16	-1	0	-11	-16	-10	-7	-7	18	-9	-20	-19
43	15	32	8	7	22	28	2	16	22	13	23	19	33	20	12	24	34	28	41
45	4	19	0	2	20	20	2	3	15	-5	13	13	22	18	11	31	30	40	23
50	6	4	3	3	10	-3	-16	-6	7	-4	5	-6	-1	5	16	26	15	30	1
59	14	7	13	5	23	6	8	12	5	-2	14	-2	1	7	14	24	13	62	18
71	11	20	-3	-1	25	20	25	20	-4	8	20	19	20	13	5	4	21	-5	31
9	29	25	16	15	39	30	28	41	10	34	30	7	27	9	11	21	4	24	54
10	25	27	16	20	37	40	6	24	26	9	22	16	39	22	16	20	41	34	52
14	16	16	10	17	18	13	-1	13	40	11	15	9	23	-2	6	21	18	16	31
18	15	20	17	8	9	16	8	25	14	8	7	-2	11	27	7	17	16	12	29
26	39	37	18	9	42	55	19	39	17	23	37	15	37	24	19	23	32	52	65
28	30	40	13	16	55	39	25	39	23	18	31	12	31	24	11	13	30	36	62
33	28	6	-1	8	19	25	11	34	-4	18	24	18	12	8	3	-9	8	0	32
38	41	24	13	25	39	39	34	37	5	40	32	15	15	27	20	15	19	11	61
39	10	26	40	14	17	23	-4	5	11	0	8	20	32	11	1	20	28	29	34
44	34	9	11	8	23	18	18	40	0	13	27	3	15	5	11	2	-2	0	35
49	30	22	15	7	37	31	24	32	8	27	27	23	31	15	28	23	21	40	52
66	7	16	9	-2	15	12	18	15	20	3	23	10	32	22	5	20	28	15	31
68	27	39	23	11	37	31	12	15	32	15	31	32	33	24	13	24	48	42	58
69	9	22	-2	27	24	24	8	27	11	5	15	22	24	13	16	17	36	34	36
501	11	16	6	7	19	11	3	20	1	11	28	5	13	16	100	55	51	35	26
502	21	20	21	17	23	13	-9	15	20	2	23	20	24	17	55	100	67	88	36
503	4	41	18	16	32	30	8	19	28	-2	21	28	48	36	51	67	100	65	52
504	24	34	16	12	52	36	0	11	29	0	40	15	42	34	35	88	65	100	54
505	54	52	31	29	65	62	32	61	34	35	52	31	58	36	26	36	52	54	100

SIMILIARITY COEFFICIENTS FOR THE INDICATORS WITH COMMONALITIES ON THE DIAGONAL

	1	5	7	8	11	12	13	17	19	21	23	24	25	27	30	42	48	51
1	0.436	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.927	0.302	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.859	0.857	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.966	0.904	0.815	0.405	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.953	0.942	0.875	0.933	0.573	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.902	0.919	0.888	0.843	0.921	0.203	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.916	0.920	0.890	0.893	0.939	0.904	0.323	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.653	0.727	0.587	0.632	0.752	0.703	0.757	0.863	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.853	0.795	0.617	0.880	0.826	0.701	0.752	0.579	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.835	0.707	0.647	0.867	0.786	0.651	0.763	0.541	0.800	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.880	0.826	0.703	0.892	0.879	0.770	0.846	0.673	0.833	0.842	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.965	0.950	0.870	0.936	0.978	0.932	0.931	0.741	0.814	0.781	0.879	0.643	0.000	0.000	0.000	0.000	0.000	0.000
25	0.896	0.919	0.873	0.849	0.917	0.931	0.908	0.724	0.707	0.662	0.784	0.943	0.218	0.000	0.000	0.000	0.000	0.000
27	0.912	0.929	0.851	0.886	0.971	0.919	0.941	0.815	0.774	0.737	0.855	0.958	0.915	0.395	0.000	0.000	0.000	0.000
30	0.913	0.909	0.776	0.911	0.941	0.851	0.903	0.764	0.863	0.768	0.847	0.923	0.846	0.922	0.250	0.000	0.000	0.000
42	0.518	0.552	0.371	0.490	0.590	0.516	0.541	0.697	0.611	0.444	0.517	0.568	0.506	0.638	0.644	0.859	0.000	0.000
48	0.946	0.951	0.866	0.919	0.978	0.930	0.926	0.734	0.833	0.749	0.842	0.969	0.916	0.956	0.947	0.590	0.434	0.000
51	0.642	0.730	0.523	0.647	0.744	0.658	0.687	0.790	0.687	0.517	0.655	0.722	0.654	0.771	0.795	0.806	0.740	0.883
53	0.700	0.720	0.549	0.699	0.764	0.663	0.711	0.795	0.773	0.626	0.714	0.734	0.670	0.792	0.827	0.838	0.764	0.853
55	0.941	0.866	0.760	0.946	0.923	0.824	0.862	0.673	0.887	0.874	0.911	0.927	0.820	0.887	0.900	0.586	0.909	0.682
56	0.714	0.685	0.547	0.716	0.753	0.640	0.735	0.705	0.711	0.734	0.785	0.745	0.672	0.780	0.764	0.686	0.714	0.730
57	0.275	0.384	0.151	0.265	0.390	0.310	0.355	0.659	0.433	0.211	0.334	0.341	0.319	0.458	0.501	0.806	0.412	0.749
60	0.910	0.934	0.901	0.872	0.947	0.933	0.931	0.716	0.721	0.677	0.775	0.933	0.910	0.933	0.893	0.480	0.943	0.671
61	-0.029	-0.205	-0.230	0.047	-0.170	-0.253	-0.158	-0.384	0.088	0.164	-0.006	-0.153	-0.260	-0.225	-0.139	-0.354	-0.196	-0.360
74	0.808	0.819	0.786	0.788	0.852	0.810	0.818	0.681	0.681	0.659	0.785	0.846	0.826	0.859	0.755	0.560	0.810	0.663
2	0.605	0.695	0.467	0.583	0.676	0.623	0.651	0.789	0.668	0.472	0.595	0.663	0.625	0.728	0.732	0.871	0.689	0.874
4	0.255	0.360	0.201	0.241	0.313	0.254	0.370	0.489	0.321	0.147	0.221	0.294	0.239	0.374	0.386	0.576	0.339	0.525
15	0.745	0.797	0.618	0.756	0.795	0.727	0.790	0.791	0.763	0.611	0.707	0.770	0.726	0.814	0.863	0.691	0.807	0.782
31	0.399	0.496	0.299	0.377	0.498	0.436	0.487	0.760	0.491	0.329	0.402	0.476	0.455	0.570	0.581	0.870	0.526	0.787
32	0.590	0.626	0.508	0.570	0.681	0.608	0.652	0.802	0.592	0.505	0.584	0.645	0.607	0.729	0.692	0.848	0.662	0.803
47	0.427	0.505	0.245	0.422	0.505	0.444	0.432	0.673	0.583	0.307	0.441	0.484	0.443	0.550	0.626	0.815	0.529	0.797
52	0.420	0.516	0.507	0.376	0.509	0.530	0.605	0.633	0.294	0.284	0.399	0.468	0.508	0.557	0.504	0.376	0.484	0.481
54	0.558	0.623	0.412	0.542	0.645	0.570	0.607	0.812	0.626	0.478	0.574	0.613	0.562	0.690	0.714	0.885	0.654	0.858
58	0.454	0.555	0.372	0.450	0.467	0.502	0.539	0.584	0.410	0.336	0.419	0.465	0.502	0.520	0.499	0.504	0.483	0.542
67	-0.137	-0.099	-0.129	-0.172	-0.153	-0.109	-0.078	-0.004	-0.113	-0.053	-0.009	-0.097	-0.063	-0.093	-0.198	0.159	-0.161	0.010
72	0.656	0.723	0.692	0.639	0.710	0.685	0.811	0.717	0.553	0.537	0.613	0.689	0.696	0.742	0.702	0.484	0.679	0.626
73	0.607	0.678	0.482	0.592	0.647	0.646	0.646	0.664	0.655	0.433	0.592	0.640	0.615	0.659	0.739	0.594	0.669	0.669
3	0.596	0.649	0.603	0.595	0.691	0.614	0.726	0.746	0.583	0.487	0.562	0.626	0.591	0.730	0.749	0.612	0.684	0.739
16	0.505	0.519	0.556	0.494	0.551	0.488	0.589	0.495	0.410	0.500	0.415	0.483	0.472	0.541	0.527	0.235	0.505	0.389
22	0.580	0.635	0.629	0.583	0.688	0.610	0.695	0.612	0.536	0.451	0.535	0.609	0.587	0.694	0.714	0.401	0.678	0.605
29	0.362	0.466	0.188	0.363	0.440	0.341	0.377	0.560	0.535	0.251	0.376	0.410	0.348	0.461	0.586	0.621	0.474	0.702
34	0.477	0.545	0.318	0.489	0.549	0.467	0.512	0.700	0.602	0.420	0.501	0.525	0.477	0.600	0.645	0.828	0.566	0.811

35	0.109	0.178	-0.099	0.124	0.167	0.135	0.058	0.352	0.384	0.053	0.152	0.164	0.115	0.210	0.283	0.635	0.219	0.518
37	0.451	0.545	0.428	0.485	0.585	0.474	0.585	0.743	0.531	0.425	0.475	0.512	0.464	0.628	0.657	0.633	0.575	0.724
40	0.185	0.303	0.031	0.174	0.270	0.249	0.240	0.526	0.372	0.099	0.240	0.243	0.233	0.337	0.413	0.729	0.304	0.683
41	0.346	0.477	0.238	0.350	0.456	0.404	0.421	0.670	0.492	0.232	0.341	0.412	0.384	0.510	0.584	0.778	0.502	0.778
46	0.537	0.621	0.483	0.529	0.668	0.585	0.658	0.811	0.569	0.434	0.550	0.596	0.557	0.710	0.736	0.713	0.666	0.801
62	0.411	0.503	0.276	0.407	0.524	0.422	0.479	0.710	0.578	0.366	0.473	0.485	0.432	0.583	0.627	0.829	0.539	0.807
63	0.585	0.567	0.605	0.584	0.647	0.530	0.620	0.431	0.453	0.483	0.475	0.573	0.538	0.596	0.640	0.166	0.618	0.387
64	0.753	0.817	0.675	0.740	0.853	0.763	0.818	0.830	0.730	0.588	0.724	0.808	0.738	0.863	0.888	0.666	0.842	0.823
65	0.578	0.617	0.452	0.594	0.630	0.549	0.545	0.507	0.672	0.417	0.554	0.600	0.515	0.600	0.708	0.442	0.670	0.581
70	0.576	0.650	0.396	0.557	0.652	0.588	0.560	0.700	0.657	0.416	0.531	0.619	0.563	0.673	0.743	0.772	0.683	0.814
6	0.335	0.388	0.359	0.291	0.440	0.413	0.476	0.654	0.275	0.237	0.356	0.415	0.414	0.498	0.440	0.553	0.421	0.574
20	0.375	0.471	0.514	0.372	0.456	0.449	0.484	0.399	0.254	0.204	0.287	0.429	0.414	0.443	0.437	0.122	0.454	0.311
36	-0.352	-0.413	-0.265	-0.375	-0.379	-0.375	-0.239	-0.172	-0.327	-0.203	-0.260	-0.381	-0.319	-0.308	-0.399	0.025	-0.424	-0.220
43	0.312	0.409	0.130	0.316	0.390	0.316	0.269	0.518	0.503	0.189	0.315	0.380	0.329	0.424	0.519	0.711	0.432	0.696
45	0.296	0.440	0.187	0.285	0.412	0.381	0.345	0.624	0.434	0.144	0.287	0.380	0.365	0.474	0.515	0.717	0.458	0.704
50	0.445	0.494	0.472	0.414	0.547	0.520	0.603	0.682	0.381	0.403	0.523	0.515	0.509	0.606	0.516	0.479	0.503	0.521
59	0.483	0.551	0.509	0.454	0.546	0.582	0.612	0.586	0.412	0.336	0.485	0.531	0.527	0.561	0.582	0.331	0.554	0.494
71	0.376	0.466	0.306	0.379	0.401	0.403	0.339	0.298	0.404	0.138	0.271	0.400	0.369	0.371	0.509	0.162	0.462	0.416
9	0.409	0.433	0.192	0.420	0.372	0.337	0.306	0.297	0.562	0.286	0.425	0.408	0.336	0.340	0.505	0.368	0.428	0.449
10	0.393	0.468	0.183	0.401	0.466	0.391	0.351	0.513	0.587	0.273	0.417	0.455	0.377	0.478	0.595	0.664	0.507	0.710
14	0.209	0.217	-0.006	0.210	0.219	0.182	0.190	0.377	0.437	0.231	0.302	0.215	0.187	0.251	0.351	0.600	0.259	0.485
18	0.260	0.298	0.037	0.251	0.296	0.262	0.234	0.445	0.461	0.222	0.342	0.275	0.218	0.315	0.447	0.631	0.333	0.606
26	0.481	0.545	0.285	0.481	0.517	0.465	0.432	0.502	0.634	0.321	0.485	0.519	0.454	0.506	0.649	0.533	0.566	0.640
28	0.348	0.433	0.147	0.354	0.385	0.343	0.265	0.375	0.538	0.184	0.347	0.388	0.314	0.372	0.528	0.506	0.442	0.596
33	0.268	0.296	0.142	0.273	0.239	0.223	0.153	0.012	0.352	0.079	0.174	0.253	0.200	0.159	0.349	0.003	0.299	0.183
38	0.513	0.536	0.274	0.524	0.485	0.426	0.392	0.388	0.668	0.373	0.498	0.499	0.407	0.434	0.627	0.426	0.538	0.563
39	0.014	0.078	-0.175	0.022	0.084	0.024	-0.012	0.300	0.280	0.030	0.082	0.071	0.037	0.140	0.208	0.632	0.100	0.497
44	0.491	0.466	0.321	0.523	0.431	0.396	0.331	0.199	0.547	0.376	0.459	0.461	0.383	0.356	0.499	0.165	0.462	0.289
49	0.665	0.715	0.478	0.663	0.674	0.625	0.585	0.550	0.742	0.488	0.615	0.688	0.605	0.650	0.767	0.571	0.715	0.676
66	0.240	0.363	0.111	0.253	0.316	0.292	0.225	0.387	0.451	0.075	0.179	0.297	0.276	0.336	0.455	0.541	0.384	0.540
68	0.338	0.426	0.160	0.342	0.411	0.347	0.304	0.468	0.550	0.208	0.324	0.388	0.324	0.423	0.541	0.653	0.459	0.661
69	0.454	0.548	0.295	0.461	0.536	0.478	0.449	0.572	0.616	0.291	0.437	0.498	0.449	0.547	0.684	0.668	0.582	0.744

SIMILIARITY COEFFICIENTS FOR THE INDICATORS WITH COMMONALITIES ON THE DIAGONAL

	53	55	56	57	60	61	74	2	4	15	31	32	47	52	54	58	67	72
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
53	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.745	0.389	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.774	0.767	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57	0.759	0.343	0.517	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.665	0.826	0.622	0.319	0.318	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
61	-0.268	0.012	-0.117	-0.442	-0.208	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.676	0.777	0.697	0.354	0.809	-0.189	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.858	0.630	0.675	0.800	0.615	-0.401	0.636	0.310	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.503	0.264	0.345	0.585	0.333	-0.275	0.271	0.663	0.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.815	0.755	0.673	0.619	0.752	-0.237	0.659	0.825	0.537	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.826	0.440	0.613	0.865	0.434	-0.485	0.497	0.877	0.677	0.694	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.856	0.609	0.716	0.784	0.618	-0.371	0.672	0.823	0.538	0.725	0.846	0.130	0.000	0.000	0.000	0.000	0.000	0.000
47	0.801	0.494	0.536	0.830	0.434	-0.340	0.410	0.856	0.568	0.710	0.822	0.713	0.187	0.000	0.000	0.000	0.000	0.000
52	0.473	0.355	0.435	0.395	0.578	-0.306	0.430	0.501	0.451	0.568	0.425	0.502	0.418	0.058	0.000	0.000	0.000	0.000
54	0.883	0.590	0.717	0.820	0.557	-0.376	0.613	0.887	0.591	0.757	0.911	0.865	0.817	0.464	0.231	0.000	0.000	0.000
58	0.554	0.401	0.462	0.547	0.488	-0.233	0.436	0.621	0.397	0.582	0.539	0.530	0.530	0.530	0.570	0.052	0.000	0.000
67	0.042	-0.097	0.211	0.126	-0.214	-0.143	0.047	0.117	0.135	-0.135	0.188	0.171	-0.008	-0.033	0.141	-0.030	0.004	0.000
72	0.618	0.607	0.646	0.452	0.740	-0.230	0.650	0.636	0.565	0.681	0.530	0.618	0.466	0.739	0.572	0.638	0.043	0.100
73	0.646	0.621	0.512	0.529	0.642	-0.175	0.496	0.730	0.457	0.759	0.560	0.537	0.715	0.521	0.621	0.503	-0.176	0.573
3	0.722	0.588	0.563	0.613	0.723	-0.285	0.585	0.704	0.546	0.727	0.653	0.716	0.598	0.594	0.706	0.544	-0.209	0.730
16	0.419	0.471	0.365	0.264	0.621	-0.152	0.508	0.361	0.270	0.484	0.298	0.427	0.190	0.511	0.337	0.357	-0.273	0.600
22	0.574	0.546	0.462	0.431	0.747	-0.236	0.547	0.503	0.385	0.616	0.446	0.517	0.413	0.586	0.494	0.411	-0.375	0.633
29	0.661	0.408	0.434	0.720	0.385	-0.268	0.305	0.740	0.507	0.649	0.682	0.556	0.806	0.301	0.659	0.380	-0.094	0.368
34	0.797	0.537	0.616	0.829	0.477	-0.333	0.547	0.890	0.608	0.724	0.871	0.778	0.845	0.342	0.854	0.545	0.103	0.523

35	0.531	0.221	0.296	0.660	0.070	-0.230	0.124	0.641	0.330	0.413	0.635	0.436	0.779	0.029	0.579	0.292	0.078	0.052
37	0.767	0.495	0.598	0.720	0.546	-0.315	0.445	0.687	0.525	0.658	0.694	0.711	0.632	0.547	0.717	0.554	-0.168	0.622
40	0.660	0.260	0.426	0.812	0.210	-0.386	0.231	0.739	0.458	0.530	0.765	0.630	0.824	0.241	0.707	0.463	0.118	0.296
41	0.772	0.398	0.504	0.827	0.421	-0.455	0.375	0.826	0.643	0.701	0.878	0.729	0.857	0.423	0.842	0.526	0.049	0.462
46	0.810	0.574	0.618	0.772	0.648	-0.346	0.527	0.794	0.557	0.774	0.764	0.761	0.762	0.644	0.806	0.624	-0.158	0.670
62	0.818	0.488	0.629	0.825	0.435	-0.338	0.441	0.868	0.555	0.719	0.862	0.718	0.885	0.456	0.860	0.550	0.072	0.509
63	0.404	0.566	0.324	0.127	0.685	-0.039	0.395	0.222	0.087	0.481	0.115	0.298	0.173	0.466	0.244	0.259	-0.491	0.473
64	0.817	0.756	0.687	0.613	0.839	-0.286	0.701	0.775	0.476	0.813	0.669	0.737	0.681	0.608	0.755	0.558	-0.153	0.740
65	0.575	0.597	0.358	0.425	0.621	-0.068	0.436	0.582	0.339	0.635	0.438	0.402	0.616	0.326	0.499	0.294	-0.457	0.401
70	0.849	0.602	0.592	0.782	0.576	-0.338	0.490	0.821	0.483	0.744	0.773	0.737	0.855	0.364	0.806	0.576	-0.141	0.463
6	0.595	0.318	0.488	0.544	0.409	-0.350	0.405	0.601	0.371	0.474	0.607	0.610	0.511	0.508	0.626	0.463	0.150	0.512
20	0.194	0.308	0.093	0.127	0.560	-0.216	0.335	0.278	0.269	0.431	0.148	0.245	0.250	0.517	0.213	0.268	-0.358	0.475
36	-0.123	-0.345	-0.000	-0.021	-0.396	-0.000	-0.127	-0.095	0.116	-0.258	0.055	0.033	-0.216	-0.070	-0.024	-0.083	0.520	-0.027
43	0.689	0.398	0.394	0.754	0.316	-0.337	0.313	0.770	0.472	0.598	0.725	0.573	0.865	0.232	0.712	0.378	-0.053	0.252
45	0.681	0.342	0.410	0.811	0.371	-0.441	0.314	0.779	0.548	0.606	0.779	0.619	0.869	0.371	0.762	0.480	-0.060	0.392
50	0.597	0.470	0.527	0.451	0.561	-0.242	0.516	0.582	0.447	0.571	0.517	0.579	0.425	0.619	0.542	0.449	0.155	0.679
59	0.447	0.438	0.350	0.313	0.597	-0.204	0.374	0.508	0.378	0.585	0.342	0.387	0.446	0.698	0.398	0.426	-0.154	0.613
71	0.311	0.327	0.050	0.219	0.454	-0.146	0.179	0.351	0.165	0.479	0.193	0.128	0.464	0.217	0.209	0.231	-0.474	0.240
9	0.426	0.452	0.256	0.315	0.323	-0.012	0.231	0.530	0.289	0.511	0.327	0.219	0.610	0.117	0.379	0.246	-0.097	0.210
10	0.661	0.481	0.429	0.682	0.379	-0.234	0.333	0.750	0.419	0.631	0.660	0.520	0.871	0.183	0.660	0.380	-0.122	0.280
14	0.568	0.309	0.333	0.632	0.146	-0.178	0.208	0.648	0.379	0.416	0.601	0.451	0.760	0.127	0.574	0.337	0.148	0.212
18	0.614	0.355	0.457	0.644	0.182	-0.249	0.210	0.681	0.371	0.504	0.631	0.480	0.755	0.204	0.664	0.348	0.166	0.221
26	0.578	0.521	0.368	0.521	0.477	-0.146	0.338	0.660	0.378	0.638	0.512	0.408	0.775	0.291	0.551	0.339	-0.210	0.342
28	0.518	0.401	0.268	0.530	0.331	-0.172	0.225	0.618	0.315	0.538	0.479	0.332	0.754	0.150	0.502	0.279	-0.166	0.168
33	0.105	0.236	-0.007	0.029	0.275	0.114	-0.020	0.126	0.021	0.250	-0.046	-0.117	0.293	-0.002	-0.007	0.069	-0.427	0.039
38	0.522	0.558	0.355	0.396	0.423	-0.015	0.279	0.569	0.276	0.608	0.383	0.307	0.672	0.133	0.454	0.281	-0.205	0.270
39	0.503	0.125	0.249	0.653	-0.011	-0.221	0.104	0.597	0.387	0.300	0.626	0.437	0.749	0.059	0.560	0.312	0.119	0.067
44	0.270	0.509	0.179	0.033	0.395	0.151	0.288	0.331	0.067	0.406	0.074	0.038	0.360	0.029	0.177	0.123	-0.253	0.170
49	0.652	0.683	0.463	0.463	0.630	-0.123	0.497	0.714	0.380	0.719	0.510	0.456	0.747	0.335	0.575	0.411	-0.215	0.430
66	0.541	0.271	0.197	0.593	0.301	-0.283	0.160	0.611	0.411	0.511	0.540	0.395	0.769	0.226	0.530	0.366	-0.250	0.221
68	0.629	0.415	0.328	0.666	0.358	-0.252	0.283	0.728	0.424	0.583	0.640	0.491	0.859	0.223	0.631	0.390	-0.184	0.261
69	0.743	0.511	0.438	0.710	0.473	-0.286	0.356	0.742	0.483	0.702	0.675	0.586	0.867	0.303	0.697	0.435	-0.204	0.372

35	0.495	0.291	-0.082	0.140	0.694	0.676	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.510	0.797	0.568	0.721	0.588	0.648	0.378	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.479	0.488	0.130	0.251	0.720	0.763	0.742	0.590	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.620	0.660	0.306	0.478	0.765	0.848	0.682	0.696	0.790	0.165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.706	0.847	0.531	0.759	0.716	0.745	0.470	0.812	0.601	0.785	0.255	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.689	0.649	0.257	0.495	0.813	0.860	0.734	0.702	0.756	0.836	0.819	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.391	0.597	0.647	0.747	0.264	0.158	-0.115	0.496	0.008	0.197	0.553	0.237	0.032	0.000	0.000	0.000	0.000	0.000	0.000
64	0.758	0.853	0.589	0.809	0.694	0.685	0.362	0.755	0.476	0.695	0.863	0.745	0.656	0.226	0.000	0.000	0.000	0.000	0.000
65	0.741	0.601	0.349	0.645	0.689	0.530	0.460	0.492	0.378	0.502	0.643	0.597	0.532	0.725	0.065	0.000	0.000	0.000	0.000
70	0.670	0.678	0.333	0.551	0.798	0.815	0.661	0.730	0.746	0.809	0.795	0.807	0.366	0.767	0.636	0.178	0.000	0.000	0.000
6	0.448	0.455	0.230	0.297	0.361	0.520	0.313	0.478	0.500	0.527	0.592	0.584	0.191	0.524	0.261	0.460	0.044	0.000	0.000
20	0.483	0.492	0.464	0.546	0.262	0.174	0.003	0.275	-0.010	0.216	0.435	0.234	0.530	0.537	0.539	0.218	0.257	0.880	0.000
36	-0.411	-0.181	-0.081	-0.355	-0.352	-0.058	-0.176	-0.128	-0.040	-0.092	-0.210	-0.123	-0.450	-0.387	-0.618	-0.319	0.131	-0.411	0.000
43	0.631	0.470	0.101	0.343	0.805	0.783	0.819	0.513	0.736	0.785	0.647	0.818	0.138	0.582	0.634	0.802	0.382	0.186	0.000
45	0.604	0.576	0.204	0.410	0.770	0.769	0.736	0.635	0.757	0.804	0.744	0.836	0.136	0.631	0.618	0.806	0.481	0.310	0.000
50	0.560	0.582	0.452	0.465	0.318	0.432	0.119	0.500	0.282	0.423	0.634	0.528	0.379	0.665	0.353	0.342	0.607	0.428	0.000
59	0.775	0.547	0.349	0.552	0.446	0.355	0.175	0.408	0.226	0.408	0.597	0.458	0.465	0.651	0.600	0.389	0.526	0.637	0.000
71	0.579	0.369	0.174	0.485	0.585	0.303	0.368	0.297	0.284	0.391	0.407	0.368	0.451	0.538	0.725	0.523	0.058	0.531	0.000
9	0.737	0.257	-0.062	0.178	0.608	0.472	0.564	0.144	0.396	0.431	0.350	0.534	0.148	0.457	0.699	0.499	0.155	0.310	0.000
10	0.737	0.487	0.100	0.378	0.894	0.753	0.809	0.490	0.734	0.748	0.647	0.820	0.184	0.645	0.735	0.799	0.342	0.252	0.000
14	0.586	0.340	-0.023	0.125	0.654	0.657	0.769	0.319	0.667	0.603	0.487	0.679	-0.075	0.403	0.484	0.565	0.384	0.080	0.000
18	0.629	0.387	-0.012	0.163	0.685	0.689	0.712	0.425	0.765	0.717	0.535	0.722	-0.021	0.458	0.388	0.686	0.402	-0.073	0.000
26	0.833	0.469	0.123	0.427	0.806	0.634	0.674	0.397	0.549	0.624	0.587	0.715	0.298	0.662	0.815	0.703	0.284	0.420	0.000
28	0.711	0.367	0.008	0.319	0.812	0.610	0.732	0.327	0.588	0.627	0.507	0.680	0.164	0.564	0.746	0.701	0.224	0.277	0.000
33	0.501	0.102	-0.056	0.228	0.449	0.110	0.262	0.024	0.110	0.164	0.151	0.197	0.273	0.293	0.615	0.333	-0.118	0.301	0.000
38	0.761	0.345	0.034	0.285	0.704	0.525	0.553	0.298	0.485	0.515	0.441	0.567	0.233	0.551	0.728	0.645	0.178	0.243	0.000
39	0.442	0.241	-0.111	0.053	0.661	0.650	0.769	0.329	0.726	0.651	0.466	0.700	-0.141	0.314	0.374	0.591	0.391	-0.081	0.000
44	0.614	0.168	0.001	0.161	0.394	0.282	0.283	0.021	0.122	0.190	0.154	0.257	0.193	0.365	0.615	0.351	-0.020	0.291	0.000
49	0.840	0.500	0.179	0.453	0.726	0.626	0.577	0.404	0.498	0.575	0.591	0.662	0.382	0.712	0.833	0.723	0.307	0.450	0.000
66	0.595	0.439	0.071	0.356	0.771	0.602	0.722	0.494	0.671	0.675	0.569	0.666	0.232	0.530	0.654	0.740	0.245	0.327	0.000
68	0.709	0.497	0.129	0.396	0.832	0.732	0.827	0.504	0.717	0.744	0.641	0.778	0.193	0.618	0.752	0.788	0.330	0.308	0.000
69	0.731	0.573	0.193	0.501	0.806	0.718	0.675	0.611	0.730	0.781	0.718	0.763	0.324	0.690	0.694	0.860	0.389	0.238	0.000

35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
43	-0.332	0.877	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	-0.231	0.830	0.166	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.037	0.262	0.392	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
59	-0.346	0.327	0.388	0.671	0.367	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
71	-0.709	0.494	0.445	0.073	0.486	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	-0.480	0.646	0.483	0.212	0.508	0.655	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	-0.445	0.886	0.809	0.296	0.428	0.602	0.761	0.267	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	-0.093	0.711	0.638	0.357	0.325	0.289	0.643	0.750	0.899	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	-0.139	0.716	0.626	0.298	0.331	0.289	0.608	0.756	0.709	0.885	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	-0.565	0.796	0.692	0.322	0.614	0.741	0.879	0.901	0.666	0.673	0.424	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	-0.566	0.829	0.718	0.183	0.470	0.718	0.853	0.917	0.682	0.688	0.923	0.390	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	-0.664	0.381	0.252	-0.091	0.338	0.716	0.678	0.532	0.238	0.255	0.690	0.669	0.185	0.000	0.000	0.000	0.000	0.000	0.000
38	-0.540	0.674	0.532	0.155	0.456	0.684	0.894	0.807	0.572	0.664	0.882	0.870	0.744	0.371	0.000	0.000	0.000	0.000	0.000
39	-0.071	0.770	0.682	0.186	0.160	0.235	0.475	0.742	0.743	0.703	0.578	0.639	0.141	0.459	0.113	0.000	0.000	0.000	0.000
44	-0.552	0.386	0.228	0.076	0.386	0.593	0.812	0.551	0.401	0.409	0.693	0.674	0.727	0.793	0.177	0.125	0.000	0.000	0.000
49	-0.602	0.738	0.619	0.337	0.604	0.719	0.872	0.836	0.608	0.601	0.922	0.857	0.645	0.887	0.492	0.768	0.271	0.000	0.000
66	-0.461	0.802	0.776	0.154	0.345	0.661	0.609	0.814	0.619	0.594	0.752	0.788	0.482	0.648	0.660	0.427	0.725	0.099	0.000
68	-0.443	0.903	0.809	0.242	0.415	0.645	0.727	0.920	0.748	0.695	0.870	0.888	0.526	0.765	0.759	0.509	0.821	0.856	0.000
69	-0.437	0.825	0.770	0.301	0.471	0.616	0.650	0.872	0.644	0.698	0.814	0.814	0.474	0.759	0.648	0.445	0.793	0.775	0.000

SIMILIARITY COEFFICIENTS FOR THE INDICATORS WITH COMMONALITIES ON THE DIAGONAL

	68	69
1	0.000	0.000
5	0.000	0.000
7	0.000	0.000
8	0.000	0.000
11	0.000	0.000
12	0.000	0.000
13	0.000	0.000
17	0.000	0.000
19	0.000	0.000
21	0.000	0.000
23	0.000	0.000
24	0.000	0.000
25	0.000	0.000
27	0.000	0.000
30	0.000	0.000
42	0.000	0.000
48	0.000	0.000
51	0.000	0.000
53	0.000	0.000
55	0.000	0.000
56	0.000	0.000
57	0.000	0.000
60	0.000	0.000
61	0.000	0.000
74	0.000	0.000
2	0.000	0.000
4	0.000	0.000
15	0.000	0.000
31	0.000	0.000
32	0.000	0.000
47	0.000	0.000
52	0.000	0.000
54	0.000	0.000
58	0.000	0.000
67	0.000	0.000
72	0.000	0.000
73	0.000	0.000
3	0.000	0.000
16	0.000	0.000
22	0.000	0.000
29	0.000	0.000
34	0.000	0.000
35	0.000	0.000
37	0.000	0.000

40	0.000	0.000
41	0.000	0.000
46	0.000	0.000
62	0.000	0.000
63	0.000	0.000
64	0.000	0.000
65	0.000	0.000
70	0.000	0.000
6	0.000	0.000
20	0.000	0.000
36	0.000	0.000
43	0.000	0.000
45	0.000	0.000
50	0.000	0.000
59	0.000	0.000
71	0.000	0.000
9	0.000	0.000
10	0.000	0.000
14	0.000	0.000
18	0.000	0.000
26	0.000	0.000
28	0.000	0.000
33	0.000	0.000
38	0.000	0.000
39	0.000	0.000
44	0.000	0.000
49	0.000	0.000
66	0.000	0.000
68	0.331	0.000
69	0.838	0.128

TEST FOR INTERNAL CONSISTENCY FOR THE INDICATORS WITH COMMONALITIES ON THE DIAGONAL

LOCATIONS WITH A 9.999 INDICATES THAT THE COMMONALITY OF THE INDICATOR IS GREATER THAN ONE.

	1	5	7	8	11	12	13	17	19	21	23	24	25	27	30	42	48	51
1	0.436	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	-0.030	0.302	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.013	0.090	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.271	-0.049	-0.083	0.405	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.055	-0.072	0.080	0.031	0.573	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.007	0.132	0.204	-0.067	0.046	0.203	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.060	0.096	0.064	-0.016	0.003	0.113	0.323	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	-0.114	-0.001	-0.026	-0.164	-0.013	-0.032	0.066	0.863	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.170	-0.092	-0.096	0.269	-0.084	-0.126	-0.033	-0.067	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.093	-0.124	-0.144	0.196	-0.175	-0.166	-0.033	-0.065	0.320	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	-0.105	-0.053	-0.035	-0.025	0.056	-0.117	-0.025	-0.070	0.015	0.114	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.021	0.178	0.054	-0.024	0.093	0.172	-0.079	-0.044	-0.127	-0.133	-0.006	0.643	0.000	0.000	0.000	0.000	0.000	0.000
25	0.071	0.145	0.128	-0.069	-0.038	0.259	-0.003	-0.025	-0.201	-0.149	-0.111	0.218	0.218	0.000	0.000	0.000	0.000	0.000
27	-0.063	0.014	0.041	-0.115	0.197	0.050	0.126	0.092	-0.088	-0.159	0.023	0.105	0.069	0.395	0.000	0.000	0.000	0.000
30	0.028	0.024	-0.003	0.007	0.092	-0.076	-0.080	-0.003	0.092	0.004	0.061	-0.079	-0.085	-0.069	0.250	0.000	0.000	0.000
42	-0.082	-0.062	-0.078	-0.100	-0.138	-0.053	-0.114	0.155	0.011	0.011	-0.060	-0.030	0.016	0.028	-0.019	0.859	0.000	0.000
48	0.032	0.117	0.046	0.070	0.085	0.043	-0.056	-0.031	-0.134	-0.140	-0.022	0.084	-0.011	-0.057	0.103	-0.006	0.436	0.000
51	-0.085	-0.003	0.012	-0.114	-0.058	0.031	-0.071	0.101	-0.032	-0.036	-0.039	-0.066	0.092	-0.059	-0.002	0.027	0.028	0.983
53	-0.090	-0.140	-0.098	-0.124	-0.065	-0.026	-0.043	0.078	-0.001	0.046	-0.036	-0.150	-0.084	-0.061	0.023	0.290	-0.020	0.118
55	-0.070	-0.080	-0.087	0.081	0.034	-0.133	-0.111	-0.099	0.112	0.156	0.133	-0.060	-0.075	0.037	0.081	-0.013	-0.003	-0.076
56	-0.105	-0.042	-0.204	-0.022	-0.007	-0.148	-0.033	0.144	0.010	0.050	0.293	0.008	-0.079	0.027	-0.089	-0.000	-0.126	0.077
57	-0.077	-0.038	-0.110	-0.029	0.000	-0.053	-0.006	0.123	-0.005	-0.047	-0.041	-0.071	-0.079	-0.001	0.045	0.162	-0.056	0.153
60	0.010	0.083	0.290	-0.037	0.127	0.154	0.099	-0.030	-0.092	-0.181	-0.110	0.080	0.173	0.011	0.040	-0.078	0.159	-0.003
61	0.052	-0.013	-0.062	0.191	-0.156	-0.115	-0.003	-0.084	0.192	0.383	0.134	-0.089	-0.086	-0.209	-0.008	-0.065	-0.127	-0.066
74	-0.004	-0.021	0.099	-0.052	-0.000	0.011	0.059	0.012	-0.078	0.014	-0.012	-0.004	0.014	0.114	-0.086	0.062	0.093	-0.045
2	-0.328	-0.264	-0.214	-0.265	-0.484	-0.220	-0.191	-0.007	-0.156	-0.327	-0.257	-0.480	-0.078	-0.206	-0.178	0.105	-0.305	-0.011
4	-0.362	-0.196	-0.122	-0.216	-0.422	-0.204	-0.127	0.075	-0.130	-0.169	-0.208	-0.493	-0.168	-0.221	-0.108	0.013	-0.297	-0.089
15	-0.061	-0.025	-0.115	-0.054	-0.094	-0.081	-0.063	0.063	0.009	-0.090	-0.087	-0.035	-0.127	-0.034	0.006	0.041	-0.026	0.010
31	-0.446	-0.219	-0.242	-0.473	-0.502	-0.273	-0.322	0.056	-0.155	-0.322	-0.285	-0.591	-0.288	-0.256	-0.197	0.332	-0.439	0.089
32	-0.120	-0.081	-0.111	-0.178	-0.176	-0.099	0.004	0.041	-0.097	-0.037	-0.150	-0.192	-0.067	-0.104	0.015	0.228	0.027	0.051
47	-0.352	-0.162	-0.226	-0.305	-0.413	-0.087	-0.238	-0.076	-0.022	-0.199	-0.221	-0.433	-0.131	-0.240	-0.143	0.114	-0.230	0.041
52	-0.200	-0.037	-0.014	-0.121	-0.151	-0.041	0.028	0.078	-0.180	-0.168	-0.077	-0.246	-0.034	-0.042	-0.053	-0.095	-0.090	-0.001
54	-0.270	-0.249	-0.055	-0.266	-0.309	-0.194	-0.227	-0.027	-0.117	-0.156	-0.180	-0.338	-0.166	-0.218	-0.120	0.247	-0.244	0.120
58	-0.129	-0.032	-0.046	-0.171	-0.212	-0.057	0.021	-0.004	-0.027	-0.075	-0.116	-0.260	-0.012	-0.141	-0.016	-0.025	-0.173	-0.076
67	-0.070	-0.058	-0.104	-0.122	-0.164	0.006	0.003	0.046	-0.128	0.003	0.031	-0.043	0.035	-0.056	-0.137	0.072	-0.161	0.057
72	-0.085	0.053	-0.041	-0.100	-0.231	-0.091	0.061	0.053	-0.078	-0.096	0.004	-0.250	-0.012	-0.060	-0.052	-0.068	-0.196	-0.059
73	-0.142	-0.114	-0.043	-0.188	-0.140	-0.042	-0.002	0.016	-0.109	-0.087	0.018	-0.126	-0.032	-0.122	-0.013	-0.046	-0.128	-0.057
3	-0.319	-0.210	-0.025	-0.329	-0.384	-0.153	-0.189	-0.007	-0.083	-0.121	-0.283	-0.578	-0.184	-0.308	-0.075	-0.018	-0.336	-0.036
16	-0.112	-0.106	0.076	-0.017	-0.114	-0.054	0.131	-0.090	-0.017	-0.078	-0.056	-0.270	-0.101	0.029	-0.018	-0.056	-0.117	-0.021
22	-0.252	-0.216	-0.039	-0.272	-0.216	-0.187	-0.160	-0.006	-0.170	-0.161	-0.212	-0.365	-0.214	-0.203	-0.070	-0.148	-0.227	-0.060
29	-0.479	-0.233	-0.382	-0.315	-0.449	-0.198	-0.260	-0.028	-0.094	-0.172	-0.131	-0.441	-0.212	-0.294	-0.117	-0.086	-0.269	0.156
34	-0.288	0.025	-0.109	-0.261	-0.349	-0.173	-0.092	-0.103	0.039	-0.122	-0.039	-0.400	-0.212	-0.185	-0.158	0.119	-0.190	0.106

35	-0.184	-0.160	-0.226	-0.231	-0.266	-0.157	-0.228	-0.019	-0.001	-0.046	-0.069	-0.227	-0.061	-0.124	-0.065	0.159	-0.194	0.054
37	-0.264	-0.209	-0.252	-0.261	-0.282	-0.173	-0.103	-0.069	-0.218	-0.179	-0.173	-0.518	-0.161	-0.122	-0.091	-0.001	-0.259	-0.027
40	-0.293	-0.166	-0.145	-0.319	-0.356	-0.066	-0.159	-0.038	-0.070	-0.184	-0.204	-0.480	-0.116	-0.173	-0.133	0.002	-0.257	-0.012
41	-0.356	-0.194	-0.133	-0.348	-0.316	-0.180	-0.129	-0.071	-0.134	-0.298	-0.181	-0.621	-0.320	-0.258	-0.083	0.085	-0.177	0.137
46	-0.503	-0.261	-0.200	-0.361	-0.333	-0.237	-0.232	0.019	-0.100	-0.210	-0.143	-0.625	-0.229	-0.172	-0.156	0.017	-0.310	0.163
62	-0.298	-0.167	-0.266	-0.233	-0.279	-0.201	-0.224	0.090	-0.146	-0.156	-0.021	-0.282	-0.127	-0.183	-0.032	0.069	-0.319	0.114
63	-0.087	-0.119	0.033	0.001	0.036	0.047	0.048	0.049	-0.008	0.015	-0.009	-0.079	-0.113	0.038	0.031	-0.089	0.057	-0.038
64	-0.200	-0.134	-0.064	-0.258	-0.109	-0.177	-0.073	-0.086	-0.138	-0.072	-0.040	-0.248	-0.071	-0.006	0.050	-0.014	-0.104	-0.011
65	-0.095	-0.125	-0.024	-0.001	0.026	-0.137	-0.129	-0.084	-0.012	0.012	-0.071	-0.130	-0.109	-0.082	0.002	-0.032	-0.042	0.061
70	-0.279	-0.010	-0.102	-0.226	-0.272	-0.096	-0.179	0.012	0.013	-0.207	-0.156	-0.387	-0.097	-0.143	0.058	0.118	-0.128	0.056
6	-0.142	-0.129	-0.079	-0.203	-0.142	0.046	-0.131	-0.059	-0.042	-0.088	-0.005	-0.246	-0.091	-0.062	-0.064	0.057	-0.083	-0.089
20	-0.194	-0.077	-0.045	-0.251	-0.210	-0.095	-0.073	-0.060	-0.152	-0.208	-0.129	-0.256	-0.117	-0.117	-0.140	-0.092	-0.100	-0.194
36	-0.313	-0.148	-0.091	-0.200	-0.394	-0.164	-0.195	-0.043	-0.146	-0.015	-0.104	-0.580	-0.246	-0.320	-0.236	-0.005	-0.292	-0.047
43	-0.274	-0.127	-0.151	-0.265	-0.101	-0.131	-0.277	-0.007	0.006	-0.194	-0.116	-0.254	-0.177	-0.070	-0.071	0.175	-0.094	0.077
45	-0.430	-0.182	-0.169	-0.373	-0.397	-0.192	-0.327	-0.009	-0.152	-0.293	-0.319	-0.476	-0.192	-0.202	-0.199	0.037	-0.271	0.127
50	-0.286	-0.206	-0.002	-0.313	-0.249	-0.043	0.044	0.116	-0.206	-0.044	-0.005	-0.243	-0.066	-0.010	-0.109	0.049	-0.274	-0.002
59	-0.554	-0.363	-0.243	-0.601	-0.707	-0.198	-0.209	-0.064	-0.341	-0.343	-0.327	-0.866	-0.275	-0.483	-0.259	-0.268	-0.465	-0.178
71	0.023	0.170	-0.016	0.045	0.061	0.053	0.044	-0.041	0.009	-0.122	-0.122	0.081	0.071	-0.021	0.091	-0.080	0.151	-0.059
9	-0.352	-0.318	-0.226	-0.343	-0.641	-0.272	-0.367	-0.113	-0.123	-0.219	-0.231	-0.682	-0.326	-0.522	-0.246	-0.043	-0.498	-0.161
10	-0.452	-0.266	-0.372	-0.371	-0.487	-0.261	-0.443	-0.063	-0.108	-0.293	-0.185	-0.605	-0.218	-0.270	-0.179	-0.032	-0.366	0.052
14	-0.266	-0.304	-0.155	-0.219	-0.352	-0.144	-0.287	-0.104	0.001	-0.139	-0.144	-0.472	-0.195	-0.296	-0.217	0.114	-0.338	-0.008
18	-0.257	-0.251	-0.151	-0.266	-0.336	-0.143	-0.164	-0.052	-0.105	-0.175	-0.027	-0.441	-0.122	-0.188	-0.070	0.042	-0.287	0.028
26	-0.616	-0.240	-0.375	-0.557	-0.763	-0.323	-0.411	-0.110	-0.227	-0.335	-0.339	-0.828	-0.458	-0.474	-0.252	-0.112	-0.480	-0.101
28	-0.579	-0.449	-0.334	-0.590	-0.716	-0.303	-0.633	-0.151	-0.164	-0.420	-0.366	-0.821	-0.353	-0.601	-0.264	-0.212	-0.502	0.022
33	-0.230	-0.079	-0.116	-0.144	-0.413	-0.149	-0.232	-0.057	-0.092	-0.199	-0.105	-0.487	-0.193	-0.328	-0.143	-0.257	-0.184	-0.043
38	-0.378	-0.287	-0.359	-0.326	-0.744	-0.334	-0.434	-0.234	-0.075	-0.332	-0.173	-0.722	-0.333	-0.597	-0.053	-0.109	-0.421	-0.094
39	-0.340	-0.430	-0.291	-0.414	-0.496	-0.147	-0.346	-0.031	-0.074	-0.189	-0.155	-0.577	-0.237	-0.327	-0.244	0.160	-0.318	-0.119
44	-0.094	-0.127	-0.061	-0.156	-0.333	-0.145	-0.197	-0.236	0.024	-0.190	-0.033	-0.282	-0.127	-0.323	-0.113	-0.111	-0.199	-0.109
49	-0.253	-0.121	-0.187	-0.221	-0.349	-0.123	-0.225	-0.041	0.040	-0.229	-0.119	-0.351	-0.107	-0.236	-0.178	-0.016	-0.245	-0.134
66	-0.250	-0.107	-0.193	-0.239	-0.380	-0.125	-0.277	0.013	-0.144	-0.254	-0.268	-0.370	-0.091	-0.208	-0.184	0.031	-0.235	-0.038
68	-0.606	-0.309	-0.294	-0.469	-0.642	-0.275	-0.508	-0.222	-0.176	-0.381	-0.231	-0.864	-0.366	-0.424	-0.296	0.007	-0.421	-0.190
69	-0.180	-0.155	-0.156	-0.260	-0.273	-0.078	-0.197	-0.008	-0.079	-0.185	-0.196	-0.379	-0.203	-0.135	0.024	0.076	-0.088	-0.034

TEST FOR INTERNAL CONSISTENCY FOR THE INDICATORS WITH COMMONALITIES ON THE DIAGONAL

LOCATIONS WITH A 9.999 INDICATES THAT THE COMMONALITY OF THE INDICATOR IS GREATER THAN ONE.

	53	55	56	57	60	61	74	2	4	15	31	32	47	52	54	58	67	72
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
53	0.149	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.088	0.309	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.085	0.045	0.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57	0.195	-0.163	0.192	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	-0.102	-0.094	-0.207	-0.059	0.318	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
61	0.014	0.159	-0.004	-0.095	-0.188	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	-0.092	0.093	0.026	-0.043	0.070	-0.184	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	-0.033	-0.245	-0.056	0.169	-0.274	-0.140	-0.021	0.310	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	-0.098	-0.197	-0.159	0.082	-0.196	-0.085	-0.053	-0.046	0.102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	-0.025	0.013	-0.012	0.068	-0.011	-0.021	-0.141	-0.082	0.279	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.012	-0.383	-0.107	0.300	-0.296	-0.140	-0.120	0.071	-0.012	-0.038	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.098	-0.147	-0.023	0.155	-0.122	-0.116	-0.065	0.025	-0.028	-0.088	0.247	0.130	0.000	0.000	0.000	0.000	0.000	0.000
47	0.108	-0.210	-0.085	0.232	-0.332	-0.045	-0.190	0.149	-0.050	0.040	-0.041	-0.104	0.167	0.000	0.000	0.000	0.000	0.000
52	-0.068	-0.212	-0.018	0.097	-0.018	-0.052	-0.111	-0.052	0.030	0.018	-0.141	-0.078	-0.058	0.058	0.000	0.000	0.000	0.000
54	0.199	-0.201	0.001	0.363	-0.266	-0.124	-0.116	-0.063	-0.029	-0.064	0.155	0.203	0.082	-0.017	0.231	0.000	0.000	0.000
58	-0.013	-0.223	0.036	0.091	-0.054	0.013	-0.051	-0.084	-0.042	-0.090	-0.124	0.006	0.037	0.157	-0.085	0.052	0.000	0.000
67	-0.022	-0.097	0.081	0.034	-0.137	-0.030	0.117	0.024	-0.052	-0.035	0.082	0.009	-0.011	-0.110	0.066	0.046	0.084	0.000
72	-0.117	-0.233	-0.009	0.029	0.023	0.003	-0.050	0.065	-0.055	0.054	-0.085	-0.093	-0.116	0.171	-0.115	0.153	-0.061	0.100
73	0.053	-0.087	-0.106	-0.008	-0.050	-0.039	-0.155	0.006	-0.006	-0.009	-0.089	-0.061	0.092	0.055	-0.118	-0.008	0.058	0.062
3	0.002	-0.232	-0.164	0.091	-0.029	-0.093	-0.004	-0.156	-0.082	-0.064	-0.078	-0.123	-0.158	-0.054	-0.150	-0.072	-0.105	0.025
16	-0.057	-0.111	-0.101	-0.016	0.013	0.099	-0.025	-0.108	0.025	-0.016	-0.152	-0.080	-0.121	-0.056	-0.101	-0.016	-0.057	0.055
22	-0.106	-0.242	-0.165	0.041	-0.021	-0.067	-0.102	-0.254	-0.206	-0.084	-0.269	-0.117	-0.185	-0.078	-0.178	-0.107	-0.178	-0.020
29	-0.190	-0.232	-0.039	0.144	-0.202	-0.032	-0.155	-0.084	-0.059	-0.001	-0.077	-0.079	-0.028	-0.151	-0.188	-0.053	0.003	-0.124
34	0.060	-0.164	0.007	0.185	-0.197	-0.035	0.030	0.080	0.048	-0.013	0.096	0.015	0.030	-0.108	0.080	-0.063	0.136	-0.026

35	0.030	-0.120	-0.041	0.185	-0.202	-0.036	0.000	0.084	-0.004	-0.075	0.065	0.054	0.168	-0.096	0.001	0.027	-0.032	-0.105
37	0.008	-0.142	-0.046	0.116	-0.154	0.038	-0.117	-0.225	-0.067	0.037	-0.128	-0.014	-0.014	0.062	-0.006	0.040	-0.086	0.003
40	0.048	-0.210	-0.054	0.149	-0.249	-0.096	-0.085	-0.017	-0.039	-0.014	0.002	-0.067	0.086	-0.093	-0.068	0.012	0.041	-0.045
41	0.035	-0.318	-0.152	0.325	-0.201	-0.152	-0.121	0.066	0.046	0.018	0.092	0.147	0.043	-0.064	0.051	-0.134	-0.006	-0.104
46	0.092	-0.307	0.007	0.185	-0.141	-0.118	-0.156	-0.191	-0.155	-0.105	-0.089	-0.018	-0.013	0.127	-0.110	-0.123	-0.141	0.001
62	0.065	-0.116	0.062	0.282	-0.245	-0.024	-0.008	-0.004	-0.022	-0.100	-0.000	0.060	0.106	-0.027	0.126	-0.020	0.039	0.008
63	0.038	-0.043	-0.072	-0.038	0.072	0.058	-0.043	-0.205	-0.068	-0.037	-0.162	-0.011	-0.109	0.021	-0.112	-0.075	-0.197	-0.079
64	-0.067	-0.230	-0.010	0.173	-0.028	-0.130	-0.036	-0.178	-0.154	-0.046	-0.064	0.015	-0.132	-0.057	-0.094	-0.076	-0.101	-0.033
65	-0.036	-0.011	-0.155	-0.001	0.041	0.021	-0.059	-0.105	-0.050	-0.038	-0.232	-0.069	0.032	-0.003	-0.106	-0.066	-0.088	-0.106
70	0.101	-0.163	-0.037	0.232	-0.129	-0.085	-0.107	-0.214	-0.194	-0.046	-0.007	-0.042	0.081	-0.105	0.012	0.010	-0.062	-0.079
6	-0.041	-0.161	0.042	0.153	-0.079	-0.162	-0.025	-0.124	-0.084	0.011	-0.058	0.039	0.061	0.126	0.027	0.041	0.065	-0.030
20	-0.117	-0.271	-0.234	-0.029	0.052	0.027	-0.069	-0.169	0.034	-0.056	-0.114	-0.202	-0.177	0.075	-0.172	-0.057	-0.061	0.027
36	-0.088	-0.153	-0.060	0.056	-0.247	-0.039	0.004	-0.018	0.025	-0.078	0.019	0.011	-0.101	0.010	-0.016	0.017	0.083	0.055
43	0.021	-0.132	-0.088	0.144	-0.205	-0.075	-0.044	0.044	-0.054	-0.054	0.110	-0.057	0.270	-0.145	0.092	-0.079	-0.083	-0.130
45	-0.039	-0.300	-0.151	0.132	-0.257	-0.052	-0.022	0.005	-0.095	-0.039	-0.091	-0.106	0.148	0.062	-0.039	0.043	-0.088	-0.061
50	-0.105	-0.094	-0.003	-0.053	-0.187	-0.019	-0.047	-0.086	-0.044	-0.068	-0.099	-0.024	-0.053	0.182	-0.038	-0.145	-0.024	0.022
59	-0.277	-0.458	-0.332	-0.062	-0.190	0.031	-0.255	-0.445	-0.234	-0.107	-0.448	-0.258	-0.194	0.078	-0.394	-0.158	0.008	-0.096
71	-0.137	-0.063	-0.118	0.032	0.166	0.000	-0.111	-0.026	0.024	-0.008	-0.047	0.010	-0.002	0.017	-0.069	0.055	-0.107	-0.034
9	-0.282	-0.286	-0.278	-0.082	-0.406	0.075	-0.167	-0.274	-0.135	-0.140	-0.313	-0.309	-0.089	-0.107	-0.191	-0.166	-0.022	-0.182
10	-0.126	-0.258	-0.141	0.101	-0.363	-0.060	-0.179	-0.056	-0.177	-0.089	-0.236	-0.192	0.024	-0.146	-0.184	-0.264	-0.042	-0.261
14	-0.036	-0.157	-0.064	-0.002	-0.209	0.048	-0.022	-0.017	-0.107	-0.077	-0.089	0.019	-0.048	-0.032	-0.109	0.005	-0.015	-0.087
18	0.064	-0.150	0.009	0.116	-0.254	-0.059	-0.103	-0.032	-0.138	-0.053	-0.109	-0.015	0.070	-0.122	-0.110	-0.028	0.025	-0.079
26	-0.232	-0.362	-0.284	-0.050	-0.461	0.044	-0.232	-0.320	-0.284	-0.154	-0.358	-0.257	-0.223	-0.193	-0.358	-0.125	-0.060	-0.255
28	-0.271	-0.522	-0.280	0.024	-0.434	-0.070	-0.310	-0.410	-0.287	-0.171	-0.356	-0.361	-0.089	-0.271	-0.228	-0.233	-0.149	-0.271
33	-0.188	-0.197	-0.185	-0.056	-0.238	-0.037	-0.073	-0.307	-0.188	-0.121	-0.378	-0.300	-0.145	-0.055	-0.198	-0.049	-0.071	-0.185
38	-0.098	-0.309	-0.160	-0.039	-0.486	0.040	-0.328	-0.339	-0.187	-0.097	-0.447	-0.446	-0.152	-0.200	-0.295	-0.154	-0.067	-0.278
39	0.065	-0.198	-0.069	0.209	-0.367	-0.039	-0.119	-0.046	-0.180	-0.079	-0.036	0.010	0.132	-0.106	-0.013	-0.046	-0.009	-0.223
44	-0.177	-0.091	-0.103	-0.160	-0.147	-0.051	-0.065	-0.161	-0.071	-0.080	-0.327	-0.273	-0.114	-0.134	-0.278	-0.108	-0.068	-0.079
49	-0.137	-0.135	-0.203	-0.034	-0.196	0.009	-0.168	-0.258	-0.141	-0.033	-0.252	-0.174	-0.036	-0.219	-0.277	-0.105	-0.093	-0.126
66	-0.053	-0.154	-0.199	0.118	-0.161	-0.020	-0.177	-0.014	-0.042	0.004	-0.061	-0.095	0.136	-0.045	-0.219	0.040	-0.171	-0.122
68	-0.110	-0.393	-0.334	0.187	-0.369	-0.030	-0.115	-0.265	-0.172	-0.222	-0.259	-0.162	0.071	-0.208	-0.205	-0.079	-0.118	-0.279
69	0.067	-0.098	-0.166	0.086	-0.172	-0.045	-0.239	-0.105	-0.137	0.041	-0.095	-0.080	0.051	-0.066	-0.103	-0.103	-0.145	-0.181

35	-0.042	-0.144	-0.088	-0.193	0.207	0.176	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	-0.084	-0.005	0.033	-0.013	-0.046	-0.079	-0.128	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.065	-0.097	-0.088	-0.150	0.081	0.115	0.165	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	-0.036	-0.114	-0.061	-0.138	0.103	0.185	0.009	-0.060	0.164	0.165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	-0.054	0.006	-0.019	0.008	-0.103	-0.102	-0.058	0.089	-0.004	0.035	0.255	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.004	0.003	-0.009	-0.103	-0.034	0.037	0.074	0.041	0.038	-0.007	-0.008	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.036	0.098	0.004	0.176	-0.052	-0.223	-0.134	0.174	-0.133	-0.079	0.104	-0.120	0.032	0.000	0.000	0.000	0.000	0.000	0.000
64	0.043	0.057	0.015	0.190	-0.038	-0.074	-0.056	-0.006	-0.087	-0.178	0.002	0.030	0.085	0.226	0.000	0.000	0.000	0.000	0.000
65	0.054	-0.037	0.023	0.050	0.013	-0.029	0.054	-0.072	-0.250	0.022	0.081	0.012	0.131	0.090	0.065	0.000	0.000	0.000	0.000
70	-0.057	-0.099	-0.131	-0.087	-0.079	-0.032	0.109	0.064	0.247	0.111	-0.037	0.047	-0.006	-0.031	-0.089	0.178	0.000	0.000	0.000
6	-0.015	-0.070	-0.044	-0.051	-0.127	-0.080	-0.022	-0.164	-0.081	0.021	0.015	-0.060	-0.114	-0.035	-0.096	-0.083	0.044	0.000	0.000
20	0.004	-0.108	-0.010	0.027	-0.129	-0.044	-0.088	-0.141	-0.259	-0.085	-0.061	-0.046	0.003	-0.027	0.171	-0.206	-0.036	0.080	0.000
36	-0.103	-0.034	-0.029	-0.211	-0.249	0.068	-0.132	-0.069	0.008	-0.010	-0.142	-0.090	-0.196	-0.215	-0.209	-0.246	-0.038	-0.174	0.000
43	-0.031	-0.102	-0.141	-0.121	0.010	0.067	0.229	-0.035	0.079	0.060	-0.009	0.187	-0.229	0.115	0.006	0.128	0.128	-0.064	-0.007
45	-0.194	-0.183	-0.067	-0.136	-0.092	-0.004	0.109	-0.061	-0.021	-0.003	-0.094	0.129	-0.047	-0.147	-0.065	-0.026	-0.018	-0.075	0.000
50	0.133	0.007	-0.016	-0.024	-0.130	-0.094	-0.050	-0.101	-0.117	-0.124	0.035	0.023	-0.008	-0.091	-0.044	-0.253	0.062	-0.011	0.000
59	0.100	-0.345	-0.134	-0.287	-0.248	-0.387	-0.257	-0.408	-0.201	-0.212	-0.141	-0.133	-0.030	-0.120	-0.091	-0.469	0.065	0.085	0.000
71	0.156	0.057	0.029	0.099	0.218	-0.030	0.029	0.044	-0.007	0.027	0.023	-0.032	0.102	0.114	0.158	0.100	-0.072	0.071	0.000
9	0.169	-0.402	-0.279	-0.338	-0.115	-0.197	-0.025	-0.306	-0.237	-0.246	-0.497	-0.129	-0.199	-0.237	0.015	-0.259	-0.178	-0.150	0.000
10	-0.021	-0.279	-0.120	-0.209	0.064	0.034	0.255	-0.142	0.042	-0.064	-0.227	0.017	-0.105	-0.089	0.070	-0.044	-0.136	-0.255	0.000
14	0.059	-0.137	-0.079	-0.190	-0.063	0.025	0.188	-0.127	0.038	-0.053	-0.047	0.010	-0.088	-0.178	-0.011	-0.117	-0.008	-0.169	0.000
18	0.016	-0.170	-0.077	-0.161	-0.027	-0.033	0.030	-0.083	0.097	0.020	-0.138	-0.006	-0.097	-0.066	-0.066	-0.032	0.039	-0.277	0.000
26	0.044	-0.384	-0.187	-0.422	-0.049	-0.199	0.070	-0.304	-0.163	-0.217	-0.331	-0.046	-0.105	-0.124	0.110	-0.199	-0.111	-0.115	0.000
28	-0.054	-0.352	-0.177	-0.382	-0.018	-0.132	0.193	-0.383	-0.062	-0.192	-0.380	-0.021	-0.176	-0.302	0.068	-0.183	-0.101	-0.148	0.000
33	-0.038	-0.181	-0.125	-0.085	-0.062	-0.163	-0.060	-0.178	-0.140	-0.132	-0.145	-0.180	0.020	-0.120	0.061	-0.038	-0.131	-0.032	0.000
38	0.014	-0.373	-0.251	-0.345	-0.142	-0.162	-0.009	-0.357	-0.143	-0.142	-0.431	-0.141	-0.144	-0.323	-0.053	-0.095	-0.256	-0.250	0.000
39	-0.026	-0.151	-0.116	-0.196	-0.033	0.038	0.506	-0.109	0.171	-0.078	-0.130	0.072	-0.152	-0.177	-0.053	0.020	0.028	-0.109	0.000
44	0.052	-0.177	-0.171	-0.164	-0.158	-0.197	-0.042	-0.254	-0.182	-0.233	-0.218	-0.146	-0.061	-0.190	0.065	-0.228	-0.173	-0.118	0.000
49	0.154	-0.290	-0.190	-0.286	-0.149	-0.157	0.073	-0.316	-0.180	-0.141	-0.215	-0.093	-0.120	-0.131	0.097	-0.063	-0.128	-0.068	0.000
66	0.035	-0.102	-0.046	-0.059	-0.022	-0.053	0.224	-0.111	0.000	-0.027	0.035	-0.069	-0.049	-0.163	0.113	0.111	-0.096	-0.077	0.000
68	0.011	-0.283	-0.130	-0.226	-0.040	0.058	0.269	-0.169	-0.014	-0.030	-0.194	0.048	-0.058	-0.199	0.193	0.063	-0.128	-0.072	0.000
69	0.006	-0.075	-0.012	-0.158	-0.031	-0.057	0.100	-0.037	0.144	0.132	-0.093	-0.019	0.015	-0.077	-0.010	0.156	0.000	-0.131	0.000

35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
43	-0.099	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	-0.138	0.290	0.164	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.016	-0.093	-0.141	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
59	-0.225	-0.281	-0.217	0.115	0.367	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
71	-0.269	0.065	0.032	-0.106	0.093	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	-0.209	0.004	-0.230	-0.125	-0.269	0.095	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	-0.271	0.212	-0.022	-0.149	-0.357	0.210	-0.044	0.267	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.020	-0.007	-0.141	-0.074	-0.075	-0.043	-0.008	-0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.073	-0.013	-0.109	-0.065	-0.164	-0.028	-0.008	0.058	0.090	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	-0.456	0.057	-0.087	-0.138	-0.278	0.294	0.057	0.044	-0.029	-0.132	0.424	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	-0.398	0.147	-0.074	-0.299	-0.510	0.218	-0.056	0.118	-0.087	-0.036	0.241	0.390	0.000	0.000	0.000	0.000	0.000	0.000
33	-0.315	-0.072	-0.123	-0.293	-0.151	0.251	0.134	-0.135	-0.120	-0.021	-0.029	0.070	0.105	0.000	0.000	0.000	0.000	0.000
38	-0.359	-0.007	-0.300	-0.333	-0.399	0.217	0.117	-0.105	-0.087	0.094	-0.005	0.013	0.189	0.371	0.000	0.000	0.000	0.000
39	-0.082	0.137	0.018	-0.034	-0.208	-0.057	-0.096	0.103	0.330	0.051	-0.073	0.024	-0.172	-0.210	0.113	0.000	0.000	0.000
44	-0.081	0.033	-0.228	-0.163	-0.322	0.067	0.194	-0.118	-0.004	-0.025	0.001	-0.051	0.075	0.252	-0.138	0.125	0.000	0.000
49	-0.252	0.106	-0.106	-0.136	-0.257	0.211	0.032	-0.071	-0.015	-0.094	0.053	-0.028	0.084	0.009	-0.112	0.104	0.271	0.000
66	-0.243	0.112	0.008	-0.177	-0.276	0.186	-0.126	0.001	-0.011	-0.118	-0.074	-0.107	0.088	-0.062	0.102	-0.094	0.076	0.099
68	-0.275	0.220	-0.011	-0.242	-0.527	0.208	-0.049	0.128	0.068	-0.072	-0.011	-0.076	-0.083	-0.311	0.169	-0.068	0.019	0.185
69	-0.154	0.114	0.046	-0.064	-0.197	0.117	-0.134	0.041	-0.154	0.184	0.014	0.018	-0.045	0.071	-0.014	-0.086	-0.051	0.117

TEST FOR INTERNAL CONSISTENCY FOR THE INDICATORS WITH COMMONALITIES ON THE DIAGONAL

LOCATIONS WITH A 9.999 INDICATES THAT THE COMMONALITY OF THE INDICATOR IS GREATER THAN ONE.

	68	69
1	0.000	0.000
5	0.000	0.000
7	0.000	0.000
8	0.000	0.000
11	0.000	0.000
12	0.000	0.000
13	0.000	0.000
17	0.000	0.000
19	0.000	0.000
21	0.000	0.000
23	0.000	0.000
24	0.000	0.000
25	0.000	0.000
27	0.000	0.000
30	0.000	0.000
42	0.000	0.000
48	0.000	0.000
51	0.000	0.000
53	0.000	0.000
55	0.000	0.000
56	0.000	0.000
57	0.000	0.000
60	0.000	0.000
61	0.000	0.000
74	0.000	0.000
2	0.000	0.000
4	0.000	0.000
15	0.000	0.000
31	0.000	0.000
32	0.000	0.000
47	0.000	0.000
52	0.000	0.000
54	0.000	0.000
58	0.000	0.000
67	0.000	0.000
72	0.000	0.000
73	0.000	0.000
3	0.000	0.000
16	0.000	0.000
22	0.000	0.000
29	0.000	0.000
34	0.000	0.000

35	0.000	0.000
37	0.000	0.000
40	0.000	0.000
41	0.000	0.000
46	0.000	0.000
62	0.000	0.000
63	0.000	0.000
64	0.000	0.000
65	0.000	0.000
70	0.000	0.000
6	0.000	0.000
20	0.000	0.000
36	0.000	0.000
43	0.000	0.000
45	0.000	0.000
50	0.000	0.000
59	0.000	0.000
71	0.000	0.000
9	0.000	0.000
10	0.000	0.000
14	0.000	0.000
18	0.000	0.000
26	0.000	0.000
28	0.000	0.000
33	0.000	0.000
38	0.000	0.000
39	0.000	0.000
44	0.000	0.000
49	0.000	0.000
66	0.000	0.000
68	0.531	0.000
69	0.043	0.128

APPENDIX D

Final Questionnaire

CLOTHING SURVEY

The primary purpose of this survey is to determine your feelings and behavior with respect to clothing and related issues. There are no right or wrong answers. In order to keep your responses totally anonymous, please do not put your name on the questionnaire.

PART I. In this section, please indicate the responses that best describe your behavior in the situations given.

1. How often do you buy secondhand clothing from family or friends, yard sales, consignment shops, or any other sources? (Check one.)

_____ never
 _____ sometimes
 _____ often

2. When you discard clothing, what portion do you recycle? That is, what portion is remodeled, sold, or given to charity, friends or family? (Check one.)

_____ 0 - 25%
 _____ 26% - 50%
 _____ 51% - 75%
 _____ Over 75%

3. When you shop for apparel, how often do you purchase the following types of clothes? (Check one for each type.)

current fashion - style presently worn by a majority of women but not expected to last indefinitely
 high fashion - style ahead of current fashion, not worn by many women, and expected to last only a short time
 classic fashion - style expected to last indefinitely

Clothing type	never	some- times	often	always
current fashion	_____	_____	_____	_____
high fashion	_____	_____	_____	_____
classic fashion	_____	_____	_____	_____

4. In an average week, about how much time do you spend watching commercial (CBS, NBC, ABC, or cable) television? _____ hours.

5. How much time in an average week do you spend watching PBS (Public Broadcasting System) television? _____ hours.

6. How often do you usually watch each of the following types of programs on commercial or educational television? (Check one for each type.)

Program type	often	some- times	never
News programs	_____ / _____ / _____		
Dramas	_____ / _____ / _____		
Comedies	_____ / _____ / _____		
Game shows	_____ / _____ / _____		
Soap operas	_____ / _____ / _____		
Movies	_____ / _____ / _____		
Talk shows	_____ / _____ / _____		
Sports programs	_____ / _____ / _____		
Nature or wildlife shows	_____ / _____ / _____		

7. How often do you read part or all of the following types of magazines? (Check one for each type.)

Magazine type	never	some- times	often
Business (Business Week, Fortune, etc.)	_____ / _____ / _____		
Major news (Newsweek, Time, etc.)	_____ / _____ / _____		
Television (TV Guide, etc.)	_____ / _____ / _____		
General sports (Sports Illustrated, etc.)	_____ / _____ / _____		
Human interest (People, Us, etc.)	_____ / _____ / _____		
Tabloids (National Enquirer, The Star, etc.)	_____ / _____ / _____		
Automotive (Car and Driver, Motor Trend, etc.)	_____ / _____ / _____		
Specific sports (Skiing, Tennis, etc.)	_____ / _____ / _____		
Domestic (Family Circle, Women's Day, etc.)	_____ / _____ / _____		
Men's magazines (Playboy, Penthouse, etc.)	_____ / _____ / _____		
Fashion (Mademoiselle, Vogue, etc.)	_____ / _____ / _____		
Educational (Smithsonian, National Geog., etc.)	_____ / _____ / _____		
Home or Garden (Sunset, House & Garden, etc.)	_____ / _____ / _____		
Commentary (New Republic, Co-Evolution Quart., etc.)	_____ / _____ / _____		
Literary (Saturday Review, New Yorker, etc.)	_____ / _____ / _____		
Nature (National Wildlife, Audubon, Sierra, etc.)	_____ / _____ / _____		

8. On an average weekday (Monday through Friday) about how much time do you spend listening to the radio? _____ hours.

9. About how often do you read the newspaper? (Check one.)

- _____ daily
_____ several times a week
_____ never

PART II. In this section there is a list of statements about the way you feel about certain issues. For each statement listed please indicate whether you agree or disagree with the statement by placing a check in the appropriate block. Several definitions are provided to help you complete the questionnaire.

Secondhand or used clothing
clothing which has been worn previously by someone else.

Recycled clothing
clothing that has been remodeled, sold, or given to someone else.

Classic clothes
garments designed to remain in style indefinitely.

Secondhand clothing stores
any store or market which sells secondhand clothing including consignment shops, thrift shops, yard sales, flea markets, etc.

strongly disagree disagree neutral agree strongly agree

1. Recycling clothes is a good idea. ___/___/___/___/___
2. Clothing is a resource that is often wasted. ___/___/___/___/___
3. Manufacturers should be forced to use recycled materials in their manufacturing and processing operations. ___/___/___/___/___
4. I think shopping for clothes at yard sales is embarrassing. ___/___/___/___/___
5. Fashion generally has little to do with my reasons for discarding garments. ___/___/___/___/___
6. I think that a person should urge her friends not to use products that pollute or harm the environment. ___/___/___/___/___

strongly disagree
disagree
neutral
agree
strongly agree

7. I would be willing to purchase some clothing in a secondhand store. _____/_____/_____/_____/_____
8. Shopping for used clothing is just too inconvenient. _____/_____/_____/_____/_____
9. Commercial advertising should be forced to mention the ecological disadvantages of products. _____/_____/_____/_____/_____
10. Most consumers buy much more clothing than they need. _____/_____/_____/_____/_____
11. Secondhand clothing is generally dirty and unsanitary. _____/_____/_____/_____/_____
12. I would be willing to spend time and/or money to recycle my old clothes. _____/_____/_____/_____/_____
13. I have very little knowledge about where to buy secondhand clothes. _____/_____/_____/_____/_____
14. I think it is ridiculous for women to feel they must always have the latest styles. _____/_____/_____/_____/_____
15. Much more fuss is being made about air and water pollution than is really justified. _____/_____/_____/_____/_____
16. I think that keeping up with fashion is very impractical. _____/_____/_____/_____/_____
17. The government should provide each citizen with a list of agencies and organizations to which citizens could report grievances concerning pollution. _____/_____/_____/_____/_____
18. More information about ways to recycle clothes should be made available. _____/_____/_____/_____/_____
19. Recycling used garments is more trouble than its worth. _____/_____/_____/_____/_____
20. I consider myself a very fashion conscious person. _____/_____/_____/_____/_____
21. I would be willing to pay a 5 percent increase in my taxes to support greater governmental control of pollution. _____/_____/_____/_____/_____

strongly
 disagree disagree neutral agree strongly
 disagree agree

- 22. There isn't much of a relationship between conservation of resources and clothing consumption. _/_/_/_/_/
- 23. It doesn't bother me to be out of style. _/_/_/_/_/
- 24. Trying to control water pollution is more trouble than it is worth. _/_/_/_/_/
- 25. When I select clothing, I don't really care what others are wearing. _/_/_/_/_/
- 26. People should not be asked to conserve in clothing consumption because they are already expected to conserve in so many other ways. _/_/_/_/_/
- 27. I become incensed when I think about the harm being done to plant and animal life by pollution. _/_/_/_/_/
- 28. I doubt that I would obtain more used clothing even if more shops were available. _/_/_/_/_/
- 29. I would be willing to pay more for very fashionable garments. _/_/_/_/_/
- 30. People should urge their friends to limit their use of products made from scarce resources. _/_/_/_/_/
- 31. People should be encouraged to recycle clothing. _/_/_/_/_/
- 32. I don't like to purchase used clothing because I can't judge its quality. _/_/_/_/_/
- 33. I would be willing to pay one dollar more each month for electricity if it meant cleaner air. _/_/_/_/_/
- 34. It doesn't matter if people buy more clothing than they need because eventually it will be passed on to others. _/_/_/_/_/
- 35. Secondhand garments just don't appeal to me. _/_/_/_/_/
- 36. People should consider resource conservation when they buy clothes. _/_/_/_/_/

PART III. The following questions are asked to provide some background information which will be used in statistical analysis.

1. Marital status (Check one):

- married and living with spouse
 other

2. Highest level of education you have completed (Check one):

- | | |
|--|---|
| <input type="checkbox"/> grade school or less | <input type="checkbox"/> completed college |
| <input type="checkbox"/> some high school | <input type="checkbox"/> some graduate work |
| <input type="checkbox"/> completed high school | <input type="checkbox"/> graduate degree |
| <input type="checkbox"/> some college | |

3. Age (Check one):

- | | |
|---|--|
| <input type="checkbox"/> less than 25 years | <input type="checkbox"/> 45 - 54 years |
| <input type="checkbox"/> 25 - 34 years | <input type="checkbox"/> 55 - 64 years |
| <input type="checkbox"/> 35 - 44 years | <input type="checkbox"/> 65 and older |

4. Racial identification (Check one):

- Black
 White
 Other

5. Political preference (Check one):

- conservative
 liberal
 middle of the road

6. Total annual income of your household (Please include here all income received by anyone in your household) (Check one):

- | | |
|--|--|
| <input type="checkbox"/> less than \$10,000 | <input type="checkbox"/> \$40,001 - \$50,000 |
| <input type="checkbox"/> \$10,001 - \$20,000 | <input type="checkbox"/> \$50,001 - \$60,000 |
| <input type="checkbox"/> \$20,001 - \$30,000 | <input type="checkbox"/> \$60,001 and over |
| <input type="checkbox"/> \$30,001 - \$40,000 | |

7. List the organizations or clubs to which you belong and your level of participation in each.

	level of participation (check one for each org.)	
	member only	active member
community		
_____	_____	_____
_____	_____	_____
_____	_____	_____
professional		
_____	_____	_____
_____	_____	_____
_____	_____	_____
social		
_____	_____	_____
_____	_____	_____
_____	_____	_____
ecological		
_____	_____	_____
_____	_____	_____

THANK YOU FOR YOUR HELP!

APPENDIX E

Frequency Tables

Table E-1

Distribution of Subjects with Complete CAD Scales by Behaviors

Variable	Frequency*	Percent
Frequency of purchase of secondhand clothing		
never	137	48.6
sometimes	129	45.7
often	16	5.7
Total	282	100.0
Portion of clothing recycled		
0 - 25%	73	25.9
26 - 50%	59	20.9
51 - 75%	68	24.1
over 75%	82	29.1
Total	282	100.0
Frequency of purchase of current fashion		
never	11	4.3
sometimes	125	49.0
often	91	35.7
always	28	11.0
Total	255	100.0
Frequency of purchase of high fashion		
never	98	42.2
sometimes	109	47.0
often	23	9.9
always	2	0.9
Total	232	100.0
Frequency of purchase of classic fashion		
never	13	4.9
sometimes	57	21.6
often	139	52.7
always	55	20.8
Total	264	100.0

*Totals do not always equal 282 because of nonresponse.

Table E-2

Distribution of Subjects by CAD Scale Responses

Item	SD	Responses (n=282)			
		D	N	A	SA
*Yard sales are embarrassing (S)					
frequency	41	121	63	37	20
percent	14.5	42.9	22.4	13.1	7.1
Willing to buy from secondhand store (S)					
frequency	15	38	48	148	33
percent	5.3	13.5	17.0	52.5	11.7
*Shopping for used clothing is inconvenient (S)					
frequency	25	102	83	58	14
percent	8.8	36.2	29.4	20.6	5.0
*Secondhand clothing is dirty (S)					
frequency	18	152	73	31	8
percent	6.4	53.9	25.9	11.0	2.8
*Have little knowledge of where to buy secondhand clothes (S)					
frequency	23	105	54	91	9
percent	8.2	37.2	19.1	32.3	3.2
*Wouldn't obtain more used clothes (S)					
frequency	15	71	67	111	18
percent	5.3	25.2	23.7	39.4	6.4
*Don't like used clothes--can't judge quality (S)					
frequency	14	111	81	68	8
percent	5.0	39.4	28.7	24.1	2.8
*Secondhand clothes aren't appealing (S)					
frequency	13	96	74	73	26
percent	4.6	34.1	26.2	25.9	9.2

Table E-2 continued

Item	SD	Responses			
		D	N	A	SA
Recycling is good idea (R)					
frequency	5	6	43	156	72
percent	1.8	2.1	15.3	55.3	25.5
Willing to recycle clothes (R)					
frequency	13	54	77	115	23
percent	4.6	19.1	27.3	40.8	8.2
Need info about ways to recycle (R)					
frequency	5	12	60	170	35
percent	1.8	4.2	21.3	60.3	12.4
*Recycling is too much trouble (R)					
frequency	21	116	107	34	4
percent	7.4	41.1	37.9	12.1	1.5
Recycling should be encouraged (R)					
frequency	4	13	82	154	29
percent	1.4	4.6	29.1	54.6	10.3
Fashion has little to do with my discards (F)					
frequency	10	65	35	135	37
percent	3.5	23.1	12.4	47.9	13.1
Ridiculous to always have latest style (F)					
frequency	13	43	63	121	42
percent	4.6	15.3	22.3	42.9	14.9
Fashion is impractical (F)					
frequency	12	91	80	81	18
percent	4.2	32.3	28.4	28.7	6.4

Table E-2 continued

Item	SD	Responses			
		D	N	A	SA
*I am very fashion conscious (F)					
frequency	11	48	87	115	21
percent	3.9	17.0	30.9	40.8	7.4
Not bothered to be out of style (F)					
frequency	27	93	67	84	11
percent	9.6	33.0	23.7	29.8	3.9
Don't care what others wear (F)					
frequency	13	96	59	90	24
percent	4.6	34.1	20.9	31.9	8.5
*Willing to pay more for fashionable garments (F)					
frequency	37	131	68	38	8
percent	13.1	46.5	24.1	13.5	2.8
Clothing is often wasted (G)					
frequency	7	26	32	127	90
percent	2.5	9.2	11.4	45.0	31.9
Consumers buy more clothes than they need (G)					
frequency	2	17	29	169	65
percent	0.7	6.0	10.3	59.9	23.1
*Little relationship between conserv. and cloth. consumption (G)					
frequency	10	93	128	43	8
percent	3.5	33.0	45.4	15.3	2.8
*Buying more than you need doesn't matter (G)					
frequency	23	115	86	51	7
percent	8.1	40.8	30.5	18.1	2.5

Table E-2 continued

Item	SD	Responses			
		D	N	A	SA
*Shouldn't ask people to conserve in clothing consumption (G)					
frequency	29	134	80	35	4
percent	10.3	47.5	28.4	12.4	1.4
Should consider conserv. when buying clothes (G)					
frequency	5	30	120	106	21
percent	1.8	10.6	42.6	37.6	7.4

*Reverse coded in data analysis.

Table E-3

Distribution of Respondents with Complete CAD Scales by SRCB Scale Responses

Item	SD	Responses			
		D	N	A	SA
Mfrs. should be forced to use recycled materials					
frequency**	33	61	101	64	22
percent	11.8	21.7	35.9	22.8	7.8
One should urge friends not to use products that pollute					
frequency	6	15	73	107	80
percent	2.1	5.3	25.9	38.1	28.5
Advertising should mention ecol. disadvantages of products					
frequency	13	19	93	114	42
percent	4.6	6.8	33.1	40.6	14.9
*Fuss about pollution is not justified					
frequency	87	112	51	26	5
percent	31.0	39.9	18.1	9.2	1.8
Government should provide list of agencies for reporting pollution grievances					
frequency	5	8	77	143	48
percent	1.8	2.8	27.4	50.9	17.1
Willing to pay 5% more taxes to control pollution					
frequency	34	72	97	70	9
percent	12.1	25.5	34.4	24.8	3.2
*Controlling water pollution is too much trouble					
frequency	82	150	33	6	7
percent	29.5	53.9	11.9	2.2	2.5

Table E-3 continued

Item	SD	Responses			
		D	N	A	SA
<hr/>					
Incensed at harm done to plants and animals by pollution					
frequency	5	16	73	138	49
percent	1.8	5.7	26.0	49.1	17.4
One should urge friends to limit use of pro- ducts made from scarcs resources					
frequency	6	19	99	119	37
percent	2.1	6.8	35.4	42.5	13.2
Willing to pay one dollar/month for electricity to get cleaner air					
frequency	14	17	48	147	56
percent	5.0	6.0	17.0	52.1	19.9

*Reverse coded in data analysis

**Totals do not always equal 282 because of nonresponse.

Table E-4

Distribution of Subjects with Complete CAD Scales
by Sociodemographic and Media Usage Variables

Variable	Frequency*	Percent
Marital status		
married & living with spouse	143	51.1
other	137	48.9
Total	280	100.0
Education		
grade school or less	7	2.5
some high school	37	13.3
completed high school	77	27.6
some college	76	27.2
completed college	36	12.9
some graduate work	27	9.7
graduate degree	19	6.8
Total	279	100.0
Age		
less than 25	93	33.5
25 - 34	58	20.9
35 - 44	53	19.1
45 - 54	34	12.2
55 - 64	28	10.1
65 & older	12	4.2
Total	278	100.0
Political preference		
conservative	78	28.8
liberal	44	16.2
middle of the road	149	55.0
Total	271	100.0
Annual household income		
< \$10,000	34	12.6
\$10,000 - \$20,000	53	19.7
\$20,001 - \$30,000	58	21.6
\$30,001 - \$40,000	53	19.7
\$40,001 - \$50,000	31	11.5
\$50,001 - \$60,000	21	7.8
\$60,001 & over	19	7.1
Total	269	100.0

Table E-4 continued

Variable	Frequency	Percent
Race		
black	16	5.7
white	260	93.2
other	3	1.1
Total	279	100.0
No. of community org. to which you belong		
0 or no answer	187	66.3
1	16	5.7
2	55	19.5
3	7	2.5
4	12	4.3
5	1	0.3
6	3	1.1
8	1	0.3
Total	282	100.0
No. of professional org. to which you belong		
0 or no answer	223	79.1
1	18	6.4
2	30	10.6
4	6	2.1
5	1	0.4
6	3	1.0
10	1	0.4
Total	282	100.0
No. of social org. to which you belong		
0 or no answer	229	81.1
1	14	5.0
2	37	13.1
4	1	0.4
6	1	0.4
Total	282	100.0
No. of ecological org. to which you belong		
0	269	95.4
1	7	2.5
2	5	1.8
4	1	0.3
Total	282	100.0

Table E-4 continued

Variable	Frequency	Percent
Total no. of memberships in any organization		
0	145	51.2
1	56	19.9
2	39	13.9
3	26	9.3
4	9	3.2
5	3	1.1
6	3	1.1
7	1	0.3
Total	282	100.0
Weekly hours of commercial TV watched		
0 - 5	91	32.7
6 - 10	77	27.7
11 - 15	37	13.3
16 - 20	24	8.6
21 - 25	17	6.1
26 - 30	15	5.4
31 - 35	4	1.5
36 - 40	3	1.1
41 & over	10	3.6
Total	278	3.6
Weekly hours of educa- tional TV watched		
0 - 5	252	90.3
6 - 10	15	5.4
11 - 15	6	2.1
16 - 20	5	1.8
21 & over	1	0.4
Total	279	100.0
Frequency of reading newspaper		
never	11	3.9
several times a week	93	33.2
daily	176	62.9
Total	280	100.0

*Totals do not always equal 282 because of nonresponse.

Table E-5

Distribution of Subjects with Complete CAD Scales by
Frequency of Viewing Types of Television Programs

Program Type	Never	Frequency of Viewing Sometimes	Often	Total*
News				
frequency	14	119	145	278
percent	5.0	42.8	52.2	
Drama				
frequency	23	134	104	261
percent	8.8	51.3	39.9	
Comedy				
frequency	17	136	117	270
percent	6.3	50.4	43.3	
Game				
frequency	80	146	39	265
percent	30.2	55.1	14.7	
Soap Opera				
frequency	84	86	97	267
percent	31.5	32.2	36.3	
Movies				
frequency	15	127	127	269
percent	5.6	47.2	47.2	
Talk				
frequency	76	155	34	265
percent	28.7	58.5	12.8	
Sports				
frequency	121	110	34	265
percent	45.7	41.5	12.8	
Nature				
frequency	94	135	38	267
percent	35.2	50.6	14.2	

*Totals do not always equal 282 because of nonresponse.

Table E-6

Distribution of Subjects with Complete CAD Scales
by Types of Magazines Read

Magazine Type	Never	Frequency of Reading Sometimes	Often	Total*
Business				
frequency	175	87	11	273
percent	64.1	31.9	4.0	
News				
frequency	95	136	39	270
percent	35.2	50.4	14.4	
Television				
frequency	127	108	38	273
percent	46.5	39.6	13.9	
General sports				
frequency	191	63	16	270
percent	70.7	23.3	6.0	
Human interest				
frequency	91	146	37	274
percent	33.2	53.3	13.5	
Tabloid				
frequency	179	71	22	272
percent	65.8	26.1	8.1	
Automotive				
frequency	222	37	14	273
percent	81.3	13.6	5.1	
Specific sports				
frequency	197	55	15	267
percent	73.8	20.6	5.6	
Domestic				
frequency	63	148	65	276
percent	22.8	53.6	23.6	
Men's				
frequency	225	38	10	273
percent	82.4	13.9	3.7	

Table E-6 continued

Magazine Type	Frequency of Reading			Total*
	Never	Sometimes	Often	
Fashion				
frequency	82	127	63	272
percent	30.1	46.7	23.2	
Educational				
frequency	104	114	53	271
percent	38.4	42.1	19.5	
Home				
frequency	83	139	52	274
percent	30.3	50.7	19.0	
Commentary				
frequency	228	33	12	273
percent	83.5	12.1	4.4	
Literary				
frequency	204	56	13	273
percent	74.7	20.5	4.8	
Nature				
frequency	158	79	35	272
percent	58.1	29.0	12.9	

*Totals do not always equal 282 because of nonresponse.

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