

Buyer Characteristics of the Green Consumer and Their Implications for Advertising Strategy

Author(s): L. J. Shrum, John A. McCarty and Tina M. Lowrey

Source: *Journal of Advertising*, Vol. 24, No. 2, Green Advertising (Summer, 1995), pp. 71-82

Published by: Taylor & Francis, Ltd.

Stable URL: <http://www.jstor.org/stable/4188973>

Accessed: 06-12-2017 12:48 UTC

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://about.jstor.org/terms>



JSTOR

Taylor & Francis, Ltd. is collaborating with JSTOR to digitize, preserve and extend access to *Journal of Advertising*

Buyer Characteristics of the Green Consumer and Their Implications for Advertising Strategy

L. J. Shrum, John A. McCarty and Tina M. Lowrey

The authors construct a psychographic profile of the green consumer in terms of variables directly related to purchase behavior, such as price consciousness and general care in shopping, interest in new products, and brand loyalty. Additionally, they address attitudes toward advertising and media preferences. Data from 3264 respondents to the DDB Needham Life Style Study were analyzed. The results show the green consumer to be an opinion leader and a careful shopper who seeks information on products, including information from advertising, but also suggest that the green consumer is rather skeptical of advertising. The implications are that green consumers may be receptive to green marketing and advertising, but marketers should take care not to alienate them by using ambiguous or misleading messages.

L. J. Shrum (Ph.D., University of Illinois at Urbana-Champaign) is an Assistant Professor in the Department of Marketing at Rutgers University, New Brunswick, NJ.

John A. McCarty (Ph.D., University of Illinois at Urbana-Champaign) is an Assistant Professor in the Kogod College of Business Administration at American University, Washington, DC.

Tina M. Lowrey (Ph.D., University of Illinois at Urbana-Champaign) is an Assistant Professor in the Department of Marketing, Rider University, Lawrenceville, NJ.

The authors would like to thank Martin Horn and Douglas Hughes of DDB Needham Worldwide, Chicago for providing data from the 1993 DDB Needham Life Style Study. The writing of this article was supported by a Research Council Grant from Rutgers University awarded to the first author.

Polls consistently show that a large majority of U. S. citizens consider themselves to be "environmentalists" (Donaton and Fitzgerald 1992; Ottman 1992; Schlossberg 1991; Schwartz and Miller 1991). Moreover, Roper Organization polls have shown that the "greenest" segment of consumers nearly doubled over the two year period 1990 to 1992 (Roper Organization 1992, cited in Iyer, Banerjee, and Gulas 1994). It is therefore not surprising that marketers have attempted to exploit consumers' environmental concern by using environmental claims in their advertising. Research indicates that consumers are concerned enough to consider paying more for environmentally friendly products. In a 1990 poll by the J. Walter Thompson advertising agency, for example, 82% of the respondents said they would pay at least 5% more for a product that was environmentally friendly, up from 49% the previous year (Levin 1990). A more recent *Advertising Age* poll conducted by Yankelovich Clancy Shulman found that for 70% of the respondents, purchase decisions were at least "sometimes" influenced by environmental messages in advertising and product labeling (Chase and Smith 1992).

Such findings notwithstanding, other evidence suggests that consumers are not only confused about environmental advertising claims, but also distrustful of them. For example, in the same *Advertising Age* poll, more than half of the respondents indicated they paid less attention to such messages because of overkill, and most respondents reported that environmental claims were not particularly believable (Chase and Smith 1992). In another survey (the third annual Nationwide Environmental Survey conducted for the packaging company Gerstman & Meyers), 83% of the respondents indicated they preferred buying environmentally safe products and 79% reported they considered a firm's environmental reputation in purchase decisions; however, only 15% said that environmental claims were "extremely or very believable" (Dagnoli 1991). Finally, a 1990 Roper poll showed that Americans tend to think companies are not environmentally responsible and that they distrust advertising and labeling claims pertaining to the environment (Schwartz and Miller 1991).

Consumer ambivalence about environmentally related marketing and advertising practices is but one reason for gaining a thorough understanding of the green consumer. As Ellen, Wiener, and Cobb-Walgren (1991)

Journal of Advertising,
Volume XXIV, Number 2
Summer 1995

point out (echoing a previous assertion by Henion and Wilson 1976), identifying attitudinal and trait variables associated with environmentally friendly behavior is essential for the development of effective, targeted communications. Such psychographic information influences not only the selection of the target audience, but also the nature of the message, how it is presented, and how it is delivered. We therefore conducted a study to extend previous research on the psychographic profile of the pro-environmental consumer.

After reviewing previous research findings related to environmental issues, we discuss our specific research questions and describe our study. We then report the findings and discuss their implications.

Green Research

The term "green" is typically used interchangeably with "pro-environmental." However, because of differences in definitions of the environment, the term is necessarily imprecise. We use the term "green" simply to indicate concern with the physical environment (air, water, land). Other authors have made finer distinctions in classifying different types of greenness (e.g., Iyer, Banerjee, and Gulas 1994), but we prefer the broader term for the purposes of our study. Hence, we consider the green consumer to be anyone whose purchase behavior is influenced by environmental concerns.

Previous research on green marketing and advertising has been very broad in terms of specific topics addressed. Even the large body of research on recycling of solid wastes, pollution, and energy conservation may have a bearing on understanding the environmentally concerned consumer. However, little research has specifically addressed issues related to the green consumer's purchase process (e.g., purchase behavior, communications).

Our goal is to profile the green consumer in a manner that will assist in the development of advertising strategies. Consequently, we are more interested in factors that contribute to green purchase behavior than in factors related to general levels of environmental consciousness or post-purchase behavior such as recycling (for reviews of this literature, see Shrum, Lowrey, and McCarty 1994; Stern and Oskamp 1987; Van Liere and Dunlap 1980). This distinction is important and has support from previous polls and studies. For example, marketers complain that even though research shows the environment to be important to consumers, its importance does not seem to

translate into a change in purchase behavior (Schlossberg 1991). Also, empirical evidence shows that general environmental attitudes are not related to particular environmental behaviors (Shrum, Lowrey, and McCarty 1994; Stern and Oskamp 1987). Our discussion of previous research therefore focuses on studies pertaining to green buying or to green messages directed to consumers.

Such green research can be categorized as consumer-based and ad-based. Consumer-based studies investigate characteristics of consumers that differentiate between levels of environmental concern or behavior, whereas ad-based studies address components of the ads themselves such as copy or layout elements. Although consumer-based studies are more prevalent, a few researchers have attempted to categorize and analyze green advertisements. For example, Iyer and Banerjee (1993) found that green ads were more commonly oriented to corporate image than to the product or service. Additionally, the emphasis of the ads tended to be on environmentally friendly production and to a lesser degree on disposal. In a similar analysis, Iyer, Banerjee, and Gulas (1994) examined green television advertisements. Using a shallow/moderate/deep coding scheme to classify the greenness of an ad, they found that manufacturers' ads were relatively more shallow and "less green" than those of nonprofit organizations. They also found that manufacturers emphasized social responsibility and management control, whereas nonprofit groups relied on emotional appeals. Carlson, Grove, and Kangun (1993) conducted a similar study in which they categorized green print ads. They found that ad claims tended to be more image-enhancing (i.e., associating the company with a positively viewed environmental cause) than process-oriented (i.e., focusing on technology, production, or disposal). Additionally, they found more instances of what they classified as misleading or deceptive claims than of what they classified as acceptable/nonmisleading claims. The latter finding suggests that consumers' distrust of green advertising claims may be well founded.

Consumer-based studies attempt to determine characteristics of green consumers that differentiate them from other consumers. Such studies typically focus on traditional demographic (age, income, education) and psychographic (attitudes, values) segmentation variables. For example, a recent poll by J. Walter Thompson found that persons classified as most green tended to be "better educated older females with high incomes and liberal orientation [*sic*]," whereas those least green tended to be "younger, apolitical, less well-

educated males" (Levin 1990, p. 74). A Roper Organization poll conducted for S. C. Johnson and Son found the same pattern, with the greenest category having a higher proportion of white collar workers, a higher proportion of women, and a higher level of education (Schwartz and Miller 1991). In contrast, a relatively large number of studies have found little or no relationship between demographic characteristics and environmental attitudes and behaviors. When relationships have been found, they typically have less explanatory power than the psychographic variables (for reviews, see Schwepker and Cornwell 1991; Shrum, Lowrey, and McCarty 1994).

Several consumer-based studies have investigated psychological correlates of environmental concern and environmental behaviors. The ones examining green purchase intention or behavior suggest that an internal locus of control is correlated positively with intent to purchase ecologically packaged products (Schwepker and Cornwell 1991). That relation also holds for post-purchase behaviors such as recycling (see Shrum, Lowrey, and McCarty 1994). Similarly, Ellen, Wiener, and Cobb-Walgren (1991) found that perceived consumer effectiveness, or the degree to which an individual can make a difference in the quality of the environment (a domain-specific construct related to locus of control), was related positively to intent to purchase environmentally safe products.

One of the first tasks in developing an advertising strategy is to construct a profile of the target consumer, particularly in terms of buyer attitudes and behavior. Such psychographic and behavioral information enables the creative staff to "flesh out" the consumers of a product and hence speak to them in an informed and convincing manner. The consumer-based studies discussed previously are a starting point for developing such profiles. The purpose of our study was to provide a clearer picture of the green consumer, and in the process contribute to the development of marketing and advertising strategies aimed at that segment. We therefore used a method analogous to segmenting by usage level.

More specifically, we were interested in whether more green consumers (i.e., those whose purchase behavior is greatly influenced by environmental concern) and less green consumers (i.e., those whose purchase behavior is minimally influenced by environmental concerns) differ on trait and attitudinal variables that are more specific than the broad demographic and psychographic variables investigated previously. For example, is the greener consumer an

opinion leader? The answer has implications not only for advertising strategy, but also for the diffusion of green buying behavior. In terms of buying characteristics, are the greener consumers more interested in new products than less green consumers? Are they more brand loyal? Are they more impulsive buyers? Are they more price conscious? Answers to those questions can help shape both marketing and advertising strategies. Finally, we were interested in whether differences in general attitudes toward advertising are a function of level of green buying. Are greener consumers more skeptical or distrustful of advertising messages and advertiser motives than consumers who display less green purchase behavior? The answer to that question can help shape both message content and message delivery.

Method

Sample and Data Source

The 1993 DDB Needham Life Style Study was the data source for the investigation. The advertising agency DDB Needham conducts a proprietary life style study annually. The mail survey of male and female heads of household, generally fielded in late January of each year, includes a variety of questions on the attitudes, interests, and opinions of the respondents, as well as their activities, product usage, media habits, and demographic information.

DDB Needham uses the Market Facts, Inc. Consumer Mail Panel as the source of respondents for the annual study. Therefore, the respondents in 1993 (as in other years of the study) represent a stratified random sample from a population of individuals who have contracted to complete a number of different surveys during the course of a year. Five thousand surveys were mailed in late January of 1993 and 3690 surveys were returned, a return rate of 73.8%.

In comparison with the U. S. population of adults (U. S. Bureau of the Census 1993), the sample for the Life Style Study underrepresented individuals with very low income ($\chi^2 = 361.31$, $df = 6$, $p < .01$) and those with less than high school education ($\chi^2 = 784.51$, $df = 4$, $p < .01$). Racial groups other than Caucasian were underrepresented in relation to their percentage of the total population ($\chi^2 = 64.39$, $df = 1$, $p < .01$). Married individuals ($\chi^2 = 167.74$, $df = 1$, $p < .01$) and women ($\chi^2 = 9.69$, $df = 1$, $p < .01$) were somewhat overrepresented in relation to their percentage in the total adult population. Although most of those differences are common among mail surveys (Reeder 1960),

and should not overly affect our findings, they should be kept in mind when interpreting the results of the study.

Listwise deletions were used to account for missing data. Therefore, only respondents who completed all of the measures used in the study were included in the analyses. Hence, our analyses were based on 1810 women and 1536 men (representing 66.9% of the survey recipients).

Measures

The purpose of the study was to determine the extent to which particular consumer attitudes and beliefs are related to interest in purchasing environmentally safe products. The attitude and belief statements used to calculate the criterion variables (green buying) and the predictor variables (consumer attitudes and beliefs) came from the Attitudes, Interests, and Opinions (AIO) portion of the Life Style Study. To generate a list of relevant attitude items, each researcher read through the AIO section of the Life Style Study and noted items that would be important in developing a profile of the green consumer. Particular emphasis was placed on issues related to the buying process (e.g., impulse buying, price consciousness, brand loyalty) and the communication process (e.g., attitudes toward advertising, opinion leadership, opinions about and use of particular media). That procedure yielded 24 items, which are described in the following section.

Predictor attitudes and beliefs. Twenty-four statements were used as possible predictors of interest in buying environmentally safe products. The statements pertain to topics that are important to understanding consumer shopping behaviors: degree of opinion leadership, buyer behavior characteristics such as price consciousness and financial care in shopping, brand interest and loyalty, and interest in new products. We surmised that because green marketing is relatively novel, each of those issues would be important in understanding the green consumer. Items related to beliefs about advertising were included to address previous findings suggesting an anti-advertising bias on the part of green consumers. Finally, items that measured consumer attitudes toward particular media (magazines and television) were incorporated to address message delivery issues. All 24 of the items used in the study are listed in Table 1. Each item was measured on a 6-point Likert-type scale anchored by "I definitely disagree" and "I definitely agree" (higher numbers reflect more agreement).

Green buying. Two items, each related to consumers' desire to purchase environmentally friendly products, were used as criterion measures: "I make a special effort to buy products in biodegradable packages" and "I would switch from my usual brands and buy environmentally safe cleaning products, even if I have to give up some cleaning effectiveness." The two items tap somewhat different aspects of green buying. The former indicates a general concern with buying green, whereas the latter indicates a willingness to switch to a more environmentally friendly brand that does not necessarily perform as well as other brands. Clearly, the second measure is a more stringent test of a person's interest in green buying because agreement with it indicates a willingness to give up something to protect the environment. The two measures were only moderately correlated ($r = .33$).

Analysis and Results

Data were analyzed to determine the extent to which consumer attitudes and beliefs covary with interest in buying environmentally safe products. First, we performed factor analyses on the consumer variables. This step enabled us to evaluate the nature of the interrelationships among the consumer variables and to reduce them to a reasonable number of predictor variables. We then computed factor scores (when feasible) from the factor analysis results. Second, we performed regression analyses to determine the influence of the consumer attitudes and beliefs on the green buying variables.

Factor Analysis and Results

For the factor analysis we used principal axis factoring with varimax rotation. A scree test of the eigenvalues indicated that a seven-factor solution provided a reasonable fit to the data. Eigenvalues were greater than 1.0 for all seven factors. We considered an item to be representative of a factor if it had a loading of .35 or higher. By that criterion, the sixth and seventh factors each had only two items loading on them and were considered unstable. The two items loading on the sixth factor were "Magazines are more interesting than television" (loading of -.499) and "Television is my primary form of entertainment" (loading of .754). "Advertising insults my intelligence" and "I refuse to buy a brand whose advertising I dislike" were the only two items to load on the seventh factor (loadings of .559 and .379, respectively). Additionally, the item "When I watch television, I

usually change the channel during commercials" did not load on any factor (its highest loading was .216). The factor analysis was therefore redone without those five items and, as expected, yielded a five-factor solution for the 19 remaining items. This rotated five-factor solution is reported in Table 1. The column headings suggest the general nature of each factor, and the items that are representative of the nature of each factor are underlined. Factor scores were estimated by the regression method for the five factors; therefore, each variable contributed to each factor according to its weight on that factor. As the coefficients of multiple correlation in Table 1 indicate, the factor scores are adequate measures of the underlying factors. (Nunnally [1978] suggests that a coefficient of .70 is adequate for determining the extent to which the variables are good estimates of a hypothetical factor.)

The first factor, *impulse buying*, captures consumers' lack of concern about money and the likelihood that they will act purchase on impulse. The second factor, *opinion leadership*, relates to the extent to which the respondents believe they have influence with others and their opinions are important to others. The third factor, *interest in products*, represents the respondents' interest in new products and in obtaining information about products. The fourth factor, *brand loyalty*, captures the respondents' beliefs about the quality of branded products versus generic and store brands. The fifth factor, *care in shopping*, reflects the extent to which the respondents reported that they were careful in their shopping by checking prices, shopping for specials, and making a shopping list.

Regression Analyses and Results

We used regression analyses to determine the relation between the consumer variables and the intention to buy environmentally safe products. The factor scores from the final five factors were entered as predictor variables. The five variables that did not load reliably on any of the factors were also entered as individual predictor variables in the regression analyses. Therefore, we had 10 predictor variables (five factor variables and five individual consumer variables). The criterion variables were the two measures that relate to green buying: making a special effort to buy products in biodegradable packages (make a special effort to buy green) and switching brands to buy environmentally safe products, even at the expense of cleaning effectiveness (switching brands to buy green).

Before doing regressions, however, we conducted tests to determine whether gender interacted with any of the predictor variables. The item "Advertising insults my intelligence" interacted with gender for the criterion variable of making a special effort to buy green ($p < .01$). The item "When I watch television, I usually change the station during commercials" interacted with gender for both of the criterion variables (both $ps < .01$). We therefore analyzed the data for female and male respondents separately.

When degrees of freedom are large, small differences tend to be statistically significant, even though the effect sizes may be small. To reduce the clutter of weak effects, we used a more stringent than normal cutoff point ($p < .01$) to establish statistical significance.

Making a special effort to buy green. The regression results for women and men are summarized in Tables 2 and 3, respectively. The predictor variables as a whole are related significantly to making a special effort to buy green for both women ($R^2 = .099$, $F(10,1799) = 19.80$, $p < .01$) and men ($R^2 = .084$, $F(10,1525) = 14.01$, $p < .01$). The tables also show that several of the consumer variables are significant predictors of making a special effort to buy green for both genders. Making a special effort is associated with a greater perception of being an opinion leader, a greater interest in products, and taking more care in shopping. In contrast, impulse buying and brand loyalty show no relation to making a special effort to buy green. Of the communication variables (i.e., those pertaining to media preferences and advertising), two are associated with making a special effort to buy green for both men and women: a greater interest in magazines than in television and a tendency not to buy products whose advertising is disliked. No relation is found between the green buying variable and television being the primary form of entertainment.

Between-gender differences are noted in the relationship between making an effort to buy green and two of the advertising criterion variables. Specifically, women show a positive relation between making an effort to buy green and both the belief that advertising insults their intelligence and the tendency to change television channels during commercials. No such relations are noted for men.

Switching brands to buy green. Again, the predictor variables as a whole are significant predictors of switching brands to buy green for both women ($R^2 = .039$, $F(10,1799) = 7.39$, $p < .01$) and men ($R^2 = .054$, $F(10,1525) = 8.77$, $p < .01$). However, fewer predictor variables are related to the criterion variable of switching brands to buy green than to making a special

Table 1
Factor Analysis of Consumer Attitudes

Attitude Statement	Factors					Estimates of Communality
	Impulse Buying	Opinion Leadership	Interest in Products	Brand Loyalty	Care in Shopping	
I pretty much spend for today and let tomorrow bring what it will.	<u>.563</u>	-.038	.000	.105	-.056	.332
I frequently buy things when I can't afford them.	<u>.706</u>	-.035	.077	.063	-.078	.515
I am an impulse buyer.	<u>.613</u>	-.011	.163	.048	-.119	.419
I am influential in my neighborhood.	-.031	<u>.422</u>	.315	.031	.028	.280
I have more self confidence than most of my friends.	.031	<u>.626</u>	-.015	.058	.011	.397
I like to be considered a leader.	.090	<u>.699</u>	.082	.006	.021	.504
My opinions on things don't count very much.	.137	<u>-.342</u>	-.043	.057	.013	.141
Information from advertising helps me make better buying decisions.	.063	.021	<u>.358</u>	.205	.203	.216
I like to buy new and different things.	<u>.338</u>	.057	<u>.477</u>	.142	.163	.392
I am usually among the first to try new products.	.255	.163	<u>.515</u>	.101	.080	.374
My friends and neighbors often come to me for advice about products and brands.	-.037	<u>.307</u>	<u>.509</u>	-.025	.064	.359
I often seek out the advice of my friends regarding brands and products.	.000	-.029	<u>.425</u>	-.021	.042	.184

When I have a favorite brand I buy it—no matter what else is on sale.	.106	.030	.030	.471	-.096	.244
A nationally advertised brand is usually a better buy than a generic brand.	.096	-.016	.041	.496	-.044	.259
I try to stick to well-known brand names.	.038	-.019	.132	.649	.073	.446
A store's own brand is usually a better buy than a nationally advertised brand.	.028	-.006	.030	-.368	.216	.184
Before going shopping, I sit down and make out a complete shopping list.	-.163	.046	.044	.044	.385	.181
I always check prices even on small items.	-.079	.005	.096	-.157	.589	.388
I shop a lot for specials.	.034	-.033	.214	-.206	.644	.505

Eigenvalues:

Percent of Variance: (Total: 33.27%)

Coefficients of Multiple Correlation:

1.461	1.310	1.279	1.192	1.079
7.69%	6.89%	6.73%	6.28%	5.68%
.831	.820	.762	.788	.775

Variables not included in second factoring:

Magazines are more interesting than television.	I refuse to buy a brand whose advertising I dislike.
Television is my primary form of entertainment.	When I watch television, I usually change the station during commercials.
Advertising insults my intelligence.	

Table 2
Relationships of Green Buying with Consumer Attitudes for Women
 (n = 1810)

Predictor Variables	Criterion Variables			
	Beta	t-Value	Beta	t-Value
			I make a special effort to buy products in biodegradable packages.	I would switch from my usual brands and buy environmentally safe cleaning products, even if I have to give up some cleaning effectiveness.
Impulse buying ^a	-.044	-1.88	-.030	-1.26
Opinion leadership ^a	.104	4.49*	-.017	-0.71
Interest in products ^a	.133	5.60*	.113	4.61*
Brand loyalty ^a	-.030	-1.32	-.017	-0.71
Care in shopping ^a	.088	3.82*	.002	0.10
Magazines are more interesting than television. ^b	.078	3.24*	.055	2.22
Television is my primary form of entertainment. ^b	-.006	-0.26	.003	0.11
Advertising insults my intelligence. ^b	.075	3.20*	.078	3.23*
I refuse to buy a brand whose advertising I dislike. ^b	.110	4.71*	.076	3.16*
When I watch television, I usually change the station during commercials. ^b	.080	3.47*	.062	2.62*
	$R^2 = .099$		$R^2 = .039$	
	$F(10, 1799) = 19.80$		$F(10, 1799) = 7.39$	
	$p < .01$		$p < .01$	

* $p < .01$

a Composite variable derived from factor analysis

b Individual attitude statement

Table 3
Relationships of Green Buying with Consumer Attitudes for Men
 (n = 1536)

Predictor Variables	Criterion Variables			
	I make a special effort to buy products in biodegradable packages.		I would switch from my usual brands and buy environmentally safe cleaning products, even if I have to give up some cleaning effectiveness.	
	Beta	t-Value	Beta	t-Value
Impulse buying ^a	-.000	-0.03	.019	0.73
Opinion leadership ^a	.073	2.94 [*]	-.036	-1.43
Interest in products ^a	.134	5.18 [*]	.114	4.35 [*]
Brand loyalty ^a	.024	0.97	-.025	-0.99
Care in shopping ^a	.148	5.76 [*]	.074	2.81 [*]
Magazines are more interesting than television. ^b	.082	2.98 [*]	.084	2.99 [*]
Television is my primary form of entertainment. ^b	-.052	-1.86	-.001	-0.04
Advertising insults my intelligence. ^b	-.017	-0.66	.025	0.96
I refuse to buy a brand whose advertising I dislike. ^b	.073	2.86 [*]	.120	4.60 [*]
When I watch television, I usually change the station during commercials. ^b	.005	0.18	-.011	-0.43
	$R^2 = .084$		$R^2 = .054$	
	$F(10, 1525) = 14.01$		$F(10, 1525) = 8.77$	
	$p < .01$		$p < .01$	

* $p < .01$

a Composite variable derived from factor analysis

b Individual attitude statement

effort to buy green. For both women and men, a greater interest in products and a greater tendency to refuse to buy products whose advertising is disliked are associated with higher levels of switching brands to buy green, whereas no relations are found between switching brands to buy green and impulse buying, opinion leadership, brand loyalty, or television being a primary form of entertainment.

Between-gender differences are noted in the relationships between switching brands to buy green and the predictor variables. For example, men show a positive relation between switching brands to buy green and both care in shopping and interest in magazines over television, whereas women do not. Women show a positive relation between switching brands to buy green and both the belief that advertising insults their intelligence and the tendency to change channels during commercials, but men do not.

Even though our results show relationships between the predictor and criterion variables as we expected, it is possible that those relationships result from the influence of demographic variables on both the predictor and criterion variables (see McCarty and Shrum 1993). To address this possibility, we evaluated the robustness of the findings to the influence of demographic variables (age, income, and education). When those demographic variables are entered in the first step of a hierarchical regression, and the predictor variables are entered in the second step, the influence of the consumer variables on the criterion variables does not substantially differ from our original findings. Therefore, the influence of the consumer variables on green buying is independent of the influence of the demographic variables.

Discussion

The study results provide interesting and potentially useful information about the consumer who is interested in buying green. They suggest that particular consumer attitudes are related to the propensity to buy green, but the relations are qualified somewhat by gender and by the nature of the green buying behavior. For example, for the behavior of making a special effort to buy green, several of the consumer variables are important predictors and the relations are fairly similar between women and men. Persons who make a special effort to buy green consider themselves to be opinion leaders, are interested in new products and actively exchange product information, and are careful in their shopping habits, especially in being price sensitive. However, making a special ef-

fort to buy green is unrelated to impulse buying and brand loyalty. In terms of the communication variables, persons making a special effort to buy green found magazines more interesting than television and indicated they would not buy a brand whose advertising they dislike.

The most consistent gender difference across the two criterion variables is in the items associated with advertising. For women, both green buying variables are associated positively with the belief that advertising is insulting and the tendency to switch channels during advertising, suggesting that women who tend to buy green are more skeptical of advertising than women who do not. In contrast, men's skepticism toward advertising appears to be unrelated to their green buying behavior.

As expected, we found predictor-criterion relationship differences between the two green buying variables. One criterion variable (making a special effort to buy green) taps a general interest in buying green. The other criterion variable (switching brands to buy green, even at the expense of product effectiveness) is more specific and more stringent in terms of greenness in that it provides more constraints and introduces a salient cost. The results indicate that, across genders, the consumer variables do a better job of predicting the variance in the former criterion than that in the latter criterion. These results are consistent with those of Ottum, Scammon, and Dam (1994), who found that a product's performance was more important than a pro-environmental label in predicting purchase intent.

In spite of the differences across genders and across the green buying variables, the commonalities may provide a guide to advertisers interested in speaking to the green consumer. The results show that the green consumer has an interest in new products, is an information seeker, and talks with others about products. Additionally, green consumers consider themselves opinion leaders, and hence may provide word-of-mouth information that other consumers respect. The green consumer is also a careful shopper, not prone to impulse buying, and pays attention to price, so advertisers must consider those issues as well.

The results suggest that if companies do succeed in attracting green-oriented consumers, they will have to continue working to keep them. The lack of brand loyalty on the part of green consumers (in comparison with those less green), coupled with their propensity to actively seek information, implies that the green consumer will always be looking for new products.

However, if lack of brand loyalty on the part of green consumers is the result of marketers' inability to provide good environmental products and good environmental messages, providing those benefits may in fact promote brand loyalty. That is, green consumers may give preference to products that are the first to meet their environmental needs. The lack of brand loyalty and the information- and product-seeking nature of the green consumer bode well for new companies that use green issues as their primary selling point. As new or unknown entities, such companies will not have the burden of overcoming negative attitudes toward their products induced by suspect advertising. If they are careful, honest, and nondeceptive in their marketing practices, they may find willing buyers in the green segment.

The study results also suggest that persons interested in buying green are skeptical about advertising in general. For women, the greater their propensity to buy green, the more skeptical they were of advertising; that is, they agreed more strongly that advertising insults their intelligence and that they would not buy a product whose advertising they disliked. The implication is that advertisers must be careful not to alienate such consumers with misleading, inaccurate, or nondefensible claims. Research shows that such care has not been taken (Carlson, Grove and Kangun 1993; Iyer, Banerjee, and Gulas 1994). In fact, if such care is not taken, a backlash may occur whereby the green consumer develops negative perceptions of the brand. Moreover, the finding that green consumers consider themselves opinion leaders and that they actively exchange product information means that word-of-mouth communications can just as easily be negative as positive. Overall, the green consumer appears to pay close attention to detail; advertisers should do the same.

The findings tentatively suggest that green consumers are more receptive to print rather than television advertising. There may be several reasons for such bias. First, both men and women showed a positive relation between green buying and preference for magazines over television as an entertainment source. Second, the information-seeking nature of the green consumer makes the print medium an obvious choice; print, by its structure, can convey concrete information more easily and thoroughly than broadcast media. Finally, studies have shown that of all advertising media, television is the most mistrusted (Larkin 1979; see Belch and Belch 1993).

Although our findings provide insights about the nature of the green buyer, some cautionary notes are warranted. First, because the study was exploratory and we used a secondary data source, the derived factors are general. We do not claim, for example, that factors such as interest in shopping and opinion leadership are necessarily comprehensive measures of those constructs. Second, the sample used in the study does not reflect the general population on several variables (e.g., race, income, education). The generalizability of our results is limited by this lack of correspondence.

Conclusion

Although the environmental movement has been underway for years, green marketing seems to be a relatively new phenomenon. Marketers are typically not slow to adopt an innovation, but green marketing is in some ways fraught with peril. Certainly, marketers are getting mixed signals—from polls, from research results, and from sales figures. Common sense suggests that the use of green appeals by marketers can be productive. However, recent research on green marketing and the green consumer, including our study, indicates that the concepts will not be easy to apply. Green consumers must be treated carefully and, in particular, with respect. They appear to be careful and thoughtful consumers. Treated fairly, they may be receptive; treated poorly, they may not only switch brands, but also take others with them.

References

- Belch, George E. and Michael A. Belch (1993), *Introduction to Advertising and Promotion: An Integrated Marketing Communications Perspective*, Homewood, IL: Irwin.
- Carlson, Les, Stephen J. Grove, and Norman Kangun (1993), "A Content Analysis of Environmental Advertising Claims: A Matrix Method Approach," *Journal of Advertising*, 22 (September), 27-39.
- Chase, Dennis and Therese Kauchak Smith (1992), "Consumers Keen on Green but Marketers Don't Deliver," *Advertising Age*, 63 (June 29), s2-s4.
- Dagnoli, Judann (1991), "Consciously Green," *Advertising Age*, 62 (September 16), 14.
- Donaton, Scott and Kate Fitzgerald (1992), "Polls Show Ecological Concern is Strong," *Advertising Age*, 63 (June 15), 49.
- Ellen, Pam Scholder, Joshua Lyle Wiener, and Cathy Cobb-Walgreen (1991), "The Role of Perceived Consumer Effectiveness in Motivating Environmentally Conscious Behaviors," *Journal of Public Policy & Marketing*, 10 (Fall), 102-117.

- Henion, Karl E. II and William H. Wilson (1976), "The Ecologically Concerned Consumer and Locus of Control," in *Ecological Marketing*, Karl Henion and Thomas Kinnear, eds., Chicago: American Marketing Association, 131-144.
- Iyer, Easwar and Bobby Banerjee (1993), "Anatomy of Green Advertising," in *Advances in Consumer Research*, 20, Leigh McAlister and Michael L. Rothschild, eds., Provo, UT: Association for Consumer Research, 494-501.
- _____, _____, and Charles Gulas (1994), "An Exposure on Green Television Ads," in *Advances in Consumer Research*, 21, Chris T. Allen and Deborah Roedder John, eds., Provo, UT: Association for Consumer Research, 292-298.
- Larkin, Ernest F. (1979), "Consumer Perceptions of the Media and Their Advertising Content," *Journal of Advertising*, 8 (Spring), 5-7.
- Levin, Gary (1990), "Consumers Turning Green: JWT Survey," *Advertising Age*, 61 (November 12), 74.
- McCarty, John A. and L. J. Shrum (1993), "The Role of Personal Values and Demographics in Predicting Television Viewing Behavior: Implications for Theory and Application," *Journal of Advertising*, 22 (December), 77-101.
- Nunnally, Jum C. (1978), *Psychometric Theory*, New York: McGraw Hill.
- Ottman, Jacquelyn (1992), "Sometimes, Consumers Will Pay More to Go Green," *Marketing News*, 26 (July 6), 16.
- Ottum, Brian D., Debra L. Scammon, and Ynte K. van Dam (1994), "The Effect of Eco-Labels on Brand Choice," in *Proceedings of the 1994 Marketing & Public Policy Conference*, 4, Debra J. Ringold, ed., 109-111.
- Reeder, Leo G. (1960), "Mailed Questionnaires in Longitudinal Health Studies: The Problem of Maintaining and Maximizing Response," *Journal of Health and Human Behavior*, 1 (Summer), 123-129.
- Roper Organization (1992), *Environmental Behavior, North America: Canada, Mexico, United States*, a report on the study commissioned by S. C. Johnson and Son, Inc.
- Schlossberg, Howard (1991), "Innovation Seems to Elude 'Green Marketers'," *Marketing News*, 25 (April 15), 16-20.
- Schwartz, Joe and Thomas Miller (1991), "The Earth's Best Friends," *American Demographics*, 13 (February), 26-35.
- Schwepker, Charles H., Jr. and T. Bettina Cornwell (1991), "An Examination of Ecologically Concerned Consumers and Their Intention to Purchase Ecologically Packaged Products," *Journal of Public Policy & Marketing*, 10 (Fall), 77-101.
- Shrum, L. J., Tina M. Lowrey, and John A. McCarty (1994), "Recycling as a Marketing Problem: A Framework for Strategy Development," *Psychology & Marketing*, 11 (July/August), 393-416.
- Stern, Paul C. and Stuart Oskamp (1987), "Managing Scarce Environmental Resources," in *Handbook of Environmental Psychology*, D. Stokols and I. Altman, eds., New York: Wiley, 1043-1088.
- U. S. Bureau of the Census (1993), *Statistical Abstract of the United States*, 113th edition, Washington, DC.
- Van Liere, Kent D. and Riley E. Dunlap (1980), "The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence," *Public Opinion Quarterly*, 44 (Summer), 181-197.

