This paper presents a behavioral index for measuring an individual's tendency towards a lifestyle of voluntary simplicity, characterized by ecological awareness, attempts to become more self-sufficient, and efforts to decrease personal consumption of goods. The index is shown to predict energy conservation and intention to purchase solar equipment.

Throughout the nation in recent years, there have been signs of new or rekindled interest in low-consumption, ecologically benign, and self-sufficient ways of living (Campbell, Conserve, and Rodgers 1975). Many of the more dramatic indicators of such emerging lifestyles have surfaced in California, e.g., numerous ecological organizations, from the powerful Sierra Club to the less-known Abalone Alliance or the Greenpeace Society to "save the whales"; antinuclear movements; the Whole Earth Catalogue and other guides to alternative lifestyles; innovative local energy-conserving legislation, such as city codes in Davis; and heavy investment in residential solar equipment.

This paper focuses on a set of behaviors indicative of a lifestyle in California that may be representative or at least predictive of lifestyles elsewhere in the nation. This lifestyle, voluntary simplicity, has potentially great implications for energy-consuming patterns in the United States. The data reported in this paper are mostly confined to California populations. However, the findings may be relevant to any discussion of future energy consumption patterns in the U.S., as many California behaviors or movements that were originally perceived as deviant have since spread across the U.S.

The research on voluntary simplicity reported here was guided by several objectives:

- To design measures of voluntary simplicity behavior, starting with those that seem most directly related to energy conservation
- To determine the sociodemographic characteristics of people who scored high on the index
- To test the index as a predictor of energy-conserving behaviors and of the purchase of energy-conserving technologies.

In the following pages, we describe the historic background and development to date of the index, the characteristics of those who engage in the behaviors, and finally the relationship of the index to energy conserving behaviors.

HISTORY OF THE CONCEPT OF VOLUNTARY SIMPLICITY

The term "voluntary simplicity" was originally coined by Richard Gregg in 1936. Gregg wrote:

Voluntary simplicity ... means singleness of purpose, sincerity and honesty within, as well as avoidance of exterior clutter, of many possessions irrelevant to the chief purpose of life. It means an ordering and guiding of our energy and our desires, a partial restraint in some directions in order to secure greater abundance of life in other directions ... The degree of simplification is a matter for each individual to settle for himself (quoted in Elgin [1977], p. 9).

Gregg's formulation of the concept and a number of more recent writings have emphasized the spiritual dimension of this conservation-oriented lifestyle. However, the secular implications of voluntary simplicity have attracted more attention. Since the Club of Rome's startling assessment in 1972 of the limits to world growth, and since energy shortages have begun to threaten daily routine in the U.S., ar-
ticulate spokespersons such as Lovins (1977) have emerged
to propose scaled-down lifestyles and technologies as a pan-
acea for today's overconsumption and underemployment in
developed countries.

Noting the attention given to such authors and the nu-
merous counterculture trends in contemporary society, El-
gin and Mitchell, at SRI International, attempted to identify
what they considered to be "an underlying coherence to
the rich diversity of expression of this way of life" (1977, p. 5).
In their article, which has received much interest in
the business world, Elgin and Mitchell selected five basic
values that, they felt, lie at the heart of a voluntary sim-
plicity lifestyle:

- Material simplicity (nonconsumption-oriented patterns of
  use)
- Self-determination (desire to assume greater control over
  personal destiny)
- Ecological awareness (recognition of the interdependency
  of people and resources)
- Human scale (a desire for smaller-scale institutions and
  technologies)
- Personal growth (a desire to explore and develop the "in-
  ner life").

Building on these writings, I define voluntary simplicity
as the degree to which an individual selects a lifestyle in-
tended to maximize his/her direct control over daily activ-
ities and to minimize his/her consumption and dependency.
I stress that this choice is voluntary; this low-consumption
and low-energy lifestyle is often selected by individuals
who are financially able to afford a more luxurious way of
living. In fact, a spartan and self-sufficient lifestyle adopted
purely in response to economic constraints could not be
considered voluntary simplicity.

Individuals relatively high in voluntary simplicity seek
to minimize their dependency on institutions they cannot
control (such as government, oil companies, and large
agribusiness food companies), and to maximize their har-
mony with nature. A voluntary simplicity lifestyle is a matter
of degree. A commune resident in Taos, New Mexico,
may exemplify one extreme form of voluntary simplicity in
her move "back to the land," but a Manhattan busi-
nessman could personify similar values in his urban setting.

Elgin and Mitchell (1977) speculated that although prob-
ably half of the American population is unaware, indiffer-
cent, or opposed to voluntary simplicity, a large fraction—
perhaps as much as one-half—sympathize with the aims of
voluntary simplicity. Elgin and Mitchell's "guestimate"
of the number of people living a "whole-hearted" life of
voluntary simplicity was four to five million. National polls
have offered some evidence that at least public rhetoric has
shifted towards the humanistic values implicit in this life-
style. A 1976 Roper poll found that about half the Amer-
icans surveyed felt that Americans "must cut back" on
production and consumption. In 1977, Harris polls reported
that (79 to 17 percent) Americans would place greater em-
phasis on "teaching people how to live more with basic
essentials" than on "reaching higher standards of living."
In this same poll, the public indicated (66 to 22 per cent)
it would choose "breaking up big things and getting back
to more humanized living" over "developing bigger and
more efficient ways of doing things."

However, as any student of human behavior knows, there
is often a large gap between an attitude and an act (Bem
1970; Keisler, Collins, and Miller 1969). Behaviors are,
therefore, probably better indicators of public support for
a voluntary simplicity lifestyle than verbal responses to sur-
vey questions.

**DEVELOPING A VOLUNTARY SIMPLICITY SCALE**

Selecting the Voluntary Simplicity Scale Items

We decided to measure a tendency towards voluntary
simplicity by selecting certain behaviors that were com-
monly engaged in by self-proclaimed advocates of this
scaled-down lifestyle and that were also suggested in lit-
erature on the topic (Appendix). The voluntary simplicity
scale has, to date, evolved through three stages, each re-
vision being tested on a different California population.

*The Palo Alto Study (1977).* The first version of the
scale, containing nine items, was administered as part of
a survey of Palo Alto, California homeowners in Spring
1977, focusing in hour-long, in-home interviews on accep-
tance of energy-saving behaviors and attitudes towards en-
ergy conservation.\(^4\)

*Elgin and Mitchell Data (1977).* This small index was
subsequently expanded to 19 items, based in part on data
collected by Elgin and Mitchell (1977), who had appended
a short questionnaire to an article on voluntary simplicity
in *The Co-Evolution Quarterly*. Elgin and Mitchell's ques-
tions were directed at readers living a life of voluntary
simplicity, encouraging them to elaborate on how and why
they had adopted this lifestyle. The over 200 letters and
423 questionnaire responses provided examples of behav-
iors and attitudes along all five dimensions of voluntary
simplicity originally suggested by Elgin and Mitchell (ma-
terial simplicity, self-determination, ecological awareness,
human scale, and personal growth). However, we have at-
ttempted to measure only the first three dimensions, as these
seem most directly relevant to energy conservation. The

\(^{4}\) The original nine items are 2, 5, 7, 8, 9, 11, 12, 14, 18 in Table 3.
The Palo Alto survey was funded by the Institute for Energy Studies at
Stanford University.
TABLE 1
LOADINGS IN THE VARIMAX ROTATED FACTOR MATRIX OF ITEMS IN REVISED (18-ITEM) VOLUNTARY SIMPLICITY INDEX*

<table>
<thead>
<tr>
<th>Item (abbreviated)</th>
<th>Biking (Factor 1)</th>
<th>Self-sufficiency in services (Factor 2)</th>
<th>Recycling resources (Factor 3)</th>
<th>Recycling goods (Factor 4)</th>
<th>Self-sufficiency in goods (Factor 5)</th>
<th>Closeness to nature (Factor 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike for exercise</td>
<td>.667</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike to work</td>
<td>.456</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike on errands</td>
<td>.873</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change oil in car</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.626</td>
<td></td>
</tr>
<tr>
<td>Get instruction to increase self-reliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.532</td>
<td></td>
</tr>
<tr>
<td>Exchange goods or services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.382</td>
<td></td>
</tr>
<tr>
<td>Grow vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycle paper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.575</td>
<td></td>
</tr>
<tr>
<td>Recycle glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.503</td>
<td></td>
</tr>
<tr>
<td>Recycle cans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.654</td>
<td></td>
</tr>
<tr>
<td>Buy second-hand clothes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.734</td>
<td></td>
</tr>
<tr>
<td>Buy at garage sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.556</td>
<td></td>
</tr>
<tr>
<td>Make gifts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.621</td>
<td></td>
</tr>
<tr>
<td>Make clothes/furniture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.690</td>
<td></td>
</tr>
<tr>
<td>Plan meatless meals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.556</td>
<td></td>
</tr>
<tr>
<td>Have compost pile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribute to ecology organizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.424</td>
<td></td>
</tr>
<tr>
<td>Belong to a cooperative*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Factor loadings of less than 0.30 are not shown in this Table, for purposes of clarity.

NOTE: The item that loads most heavily on each factor is in boldface. One way to reduce the number of items used in the voluntary simplicity index would be to use just these six items.

items selected for the voluntary simplicity scale reflect that self-imposed limitation.5

The Three-County Study (1979). The expanded 19-item scale was utilized in a Spring 1979 study of 215 California homeowners in three counties. Half the sample was composed of homeowners who had installed residential solar equipment in their homes either to heat their swimming pools, their hot water supply, or their houses. To determine motives and attitudes that explained the purchase decision, in-home interviews were also conducted with 104 close neighbors of these solar adopters, homeowners of roughly comparable socioeconomic status and with similar houses, who had either decided against purchasing solar or who had never even considered such a purchase.

The Statewide Study (1979). The most recent revision of the simplicity scale reduced the number of items to 18, but changed the measure from dichotomous to a five-point scale on 16 of the items. The revised scale was administered to a representative statewide sample of 812 California homeowners in October 1979.

The original nine items were retained in both revisions of the scale. Responses to the scale were analyzed for four populations: the 215 Palo Alto homeowners, the 111 solar adopters in the three Northern California counties, the 104 nonadopting neighbors of those adopters, and the 812 California homeowners. As the sample of 812 California homeowners provides the most comprehensive test of the scale (both the best test population and the latest version of the scale), I will base my discussion of measurement (development of the scale itself) on that population. In my discussion of variables related to voluntary simplicity, however, I will draw on findings from all three studies.

Streamlining the Scale
A number of scholars have requested a shorter version of the voluntary simplicity index to test on geographically dispersed populations. Therefore, it is desirable to reduce the number of items utilized, if the index is not thereby distorted. Analysis of scale items suggests several different ways to truncate the scale.

All three versions of the scale have been factor analyzed, with data from several populations.6 The factors that emerged have been quite robust for all versions, across samples, and are easily interpreted (Table 1). The latest versions of the scale have contained more items and, consequently, more factors than the first nine-item scale.

The six factors that emerged in the data collected from the sample of California homeowners (Table 1) may be characterized as (1) conservation through biking, (2) self-sufficiency in services, (3) recycling of resources (metals, glass), (4) self-sufficiency through making goods, (5) recycling of durable goods (clothes, furniture), and (6) close-
ness with nature and a desire to live productively with nature, as through gardening. Factors 1 and 4 seem consistent with the value of material simplicity, and Factors 2 and 5 with what Elgin and Mitchell (1977) termed "self-determination." Factors 3 and 6 are consistent with ecological awareness, but the lack of clear definition for the sixth factor (reflected in low-factor loadings) suggests that there may be more than one dimension to ecological awareness and, therefore, that better indicators need to be developed.

Our measure of voluntary simplicity is multidimensional; an individual’s high score on any one of these six factors by itself does not indicate an interest in voluntary simplicity. That is, a person may bicycle for exercise or pleasure, may buy second-hand goods for economic reasons, or may sew clothes as a creative hobby. However, if an individual engages in many of the 18 behaviors, all of which (according to our original assumptions, based on the voluntary simplicity literature and Elgin and Mitchell’s data) are characteristic of people living a voluntary simplicity lifestyle, then we may assume that some sort of coherent (although often unrecognized) philosophy underlies these diverse acts.

The challenge, therefore, lies in shortening the scale without diminishing the power of the index to indicate a tendency towards voluntary simplicity. Such a reduction may be achieved one of three ways, each based on somewhat different assumptions and appropriate for different applications. In all three cases, the statistical analysis utilizes the full range of answer categories (1 to 5 for all but two items) for all 18 items (see Appendix).

**By Factor Analysis**

We may reduce the 18 items to six simply by using the one item that loads most heavily on each of the six factors, that is, the item that explains the most variance in each factor (see Table 1). For example, changing oil in the family car loads most heavily on Factor 2, which we have labeled self-sufficiency in services. The scale resulting from this method of reducing the number of items would consist of those six items in boldface in Table 1. All six factors are, thus, represented, as are the values or dimensions that we wish to measure: material simplicity, self-determination, and ecological awareness.

**By Multiple Regression**

It is also possible to reduce the number of scale items by regressing, stepwise, all 18 items on the total voluntary simplicity score for each respondent, and thus determine which items best fit a regression line through the total scores (i.e., that explain the most variance in the total scores). We can drop from the scale those behaviors that are least consistently followed by California homeowners, i.e., are most deviant and, therefore, explain little variance in the regression line. As Table 2 shows, four scale items explain 71 percent of the variance in the total scores. These four items represent four different factors and, although they are not the same items that load most heavily on each of the four factors they represent, these four items cover all three of the basic voluntary simplicity values that we are attempting to measure: material simplicity, self-determination, and ecological awareness.

Therefore, to reduce the length of the voluntary simplicity scale, one may follow a strategy of using six items, each of which best represents one factor; this decision implies an assumption that all six factors are important to measure and best represent the basic dimensions of voluntary simplicity. Or, alternatively one may narrow the number of items by using the 14 or fewer scale items that are the best predictors of total voluntary simplicity scores among the California homeowners. For example, the first nine scale items in Table 2 explain 91 percent of the variance in the 18-item voluntary simplicity scores.

---

1. Recycling of glass loads on two factors. Our interviews revealed that some people recycle formally, by taking all used glass to a recycling center. Others recycle jars by reusing them, especially in canning. For the latter group, recycling of glass is an outgrowth of home gardening.

---

<table>
<thead>
<tr>
<th>Scale item (abbreviated)*</th>
<th>$R^2$</th>
<th>$R^2$ change</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycle glass</td>
<td>.330</td>
<td>.330</td>
<td>.147</td>
</tr>
<tr>
<td>Change oil in car</td>
<td>.529</td>
<td>.199</td>
<td>.175</td>
</tr>
<tr>
<td>Have compost pile</td>
<td>.623</td>
<td>.093</td>
<td>.161</td>
</tr>
<tr>
<td>Bike for exercise</td>
<td>.706</td>
<td>.084</td>
<td>.136</td>
</tr>
<tr>
<td>Exchange goods or services</td>
<td>.765</td>
<td>.059</td>
<td>.129</td>
</tr>
<tr>
<td>Recycle newspaper</td>
<td>.825</td>
<td>.059</td>
<td>.172</td>
</tr>
<tr>
<td>Make gifts</td>
<td>.860</td>
<td>.036</td>
<td>.099</td>
</tr>
<tr>
<td>Get instruction to increase self-reliance</td>
<td>.885</td>
<td>.025</td>
<td>.146</td>
</tr>
<tr>
<td>Contribute to ecology organizations</td>
<td>.906</td>
<td>.021</td>
<td>.119</td>
</tr>
<tr>
<td>Recycle cans</td>
<td>.924</td>
<td>.018</td>
<td>.160</td>
</tr>
<tr>
<td>Buy at garage sales</td>
<td>.943</td>
<td>.019</td>
<td>.197</td>
</tr>
<tr>
<td>Grow vegetables</td>
<td>.957</td>
<td>.013</td>
<td>.113</td>
</tr>
<tr>
<td>Belong to a cooperative</td>
<td>.967</td>
<td>.010</td>
<td>.103</td>
</tr>
<tr>
<td>Make clothes/furniture</td>
<td>.978</td>
<td>.010</td>
<td>.123</td>
</tr>
</tbody>
</table>

*Complete versions of the items are presented in the Appendix (n = 812). NOTE: The four items that contributed less than one percent to the variance and were, therefore, dropped from the regression analysis are: bike to work, bike on errands, buy second-hand clothing, and eat meatless main meals.
TABLE 3
ITEMS IN THE VOLUNTARY SIMPLICITY INDEX IN ORDER OF RATE OF ADOPTION

<table>
<thead>
<tr>
<th>Scale item</th>
<th>Number of respondents giving a positive response</th>
<th>Percent of all respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make gifts instead of buying</td>
<td>577</td>
<td>71.9</td>
</tr>
<tr>
<td>Eat meatless main meals</td>
<td>566</td>
<td>70.8</td>
</tr>
<tr>
<td>Change oil in car</td>
<td>557</td>
<td>69.8</td>
</tr>
<tr>
<td>Get instruction to increase self-reliance</td>
<td>518</td>
<td>65.3</td>
</tr>
<tr>
<td>Recycle newspapers</td>
<td>500</td>
<td>62.3</td>
</tr>
<tr>
<td>Make clothes/furniture</td>
<td>475</td>
<td>59.5</td>
</tr>
<tr>
<td>Recycle cans</td>
<td>434</td>
<td>54.2</td>
</tr>
<tr>
<td>Recycle glass</td>
<td>424</td>
<td>52.9</td>
</tr>
<tr>
<td>Grow vegetables</td>
<td>406</td>
<td>50.7</td>
</tr>
<tr>
<td>Bike for exercise</td>
<td>398</td>
<td>49.9</td>
</tr>
<tr>
<td>Buy at garage sales</td>
<td>386</td>
<td>48.4</td>
</tr>
<tr>
<td>Exchange goods or services</td>
<td>352</td>
<td>44.3</td>
</tr>
<tr>
<td>Contribute to ecology organizations</td>
<td>262</td>
<td>33.1</td>
</tr>
<tr>
<td>Buy second-hand clothing</td>
<td>255</td>
<td>32.1</td>
</tr>
<tr>
<td>Bike on errands</td>
<td>215</td>
<td>26.8</td>
</tr>
<tr>
<td>Have a compost pile</td>
<td>158</td>
<td>20.3</td>
</tr>
<tr>
<td>Bike to work</td>
<td>74</td>
<td>9.1</td>
</tr>
<tr>
<td>Belong to a cooperative</td>
<td>60</td>
<td>7.6</td>
</tr>
</tbody>
</table>

The positive responses for each scale item are the answer categories "a" through "e" in the Appendix (n = 812).

FINDINGS ON VOLUNTARY SIMPLICITY

Relationship to Income, Education, Age, and Race

Because, as the name emphasizes, behaviors that accord with a voluntary simplicity lifestyle cannot be dictated by economic necessity (or it would be involuntary simplicity), we expected to find (and found) that the voluntary simplicity index is not linearly related to income \( (r = 0.10; p = 0.16) \). In fact, the relationship between income and voluntary simplicity is very slightly curvilinear. California households that reported 1978 incomes of between $16,000 and $35,000 averaged 38.2 (out of a possible score of 90) on the voluntary simplicity index. Families with low incomes ($15,000 or less) and very high incomes ($46,000 or more) scored lower on the voluntary simplicity index (35.9 and 35.8, respectively).9

It is not surprising that poorer families do not recycle, compost, or contribute to ecological organizations. Many poor people live an involuntary existence of material simplicity. Therefore, any reduction in consumption means a decrease in quality of life. Middle-income families are most interested and able to adopt voluntary simplicity behaviors. We did not expect to find high-income families adopting many such behaviors.

The voluntary simplicity index is related to education \( (r = 0.16; p < 0.001) \). The fact that voluntary simplicity behaviors are somewhat related to education, but not to income, is again indicative that many voluntary simplicity behaviors are voluntarily undertaken by people capable of leading high-consumption lifestyles. The items strongly related to education \( (p < 0.001) \) are biking (for exercise or errands), recycling paper and glass, taking classes to increase self-reliance, and contributing to ecological organizations.

As a whole, the voluntary simplicity index is negatively related to age, which is not surprising for two reasons. First, many of the voluntary simplicity index behaviors require some physical exertion, and, second, people nationwide who are active in the ecology and conservation movements tend to be younger (Milstein 1977a; b). Some of the scale items negatively related to age are the expected ones, such as biking. Others seem to reflect a philosophical age gap. Older people are less likely to exchange services in lieu of money, to buy major items at garage sales,10 and to take classes to increase self-reliance. California has seen a

9In their summary of energy attitudinal surveys, Lopreato and Meriwether (1976) hypothesized a curvilinear relationship between income and energy conservation. They based this hypothesis on repeated findings that the segment of the consuming public reporting the most changes in energy-use activities was the middle-income, middle-educated family with children to raise. It may be that the slight curvilinear trend we detect in voluntary simplicity behaviors reflects greater interest among middle-income families in the conservation-oriented items.

10These items are unrelated to income, so the explanation cannot be that younger people need to save money through such practices more than their elders.
recent resurgence of garage sales and classes in all types of self-help, from self-defense to car repair and maintenance. Therefore, it seems logical that these behaviors have been adopted more by the younger homeowners in our sample than by older homeowners.

There appears to be no strong predictive relationship between race and voluntary simplicity. Homeowners who categorized themselves as Caucasian, Asian, or Spanish-American all engage in about the same number of voluntary simplicity behaviors. However, Black members of the sample population reported fewer voluntary simplicity behaviors.

Thus, we conclude that voluntary simplicity is related to education and age, but not to income or race, with the possible exception of Blacks.

Relationship to Mechanical Ability

All three versions of the voluntary simplicity index correlate ($r = 0.15$ to $r = 0.22$, $p < 0.001$) with the respondents' ability to make "handyman" repairs around the home. Many of the voluntary simplicity behaviors require a certain level of skill, e.g., making clothes or furniture, changing oil in the car. As one would expect, the relationship between voluntary simplicity and mechanical ability is especially strong with regard to those factors representing self-sufficiency ($r = 0.26$, $p < 0.001$).

This finding is consistent with our finding in related studies that ability to make home repairs is related to investment in energy-saving home improvements. People who can work with their hands are better able to substitute their own labor for paid services, and have skills to offer in exchange for those of others.

Motives for Voluntary Simplicity

In lengthy follow-up interviews with nine individuals who scored high on some version of the voluntary simplicity index, we formed some tentative impressions as to different motivations underlying voluntary simplicity behaviors. For convenience, we call the three types of individuals encountered "conservers," "crusaders," and "conformists."

Conservers are people who have been brought up in a home with a very strong prohibition against waste of all kinds. Often someone in the household has lived in a developing country, or has experienced poverty as a child. Conservation is a way of life, both because frugality is habitual and because it is economic.

Crusaders may have come from a family with a strong conserving ethic, but the motivation to engage in voluntary simplicity behaviors is born of a strong sense of social responsibility, more than out of a desire to save financially. Crusaders regard themselves as role models, and feel that as a nation we need to be educated about the world's dwindling resources. A good example of crusaders are the members of a family we interviewed who are so well known in their neighborhood for their conservation ethic that there is virtual unanimity in selecting them as the best source of information about energy and water conservation, and as the best conservers in the neighborhood (Leonard-Barton and Rogers 1979). The wife bakes, cans, and grows a vegetable garden in their front yard. The husband, an engineer at work, builds cabinets at home. They have organized neighborhood workshops on everything from family goal setting to weather stripping; they belong to a four-family meal cooperative, in which each mother provides the evening meal for four families once a week.

Conformists are people who engage in voluntary simplicity behaviors for less well-defined reasons. They are less likely to buy second-hand clothes or goods, but they dutifully recycle resources, cut down on meat consumption, etc. Some are apparently motivated by guilt at being so comparatively wealthy; others have been influenced by voluntary simplicity adherents in their neighborhood. The members of one such family moved from an extremely ecology-conscious and very cohesive neighborhood to a more geographically scattered and ecologically inactive neighborhood, and discontinued many of the voluntary simplicity practices they had adopted before moving.

Relationship of Voluntary Simplicity to Energy Use

In much of the reported research on residential energy use, attitudinal variables (such as beliefs about the energy crisis) have proven to be poor and inconsistent predictors of consumer behavior. As noted earlier, the third objective of this research was to test the capacity of this behavior-based voluntary simplicity index to identify those individuals who are actively conserving energy and/or who are willing to commit time and resources to the adoption of energy-conserving technologies.

In all three studies just mentioned, the findings are consistent. As the following examples indicate, the voluntary simplicity index predicts either the purchase or intention to purchase energy-conserving equipment (whichever is the dependent variable in that particular study) better than numerous attitudinal, behavioral, and demographic descriptors utilized in each of the studies.

In the 1977 Palo Alto study ($n = 215$), the tendency toward a voluntary simplicity lifestyle (as measured by the original nine-item index) was the second strongest predictor

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11However, researchers at the Institute of Communication Research, Stanford University, have just completed another 25 personal interviews in a neighborhood with a high concentration of voluntary simplicity adherents. Their findings tend to confirm the accuracy of these tentative categorizations. Future research will undoubtedly reveal more types of voluntary simplicity adherents; these profiles are intended to be suggestive only.

12See, for example, Gottlieb and Matre 1976; Leonard-Barton 1979; Stearns 1975; Warren and Clifford 1975; Zuiches 1976.

13These descriptors included other carefully developed attitude and belief scales.
The voluntary simplicity scores also correlated \( r = 0.27 \) \( p < 0.001 \) with the respondents' personal conviction that they should save energy, regardless of what others around them did. Therefore, the voluntary simplicity behavioral index helped identify those Palo Alto homeowners who purchased energy-conserving equipment, such as insulation or furnace timers, for philosophic more than for economic reasons, and, perhaps, before such energy-conserving measures were widely accepted by most of the public.

The performance of the rudimentary nine-item index in this first study encouraged us to expand the index to 19 items, and test that longer index in the 1979 three-county sample of solar adopters and their nonadapting neighbors. The index did not discriminate between solar adopters and nonadopters. This initially surprising finding led to a more careful consideration of the motives for purchasing solar equipment.

Like most individuals involved at the time with solar technology, either in the private or the public sector, we initially assumed that the solar market was monolithic, comprised of wealthy individuals, who purchased solar equipment principally for idealistic or, at least, noneconomic reasons.

However, our sample of solar-equipment owners contained many swimming-pool owners. The luxury of swimming pools does not seem compatible with voluntary simplicity. Moreover, solar pool heating systems in California provide a much better economic payback than do domestic water heating systems. Many pool owners also mentioned in their interviews the protection that solar offers against the very real possibility that heating pools with fossil fuels may be outlawed as the energy crisis deepens. Pool owners, therefore, need no philosophic commitment toward energy conservation to find solar equipment a good investment.

Solar water heater adopters, in contrast, have much less economic incentive to purchase solar. For them, the purchase of solar equipment fits in with a pattern of ecology-minded investments. When we differentiated our sample of solar adopters according to the type of system they had purchased, we found that water heater owners score higher on the voluntary simplicity index (mean score 9.2 of a possible 19) than do pool heater owners (mean score 5.5), although the means of the two subpopulations differ only at the 0.10 level of significance in a t-test.

This difference, though not statistically significant by usual standards, was great enough to lead us to consider pool heater and water heater adopters as potentially two separate market segments, a possibility subsequently supported by further analysis. Water heater owners were much more active ecologists than were pool owners and reported more energy-conserving behaviors (Rogers, Leonard-Barndard, Rogers, Avi-Itzhak, Rosa, and Adhikarya 1979).

In the 1979 state-wide survey of California homeowners, conducted to determine the market climate for residential solar equipment, the voluntary simplicity index was used as a predictor of solar adoption. This time, however, it was used to predict behavioral intent rather than actual purchasing decisions, as the sample was drawn to be representative of all California homeowners, and there were only 21 adopters among the 812 individuals interviewed (Leonard-Barton, Rogers, Avi-Itzhak, and Patel 1980). In a multiple regression of 13 attitudinal and behavioral variables on intention to purchase residential solar equipment, the index of voluntary simplicity behaviors was the second strongest predictor (beta coefficient = 0.29). As Table 4 indicates, only three other variables were significant.

We also found that California homeowners who scored high on the voluntary simplicity index engaged in various other energy-conserving practices, such as turning their furnace pilot lights off during the summer months \( r = 0.25, p < 0.001 \) and weather stripping or caulking doors and windows \( r = 0.21, p < 0.001 \).

We conclude, therefore, that many voluntary simplicity behaviors are related to a reduction in energy consumption and an interest in at least one alternative energy technology. This finding is consistent across all of the samples studied. It is not possible to say, of course, whether interest in energy-conserving behaviors in the home leads to other forms of conservation and self-sufficiency, or whether the interest in voluntary simplicity behavior comes first.

\[ \text{Table 4} \]

| Variable                                | \( R \) square | Beta  \\
|-----------------------------------------|----------------|--------
| Index of voluntary simplicity behaviors | .15            | .135*  \\
| Attitude towards solar equipment        | .20            | .133b  \\
| Number of solar owners known by respondent | .45          | 1.170c  \\
| Number of years respondent believes solar equipment takes to pay back | .46          | -.119d  \\

\( * \text{The following nine variables were entered into the regression equation, but the } F \text{ statistic associated with each failed to reach the } 0.05 \text{ level of significance, and all nine were, therefore, dropped: awareness of tax credit; socioeconomic status; respondent's age; probability of moving; perceived effect of solar equipment on house resale value; mechanical ability; expectations about future energy cost increases; utility bill; and attitude towards the energy crisis.} \)

\( p < 0.001 \)

\( p < 0.01 \)
FUTURE RESEARCH

Further research on voluntary simplicity should include the following:

• A further refinement of the index, including tests for the applicability of items to different geographic locations
• Expansion of the 18-item index to cover interest in holistic health, improved nutrition, and greater personal happiness
• Application of the voluntary simplicity index to a national sample.

The application of the voluntary simplicity index to more widely dispersed and heterogeneous populations will allow the development of new items. The index as it is presently constituted applies only to a homeowner population. A few items may be inappropriate indicators in parts of the nation. In the Northeast, for instance, the purchase of a new wood-burning stove might be a better item than bicycling. Many items are definitely inappropriate for certain subpopulations. College-age adherents of voluntary simplicity, for instance, are less likely to have a compost pile (unless, as at Stanford University, Cornell, and the University of California at Berkeley, student residential cooperatives have their own gardens) than are homeowners. Therefore, researchers using the voluntary simplicity index might need to make adjustments for the particular population being surveyed.

IMPLICATIONS

If voluntary simplicity behaviors diffuse through the U.S. population, energy conservation will be much more widely accepted. Those individuals who are engaging in voluntary simplicity behaviors, for instance bicycling for transportation or trying to produce more than they consume, are doing so out of personal conviction. In most cases they conserve energy without formal organization, bureaucratic trappings, or central funding. Their activity is not orchestrated by any government agency. If their numbers increase, so will conservation, and the United States will become less dependent upon foreign energy sources.

The growth of voluntary simplicity would also herald a change in consumption patterns, if not necessarily an absolute reduction in all consumption. There would be an increasing market for do-it-yourself products and durable goods that could be recycled. One can conceive of entirely new services and businesses that could grow up around recycling of all kinds.

The further diffusion of voluntary simplicity might augment the growing desire in some segments of the U.S. population for control over the quality of their own lives, with less concern for the trappings of socioeconomic status.

The types of voluntary simplicity behaviors that diffuse may be heavily influenced by the economy. Acts that involve the substitution of individual labor for individual expenditure of resources (e.g., making furniture instead of buying it) are likely to diffuse more widely. Those that involve an outlay of individual effort for the common good (e.g., recycling glass) may not diffuse among lower-income groups, unless such acts are made financially beneficial to the individual.

The diffusion of the voluntary simplicity behaviors may serve as one indicator of the degree to which American public opinion has altered its view of the world from one of unlimited growth to one of finite resources. The deepening energy crisis is likely to hasten the future diffusion of voluntary simplicity. Our measures touch only the tip of the iceberg.

[Received August 1980. Revised January 1981.]

APPENDIX

The 18-Item Voluntary Simplicity Scale Administered to California Homeowners

The data were gathered by Field Research Associates through a statewide survey of California homeowners for our study of the diffusion of residential solar equipment. This research was sponsored by the California State Energy Commission.

<table>
<thead>
<tr>
<th>Scale item</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Make gifts instead of buying</td>
<td></td>
</tr>
<tr>
<td>a. Never</td>
<td>28.1</td>
</tr>
<tr>
<td>b. Occasionally</td>
<td>42.2</td>
</tr>
<tr>
<td>c. Frequently</td>
<td>19.5</td>
</tr>
<tr>
<td>d. Usually</td>
<td>8.1</td>
</tr>
<tr>
<td>e. Always</td>
<td>2.1</td>
</tr>
<tr>
<td>Total Base (n for this item)</td>
<td>100.0%</td>
</tr>
<tr>
<td>2. Ride a bicycle for exercise or recreation</td>
<td>802</td>
</tr>
<tr>
<td>a. Never</td>
<td>50.1</td>
</tr>
<tr>
<td>b. Once or twice a year</td>
<td>17.1</td>
</tr>
<tr>
<td>c. Once a month</td>
<td>11.1</td>
</tr>
<tr>
<td>d. Once a week</td>
<td>14.1</td>
</tr>
<tr>
<td>e. Every day</td>
<td>7.6</td>
</tr>
<tr>
<td>Total Base</td>
<td>100.0%</td>
</tr>
<tr>
<td>3. Recycle newspapers used at home</td>
<td>799</td>
</tr>
<tr>
<td>a. Never recycle newspapers</td>
<td>37.7</td>
</tr>
<tr>
<td>b. Recycle some</td>
<td>13.9</td>
</tr>
<tr>
<td>c. Recycle many</td>
<td>7.0</td>
</tr>
<tr>
<td>d. Recycle most</td>
<td>11.2</td>
</tr>
<tr>
<td>e. Recycle all newspapers</td>
<td>30.2</td>
</tr>
<tr>
<td>Total Base</td>
<td>100.0%</td>
</tr>
<tr>
<td>4. Recycle glass jars/bottles used at home</td>
<td>802</td>
</tr>
<tr>
<td>a. Never recycle jars/bottles</td>
<td>47.1</td>
</tr>
<tr>
<td>b. Recycle some</td>
<td>20.3</td>
</tr>
<tr>
<td>c. Recycle many</td>
<td>8.7</td>
</tr>
<tr>
<td>d. Recycle most</td>
<td>10.2</td>
</tr>
<tr>
<td>e. Recycle all jars/bottles</td>
<td>13.7</td>
</tr>
<tr>
<td>Total Base</td>
<td>100.0%</td>
</tr>
<tr>
<td>15Schwartz and Oglivy (1979) noted a very basic shift in the American paradigm in a variety of fields during recent decades.</td>
<td></td>
</tr>
</tbody>
</table>
### VOLUNTARY SIMPLICITY AND CONSERVATION

5. Recycle cans used at home
   - Never recycle cans: 45.8%
   - Recycle some: 18.2%
   - Recycle many: 6.0%
   - Recycle most: 10.5%
   - Recycle all cans: 19.5%
   - Total: 100.0%
   - Base: 800

6. Family member or friend changes the oil in the family car
   - Never: 30.2%
   - Sometimes: 9.0%
   - Frequently: 6.4%
   - Usually: 10.5%
   - Always: 43.9%
   - Total: 100.0%
   - Base: 797

7. Have gotten instruction in skills to increase self-reliance, for example, in carpentry, car tune-up and repair, or plumbing
   - Never: 34.7%
   - Occasionally (informally from friends): 19.0%
   - Frequently (informally from friends): 24.1%
   - Have taken a class: 4.5%
   - Have taken more than one class: 17.7%
   - Total: 100.0%
   - Base: 793

8. Intentionally eat meatless main meals
   - Never: 29.2%
   - Occasionally: 42.1%
   - Frequently: 20.8%
   - Usually: 5.7%
   - Always: 2.2%
   - Total: 100.0%
   - Base: 800

9. Buy clothing at a second-hand store
   - None of my clothes: 67.9%
   - A few items: 24.7%
   - Many items: 4.9%
   - Most of my clothes: 2.0%
   - All of my clothes: 0.4%
   - Total: 100.0%
   - Base: 796

10. Buy major items of furniture or clothing at a garage sale (over $15)
    - Never: 51.7%
    - Rarely: 24.5%
    - Sometimes: 18.8%
    - Fairly often: 2.9%
    - Very often: 2.1%
    - Total: 100.0%
    - Base: 797

11. Make furniture or clothing for the family
    - None: 40.5%
    - A few small items: 20.2%
    - Some items: 22.2%
    - Many items: 12.7%
    - Most of the clothing or most of the furniture: 4.4%
    - Total: 100.0%
    - Base: 797

12. Have exchanged goods or services with others in lieu of payment with money, e.g., repairing equipment in exchange for other skilled work
    - Never: 55.7%
    - Have once: 8.9%
    - Have several times: 22.4%
    - Have many times: 5.7%
    - Do so whenever possible: 7.3%
    - Total: 100.0%
    - Base: 793

13. Have a compost pile
    - No: 79.7%
    - Yes: 20.3%
    - Total: 100.0%
    - Base: 781

14. Contribute to ecologically-oriented organizations (such as Greenpeace, Sierra Club, etc.)
    - Never have: 66.9%
    - Did contribute once; do not now: 6.2%
    - Occasionally contribute now: 18.9%
    - Contribute regularly to one organization: 3.6%
    - Contribute regularly to two or more organizations: 4.2%
    - Do not know: 0.2%
    - Total: 100.0%
    - Base: 783

15. Belong to a cooperative
    - No: 92.4%
    - Yes: 7.6%
    - Total: 100.0%
    - Base: 793

16. Grow the vegetables the family consumes during the summer season
    - None: 49.3%
    - Some: 30.1%
    - Many: 7.7%
    - Most: 9.1%
    - All: 3.8%
    - Total: 100.0%
    - Base: 798

17. Ride a bicycle for transportation to work
    - Never: 90.9%
    - Occasionally: 6.7%
    - Frequently: 0.6%
    - Usually: 9.1%
    - Always: 0.1%
    - Total: 100.0%
    - Base: 793

18. Ride a bicycle on errands within two miles of home
    - Never: 73.2%
    - Occasionally: 16.1%
    - Frequently: 6.4%
    - Usually: 3.2%
    - Always: 1.1%
    - Total: 100.0%
    - Base: 798

### REFERENCES


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