

SOME PSYCHOLOGICAL ASPECTS OF LIVING LIGHTLY: DESIRED LIFESTYLE PATTERNS AND CONSERVATION BEHAVIOR

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ABSTRACT

It has been argued that an environmentally compatible lifestyle is a necessary if somewhat onerous component of a sustainable society. This perception might lead one to demand compensation for adopting such a lifestyle. An alternative perspective suggests such a lifestyle contains its own compensation. This study explores whether a conservation-oriented lifestyle may be intrinsically satisfying. Data from respondents to a mail-back questionnaire were explored using factor analysis and analysis of variance. Several categories of items emerged, focusing on ecology, technology, self-reliance and acceptance-of-wastefulness. The respondents most preferred an ecologically focused lifestyle. This article also explores the relationships between these desired patterns and reported conservation behavior and intrinsic satisfactions.

Prudent and conserving behavior is considered by many to be of fundamental concern for any animal intent on thriving in an uncertain world [1]. The resources people depend upon are finite and their availability varies from season-to-season, year-to-year. Careless use of these resources threatens one's well-being and ultimately one's existence. With survival having always depended on the careful stewardship of finite resources, one might expect people to have come to recognize the sorts of lifestyle patterns where such care was both possible and supported. But it is important for people to not only recognize such patterns; one might argue that they should also find them satisfying to pursue.

The study of the relationship between lifestyles and environmentally responsible behavior has begun to receive attention. It has been noted, for instance, that lifestyles have a significant effect on energy consumption over and above that explained by income and energy pricing [2]. Some of this attention was inspired by the work of Gregg on voluntary simplicity [3, 4]. The core of a deliberately simple life is argued to be frugality – the avoidance of wasteful practices. Frugality itself received considerable attention during the 1960s as many people began to question the appropriateness of what they saw as a high-consumption and high-waste lifestyle [5, 6]. Frugality has more recently been characterized as a central aspect of a conservator society [7] as well as a goal worthy of national attention [8, 9]. It was also the topic of a recent advertising campaign for a national clothing retailer [10].

While frugality may be accepted as a necessary feature of the future it is usually portrayed as an onerous undertaking, one requiring personal sacrifice of the highest order. People, it is argued, are being asked to give up a modern, high-technology existence for an austere, bleak but needed substitute. And it is here that the greatest resistance to the widespread adoption of environmentally responsible lifestyles is thought to exist. It is thought that people will adopt such a pattern of behavior *only* if they receive just compensation. Clive Seligman has captured the essence of this conserve-only-if-compensated argument [11, p. 271]:

Unless business can make money from environmental products or politicians can get elected on environmental issues, or *individuals can get personal satisfaction from experiencing environmental concern* [italics added], then individuals and organizations will simply do what every competes with environmentalist if they see the pay off as greater.

Deeply embedded here is the notion of a direct link between our individual consumption behavior and well-being. The strength and even existence of such a link is coming into question. As Cosmas suggests, “life styles are as adequately explained by the lack of consumption as by the presence of it” [12]. And while it remains for this link to be firmly established it has nonetheless continued to act as a major impediment to the promotion and adoption of environmentally responsible lifestyles. For some, the reasons why people would both willingly and without tangible compensation adopt a simple, frugal lifestyle has remained a mystery. Yet an answer to this mystery is no more complicated than that found in the italicized portion of the Seligman quote above. Writers and thinkers throughout history have suggested, with Gregg, that a rich inner sense of well-being can be gained from a simple approach to life [3, 4].

Thus the issue becomes not only one of compensation but of whether a frugal lifestyle, acknowledged as being environmentally appropriate, might also provide for a sense of personal satisfaction *per se*. This theme is explored here by describing the life patterns which were preferred by the respondents to a survey on

conservation and by investigating the relationships between these patterns and conservation behaviors and satisfactions.

METHOD

The Sample

Questionnaires (959) were distributed to randomly selected residences in a small midwestern town. All residences were in areas of the town participating in a voluntary, monthly curb-side recycling program and each had access to a central drop-off recycling facility. 263 respondents (27%) returned completed survey instruments using postage-paid return envelopes. This is a low but reasonable return rate, given the lack of follow-up to the initial contact.

The Survey Instrument

The survey instrument focused on conservation behavior in general and recycling and source reduction in particular. The questionnaire contained groups of items intended to measure the constructs of *desired lifestyle patterns*, *conservation behaviors* and *satisfactions*. All items used a 5-point Likert rating scale. In analyzing these data the scoring of negative items was reversed so that a score of 5 always indicates high endorsements for a construct. The construct of desired patterns was investigated using forty-six questionnaire items which dealt with how technology should develop in the future and with what patterns of person-environment interaction would be most preferred. While this "desired pattern" construct may appear on the surface to be attitudinal in nature, it might be more appropriate to consider it something akin to the personal goals or purposes an individual holds. Attitudes are commonly characterized as being evaluative in nature, as involving favorably or unfavorable reactions to the object of the attitude. Goals, on the other hand, can be thought of as reflecting a state of affairs one would like to experience, a particular way of life or a system of priorities [13]. To capture the sense of future orientation this construct embodies, the respondents were asked to imagine the future as they would like it to be and then indicate to what extent it would include each of the forty-six listed items. Included were items which dealt with desire for pastoralism, self-reliance, acceptance of ecological limits, faster travel and communication modes, etc. In addition the respondents were asked how they would like to see technology developed and used.

"Conservation behavior" was measured by thirty items that measured such behaviors as recycling, reusing, and saving material. These items involved self reported behavior and, therefore, might be considered measures of behavioral intent. The thirty-nine "satisfaction" items covered the personal satisfaction gained from avoiding waste, keeping things working long past their normal life,

doing things which help bring order to the world, having the luxuries and conveniences of our society, being a member of an affluent society, etc. The conservation behavior and satisfaction constructs presented in this article have been discussed elsewhere [14, 15]. Respondents also provided demographic information, including sex, age, and length of residence in town.

Data Analysis

The sets of questionnaire items (desired patterns, conservation behavior and satisfactions) were subjected to dimensional analysis. Stable scales were identified using a nonmetric factor analysis program (Guttman-Lingoes Smallest Space Analysis III; see [16]) and the ICLUST Hierarchical Cluster Analysis program [17]. The scales were tested for their degree of coherence using Cronbach's coefficient alpha – a measure of internal consistency [18, 19].

The relationships among the sets of scales were investigated next. Scores for each desired pattern scale were divided into categories. Where the distribution of values displayed sufficient variance, three levels of the scale were created (i.e., high, medium and low). A one-way analysis of variance was used to explore the relationship between a particular desired pattern scale and each of the conservation behavior and satisfaction scales, using scores on the behavior and satisfaction scales as dependent variables. In cases where there was less variance, two levels of the scale were created, and the Student *t*-test was performed. In dividing the scores on a scale into categories, an attempt was made to include equal numbers of respondents in each category.

The Respondents

The respondents were 56 percent women and roughly 80 percent were homeowners. Most were long-time residents (more than 47 percent said they had lived in the city more than 20 years). Some 16 percent of the sample were under thirty years old, 50 percent were in their thirties or forties, 16 percent were in their fifties, and 18 percent were sixty or older.

RESULTS AND DISCUSSIONS

Desired Pattern Scales

The dimensional analysis identified four distinct scales – “Ecological Lifestyle,” “Pro-Technology,” “Self-Reliance” and “Waste-is-OK” (see Table 1). The Ecological Lifestyle scale may be thought of as measuring a desire to develop a sustainable human-environment relationship. The Pro-Technology scale gauges the degree to which techniques and products of the industrial age will continue to underpin our well-being. Self-Reliance captures a desire to depend upon no one

Table 1. Desired Pattern Scales

Scale Names and Items Included	Mean	S.D.	Alpha
Ecological Lifestyle	4.20	.65	.85
– Things would last longer			
– Would avoid creating pollution			
– Cooperate with nature			
– More time to reflect on things			
– Repair and maintain things, not always start anew			
– Less messiness in alleyways, etc.			
– Spend more time getting to know others			
– Conservation would be part of our culture			
– Care more about function than image			
Pro-Technology	3.51	.76	.85
– Technology will solve resource scarcity problems			
– Machines separate and sort our waste			
– Use technology to explore space			
– Increase our manufacturing efficiency			
– Build longer lasting goods			
– Increase our standard of living			
– Extract hard-to-get resources			
– Explore new fields, ideas, etc.			
– Have machines do our manual labor			
– Use technology to keep us alive longer			
Self-Reliance	2.92	.98	.79
– Save more of our income			
– People would make their clothing			
– Grow more of our own food			
– People would make many of the things they need			
Waste-is-OK	2.06	1.06	.60
– OK to waste money if earned it			
– OK to use more than need if none suffer			

other than oneself. Waste-is-OK embodies a desire to consume freely provided none suffer.

The difference in scale mean values for every pairwise comparison is significant at $p < .02$, suggesting that the respondents have a higher preference for an ecologically-appropriate way of life. The correlations between scales are shown in Table 2.

Table 2. Correlation Matrix

Ecological	1.00								
Pro-Technology	-.03	1.00							
Self-Reliance	.53	-.10	1.00						
Waste-is-OK	-.04	.26	-.18	1.00					
Reuser	.31	-.12	.29	-.16	1.00				
Recycler	.18	-.23	.27	-.09	.34	1.00			
Frugality	.44	.01	.41	-.11	.57	.24	1.00		
Participation	.51	.05	.41	-.16	.33	.31	.59	1.00	
Luxuries	-.11	.50	-.05	.22	-.17	-.31	.11	.03	1.00

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Table 3. Conservation Behavior Scales

Scale Names and Items Included	Mean	S.D.	Alpha
Reuser - Reuse unused side of paper - Buy things designed and built to last - Look for ways to reuse things - "Hand down" clothing in family - Reuse paper lunch or grocery bags - Save gift wrapping paper - Save cardboard boxes for later use	3.58	.72	.84
Recycler - Recycle non-deposit glass jars and bottles - Recycle what recycling program can't take - Encourage friends and others to recycle - Recycle non-deposit steel and aluminum cans	2.91	1.09	.80

Conservation Behavior Scales

In examining the structure of the conservation behavior items, the dimensional analysis identified two distinct scales – a Recycler and a Reuser scale (see Table 3). The importance for this study of the distinction between recycling and reuse is understood best in terms of the difference between waste reduction and source reduction.

While terminology varies, here waste reduction is taken to refer to any technique that reduces the quantity of discards reaching landfills. Waste reduction techniques include recycling, community-level composting, waste-to-energy incineration, and the shredding and compacting of waste. Waste reduction

techniques deal with waste only after it has been generated and try to reduce the ensuing risk of pollution.

In contrast, source reduction attempts to *prevent* pollution by avoiding generation of waste at its source. According to the U. S. Environmental Protection Agency (EPA), "Source reduction is not used by local waste haulers for managing the waste that is picked up every day; rather, it cuts back on the amount and the toxicity of the waste which is handled" [20]. Methods of source reduction include designing products for greater durability, repairability or reusability, altering production processes to use less raw material, producing less toxic products or byproducts, and operating equipment more efficiently. An example is the recent modifications to the design of disposable batteries so as to contain less mercury. On the individual level, source reduction includes making purchasing decisions based upon the source reduction characteristics of durability, repairability and reusability. It also includes selecting products that use less packaging as well as actually reusing goods [21, 22].

The EPA currently lists source reduction as the preferred waste management strategy and places it at the top of its waste management hierarchy [20]. This is in stark contrast to where source reduction stood a decade ago. Melosi reported that the EPA considered source reduction a "radical concept," and quotes the president of a container manufacturing trade group as saying that source reduction is an obstruction to material growth and societal progress [23].

While the conceptual distinction between waste reduction and source reduction has proven useful in planning innovative waste management programs, it also emerged from the respondent's data. The two types of conservation behavior measured, recycling and reusing, were only slightly correlated, $r = .34$. And it is the radical concept of source reduction that the respondents endorse with a mean score significantly higher than recycling ($t = 10.11$, $df = 256$, $p < .001$).

Satisfaction Scales

Three satisfaction scales emerged from the survey data (see Table 4). Satisfaction from "Frugality" – defined as the prudent use of resources – is closely tied to everyday living, involving such things as what items one buys, what activities one pursues, and what one does with waste materials. Furthermore, the opportunity to participate, become "involved," and actually help preserve the environment is viewed favorably by the respondents (so supporting Brinkerhoff and Jacob [24]). The respondents also reported deriving satisfaction from the acquisition of Luxuries. The correlations between these scales are shown in Table 2. It is interesting to note that the satisfaction from Luxuries scale has very low correlations with each of the other satisfaction scales. This supports the notion that satisfaction derived from Luxuries is not incompatible with satisfaction gained from Frugality or Participation.

Table 4. Satisfaction Scales

Scale Names and Items Included	Mean	S.D.	Alpha
Satisfaction derived from:			
Frugality	3.78	.81	.87
– Keeping things running past normal life			
– Finding ways to avoid waste			
– Repairing rather than throw away			
– Saving things I might need someday			
– Doing things which don't rely on others			
– Finding ways to use things over and over			
Participation	3.65	.88	.93
– Reduce pressure on Earth to supply needs			
– Helping make sense out of our world			
– Fitting into our place in natural scheme			
– Taking actions that can change our world			
– Do things that help bring order to world			
– Not pushing resource scarcity onto future			
– Influencing how society solves problems			
– Reducing dependency on scarce resources			
– Doing things that matter in the long run			
– Living by an ecological ethic			
Luxuries	2.97	.78	.83
– Having clothing that is in style			
– Having new items to try, evaluate, and buy			
– Having vast resources at our disposal			
– Having many choices when buying			
– Having luxury/conveniences of our society			
– Using latest electronic consumer product			
– Knowing we are looked upon as affluent			

Demographic Factors

A series of analyses was undertaken to determine whether any demographic variables were significantly related to the desired pattern, conservation behavior or satisfaction scales. On the desired pattern scales, women reported greater endorsement of the Ecological Lifestyle and Self-Reliance scale ($t = 2.80$, $df = 238$, $p < .01$ and $t = 2.42$, $df = 239$, $p < .02$ respectively) and lower scores on the Pro-Technology and Waste-is-OK scales ($t = 3.31$, $df = 242$, $p < .001$ and $t = 2.85$, $df = 225$, $p < .005$ respectively).

Women also reported greater endorsement of the Reuser scale ($t = 6.45$, $df = 248$, $p < .001$) and reported deriving greater satisfaction from Frugality and

Participation ($t = 2.30$, $df = 249$, $p < .02$) and $t = 2.30$, $df = 226$, $p < .02$ respectively). Renters indicated they gained more satisfaction from Luxuries than did homeowners ($t = 2.21$, $df = 246$, $p < .05$). And respondents who had lived in town for five years or less reported deriving greater satisfaction from Luxuries than did longer-time residents ($F = 3.76$, $df = 3,249$, $p < .01$).

There were two significant relationships between the respondents' reported age and the satisfaction scales. There was a steady decrease in satisfaction from Frugality up until age fifty when it began to rise ($F = 3.01$, $df = 4,256$, $p < .02$). The same pattern existed for the relation between age and satisfaction from Luxuries except that the rise began for those respondents sixty years or older ($F = 4.67$, $df = 4,253$, $p < .001$). In both instances respondents under the age of thirty and over the age of sixty reported the highest, as well as similar, scores on these two satisfaction scales.

In addition to the demographic variables reported above, respondents were asked if their parents had recycled when they were growing up. Respondents whose parents had recycled reported a lower score on the Waste-is-OK scale ($t = 2.18$, $df = 226$, $p < .03$), a higher score on the Reuser scale ($t = 2.58$, $df = 253$, $p < .01$), and the satisfaction from Frugality scale ($t = 2.59$, $df = 254$, $p < .01$). They also had a lower score on the satisfaction from Luxuries scale ($t = 2.22$, $df = 251$, $p < .05$).

Desired Patterns – Conservation Behavior Relationships

The nature of the desired pattern scales suggest that meaningful relationships should be expected with the conservation behaviors. Analysis of variance identified a series of significant relationships between the desired pattern scales and the conservation behavior scales.

The results are displayed in Table 5, where entries give the mean score on the conservation behavior or satisfaction scale for each category (i.e., high, medium, low) of the desired pattern scale. The spatial arrangement of the scores reflects the approximate functional relationship between the two scales being analyzed (e.g., a positive linear relationship, negative relationship). As shown, respondents who reported a higher score on the Ecological Lifestyle and Self-Reliance scales tended to have significantly higher scores on both the Reuser and Recycler scales. These data can support an interpretation of one's current conservation behavior as being future-focused. By contrast there are negative relationships between the Pro-Technology and Waste-is-OK scales and the behavior scales. Overall, respondents who put their trust in technology or are accepting of wastefulness reported significantly lower scores on both conservation behavior scales.

Desired Patterns – Satisfaction Relationships

The desired pattern scales are further explained by examining the relationships these scales have with the satisfaction scales. As shown in Table 6, those

Table 5. Mean Scores On The Conservation Behavior Scales as a Function of Response to Desired Patterns Scales

Desired Pattern Scales		Conservation Behavior Scales			
		Reuser		Recycler	
Ecological Lifestyle	High		3.8		3.1
	Medium		3.6	<i>a</i>	3.0
	Low	3.3			2.6 <i>b</i>
Pro-Technology	High				2.7
	Medium				2.9
	Low				3.1 <i>c</i>
Self-Reliance	High		3.8		3.3
	Medium		3.5	<i>d</i>	2.6
	Low	3.4			2.7 <i>e</i>
Waste-is-OK	High		3.5		
	Low		3.7	<i>f</i>	

^a $F = 12.0, df = 2,246, p < .0001$

^b $F = 3.42, df = 2,242, p < .04$

^c $F = 4.41, df = 2,246, p < .02$

^d $F = 10.3, df = 2,246, p < .0001$

^e $F = 9.22, df = 2,243, p < .0001$

^f $t = 2.76, df = 232, p < .01$

respondents who most longed for an Ecological or Self-Reliant lifestyle reported the highest scores on the satisfaction from Frugality and Participation scales.

And, in keeping with the previous pattern, the Pro-Technology and Waste-is-OK scales related to the satisfaction scales in a manner quite different from the relationship exhibited by the other desired pattern scales. Those respondents with higher scores on the Pro-Technology and Waste-is-OK scales also tended to have significantly higher scores on the satisfaction from Luxuries scale.

CONCLUSIONS

The desired pattern scales reflect the system of priorities the respondents said they preferred. The most preferred is an ecological lifestyle, a pattern which scored higher than one characterizable as a technology-based lifestyle. This expressed preference may be of particular interest to policymakers given the fact that a high technology existence would seem to best characterize the immediate future. It turns out that many people have longings for particular patterns of interaction with the environment which may not be adequately addressed by many development policies and plans. And rather than being of interest to active conservers alone, such a high level of concern for ecological issues has been reported for

Table 6. Mean Scores On The Satisfaction Scales as a Function of Response to Desired Patterns Scales

Desired Pattern Scales		Satisfaction Scales		
		Frugality	Participation	Luxury
Ecological Lifestyle	High	4.2	4.1	
	Medium	3.9	3.8	
	Low	3.3 ^a	3.0 ^b	
Pro-Technology	High			3.4
	Medium			2.9
	Low			2.5 ^c
Self-Reliance	High	4.1	4.1	
	Medium	3.8	3.5	
	Low	3.4 ^d	3.3 ^e	
Waste-is-OK	High			3.1
	Low			2.8 ^f

^a $F = 26.8, df = 2,247, p < .0001$

^b $F = 34.5, df = 2,226, p < .0001$

^c $F = 38.6, df = 2,250, p < .0001$

^d $F = 19.1, df = 2,247, p < .0001$

^e $F = 21.4, df = 2,227, p < .0001$

^f $t = 2.86, df = 231, p < .01$

recyclers and non-recyclers alike [25, 26]. One might be justified in assuming that this is a dominant value.

The patterns of self-reliance, a lifestyle much discussed in the early days of the environmental movement and often tied to a "back-to-the-land" perspective, was significantly less preferred than the ecological pattern. Together, these data suggest that technological advancement and self-sufficiency, so much a part of the American lore, may not be as central an issue as is the concern for human-environment compatibility. This is not to suggest that technology has no role to play in the respondent's lives. As noted in Table 2, the Ecological Lifestyle is not highly correlated with the Pro-Technology scale positively or negatively, suggesting that the respondents do not view an ecologically compatible existence as necessarily devoid of all technology, only that technology is not at the core of such an existence.

Taken together, these findings provide an interesting contrast to the dominant view of resource conservation. In an analysis of energy conservation behavior, Stern and Gardner grouped conservation strategies into two categories: behavior that reduces the use of resources (referred to as "curtailment") and behavior that involves the adoption of resource efficient technologies (considered to be "energy efficiency" strategies) [27]. Stern and Gardner state that "when people decrease their use of existing energy systems, they see themselves as making do with less – curtailing the benefits derived from energy use; when they adopt more efficient

technologies, they are getting more benefits from the same energy expenditure or the same benefits for less energy." And it has been suggested that people will never willingly adopt curtailment strategies.

The distinction between curtailment and efficient use might be useful; however, as Winett and Geller have pointed out, a word such as curtailment has important connotations: "sacrifice," "freezing in the dark," etc. [28]. This is an unfortunate way to view conservation behavior. It reinforces the worn adage that reducing one's resource consumption can only cause a reduction in one's quality of life and sense of well-being.

The data reported here address this issue directly and offer a distinctly different perspective. Rather than equating conservation with sacrifice and hence demanding compensation for such extraordinary behavior, the respondents associate forms of intrinsic satisfaction with a reduced consumption lifestyle. Thus, at the very least, the dichotomy of curtailment versus efficient use might prove to be a non-productive approach to the promotion of conservation behavior.

As the depth of the environmental dilemmas being faced is realized, there are increasingly vigorous efforts to promote "environmentally appropriate" behavior. This promotion has tended to focus upon the necessity of such activities and on the individual's ecological duty and responsibility. It is intriguing to consider an alternative approach. Perhaps one could build upon the possibility that the low consumption lifestyle we must somehow create for ourselves is not without its bright points. As Johnson suggests, far from being a great sacrifice, living lightly on the earth may increase our quality of life and sense of well being [8, 9].

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