Environmentally Responsible Behavior: Teaching and Promoting It Effectively

Stuart Oskamp*
Claremont Graduate University

The most serious long-term threat facing the world is the danger that human actions are producing irreversible harmful changes to the environmental conditions that support life on Earth. If this problem is not overcome, there may be no viable world for our descendants to inhabit. Enormous changes to human lifestyles and cultural practices may be required to reach the goal of a sustainable level of impact on the environment—i.e., one that can be maintained indefinitely. Social science courses can aid in reaching this goal by teaching about environmentally responsible behavior. Such teaching should provide sound information and strengthen motivation and behavioral skills that are necessary to make the needed changes in behavior and lifestyles. This paper discusses major obstacles to the goal of sustainability, describes a variety of motivational approaches toward accomplishing it, and proposes that we should view the achievement of sustainable living patterns as a superordinate goal—a war against the common enemy of an uninhabitable world.

This paper briefly states the underlying premise of the extreme need for environmental responsibility, and the dramatic changes in human lifestyles and behaviors that are required to achieve a sustainable level of human impact on the environment. Then it sketches a theoretical perspective for addressing these needed changes and describes some of the major obstacles to accomplishing them. The paper’s major focus is on suggesting several approaches that can be used by social scientists in high school, college, and adult education to teach about and promote environmentally responsible behavior. Finally, I propose that sustainable living must become a superordinate goal—one shared by all nations, groups, and

*Correspondence concerning this article should be addressed to Stuart Oskamp, Department of Psychology, Claremont Graduate University, Claremont, CA 91711 [e-mail: stuart.oskamp@cgu.edu].

An earlier version of this article was presented at the Western Psychological Association annual meeting in May 2001 as part of a symposium on Teaching Difficult Topics in Psychology.
individuals—and that we need to invoke “the moral equivalent of war” (James, 1911) in our campaign to preserve the environment and save the Earth from environmental disaster.

The Threat to the Earth

The most serious long-term threat facing the world is the danger that human actions are producing irreversible harmful changes in the environmental conditions that support life on Earth. If this problem is not overcome, there may be no viable world for our descendants to inhabit. Because this threat is caused by human population growth, overconsumption, and lack of natural resource conservation, social scientists have a vital role to play in helping our world escape ecological disaster and approach a sustainable level of impact on the environment—i.e., one that can be maintained indefinitely (cf. Oskamp, 2000b).

Many sources have written about these threats to the Earth and about the behavioral changes that will be necessary to overcome them. Two recent sources that are aimed specifically at psychologists and psychological factors in the picture are a section of five papers on sustainability in the American Psychologist of May 2000 (cf. Oskamp, 2000a) and several articles on “the greening of psychology” in the APA Monitor on Psychology of April 2001 (e.g., Clay, 2001a, 2001b).

A widely available recent popular source is an April 9, 2001, Time magazine cover story that described the threat of global warming in detail (e.g., Kluger, 2001; Lemonick, 2001). It is interesting to realize that the first Time cover story on the topic of environmental threats was as long ago as 1989, when the magazine named “The Endangered Earth” as the planet of the year. This brief chronology begs the question: How much have we learned and changed in the 12 years since then?

The Needed Changes

Enormous changes to human lifestyles and behavioral patterns will be required to reach the goal of environmental sustainability for the Earth. Space here allows only two examples, but see Oskamp (2000a) for others. First is the threat of global warming, which would drastically change regional climates and disrupt agricultural production worldwide (cf. IPCC, 2001). It is caused by the increase in “greenhouse gases” in the atmosphere—gases that trap the Earth’s heat and keep it from being radiated back into space. The most important of these greenhouse gases is CO₂, most of which is produced by the burning of fossil fuels and biomass such as wood. The Environmental Protection Agency has estimated that in order to stop the dangerous increase of CO₂ in the atmosphere, the world would have to decrease the use of fossil fuels by 75% and maintain that decreased level for many future decades (Lashof & Tirpak, 1989). Because the U.S. is the world’s biggest energy hog, using 25% of the world’s commercial energy for only 4% of
the world’s population, the burden of the necessary changes in fossil fuel use will fall most heavily on the United States.

The Kyoto Protocol, signed by most of the world’s nations in 1997, was an initial and weak effort to reduce the amount of CO₂ being injected into the atmosphere. Several subsequent international conferences were held to work out detailed rules for measurement, implementation, and enforcement of the required cuts in greenhouse gas emissions, but in 2001 the Bush administration unilaterally declared that the U.S. would not abide by the Kyoto Protocol. Nevertheless, in spite of the U.S. defection, an agreement on how the Protocol would be implemented was signed by all 178 nations at a final conference in Bonn, Germany, in July 2001 (Kerr, 2001).

A second major danger to the Earth is the loss of much of its ozone layer, high in the atmosphere, which protects humans, plants, and animals from the damaging effects of ultraviolet radiation. In 1974 the first scientific reports began to link this ozone loss with the release of chlorofluorocarbons (CFCs)—gases like freon that we use in our air conditioners and refrigerators and that persist in the upper atmosphere for an average of 50–100 years, each atom of them destroying 100,000 ozone molecules (French, 1997).

The result of that discovery represents one of the few encouraging success stories in humans’ large-scale efforts to preserve the environment. First, there were successful efforts to eliminate the use of CFCs as aerosols in spray cans of paint, hair spray, etc. Then in 1987, the world’s nations signed the Montreal Protocol, which has since been strengthened by even more stringent restrictions on the production of CFCs. Already the release of CFCs has diminished markedly, and if all nations adhere to the treaty, the long-term result will be a gradual recovery of the ozone layer over a period of about 50 years (French, 1997). This account shows that progress in changing major patterns of human behavior is possible.

A Theoretical Perspective on Changing Behaviors

In such large-scale efforts to change people’s behavioral patterns, a very useful theory is Fisher and Fisher’s (1992) IMB 3-variable theory of causal factors.

1. I stands for relevant Information (also often called knowledge or education), which is usually necessary in order for people to know about a problem and about the need for action to solve it. However, information is rarely if ever sufficient to accomplish behavioral change, which is why so many information and education campaigns fail to reach their goals (cf. Gardner & Stern, 1996).

In the arena of environmental threats, information is becoming much more widespread and accessible, as illustrated by the two Time magazine covers and the recent American Psychologist and Monitor sections on sustainability.
“Global warming” has become a popular phrase, whereas ten years ago it was hardly ever heard in conversation or the media.

Public information about environmental issues is greatly increased when some dramatic new development gets extended attention in the media, such as *Time*’s 2001 “global warming” cover story. A current example is the heavy media attention that has been given to the occurrence of rolling electricity blackouts in California starting in the summer of 2000. In the light of this widespread recent publicity and increased information, it is especially strange and unfortunate that the Bush administration, instead of moving to attack the problem of global warming, has stated that it will abandon the Kyoto Protocol, the first international effort to combat global warming by reducing the amount of CO₂ emissions.

2. A second crucial factor is **M**, Motivation to reach the goal that requires the changed behavior. In the arena of environmental behavior, some current events such as floods, droughts, and the recent California energy crisis are not only increasing public information about environmental threats, but also adding to public motivation to combat them. An illustrative example is the major increase in individuals’ and businesses’ energy conservation that occurred in California in 2001 when stage-3 power alerts and rolling electricity blackouts were imminent.

3. The third crucial factor in achieving behavior change is **B**, Behavioral skills that may be necessary to put the information and motivation into effect. In the arena of environmental behavior, the behavioral skills for organizations and businesses may be actions like implementing new technology or buying new energy-efficient equipment such as boilers. For individuals, the behavioral skills may be buying a fuel-efficient car, adding an insulation jacket to one’s water heater, using utilities and appliances only during off-peak hours, setting the thermostat to use less heat or cooling, or planting shade trees next to one’s house. In implementing these behavioral skills, a vital factor is having a sense of efficacy about being able to do these things (Bandura, 1997).

**Obstacles to Changing Environmental Behavior**

There are two major sources of opposition to the great changes that are needed for a sustainable world. The first is the many national governments and multinational corporations that profit hugely from consumption of resources like timber, oil, and minerals, and from pollution-causing processes like production of chemicals, plastics, and pesticides. Public resistance to their environmental depredations is vitally needed. In this process, the mass media of communication are crucial allies that are necessary to maintain public attention on environmental problems and help increase public motivation to combat them. At the same time, however, people need to resist the commercial media’s constant appeals for purchase and
consumption of material goods, which add to the environmental problems of waste and overconsumption of resources. (Various suggestions about ways to resist such persuasive attempts have been offered—cf. Cialdini, 2001; Ellickson & Bell, 1980; McGuire, 1964.)

The second source of opposition to changes toward sustainability comes from individual people. There are many reasons for such opposition, which I will just briefly list:

1. Inertia, based on habit—doing things just as in the past.
2. Selfishness—wanting the most, the best, the greatest comfort or convenience for oneself. People are averse to perceived privation or sacrifice, and they usually see their own sacrifice as greater than their neighbors’. This is the main motivation behind Garrett Hardin’s (1968) concept of the “tragedy of the commons”—that is, people’s tendency to seize short-term personal gains and ignore longer-term communal losses, such as environmental pollution or resource degradation.
3. Helplessness—feeling ignorant about what to do or unable to do anything that will help to improve the situation. The overwhelmingly large regional or global nature of many environmental problems fosters this feeling of helplessness.
4. Fear—people naturally feel fearful in facing such problems, and many calls to action are based on strong fear messages, such as “air pollution is killing us.” One unfortunate effect of fear appeals, research has shown, is that people often respond to them by denying the threat. This happens most often when no feasible remedial actions are available or emphasized (Leventhal, Meyer, & Nerenz, 1980), so it is important to tell people about feasible actions that they can take to avoid or lessen the dangers that are being described.
5. Belief in technological fixes as panaceas. People often respond to risk messages by optimistically hoping that new technological fixes will be developed to escape the dangers—e.g., using sunscreen to prevent skin damage from UV exposure and avoid skin cancer.

Teaching about Environmentally Responsible Behavior

Teaching about environmentally responsible behavior is important at all educational levels, but this paper focuses on approaches appropriate for high school, college, or adult education. Such teaching doesn’t have to be in a full course; it can be integrated into many different courses and topic areas. This section suggests techniques that can be useful in discussing environmental problems and promoting sustainable behavior. It is a conceptual presentation rather than a summary of research evidence. Readers should keep in mind that, just as some teaching techniques are more effective with some people than with others, so too it is likely
that some teaching techniques will be more appropriate for use with some environmental problems than with others (e.g., global warming vs. toxic pollution of local wells). Valuable curriculum materials and discussions of instructional methods appropriate for various levels of environmental education can be obtained from the North American Association for Environmental Education (www.naeee.org).

Teaching about environmentally responsible behavior has to address the three essential factors in behavior change described in the IMB theory—information, motivation, and behavioral skills. It also has to meet and overcome all the obstacles to behavioral change just discussed. To those ends, I will suggest eight approaches that can be effective in many teaching situations. Instructors can use them alone or combine them with other fruitful procedures. The first two approaches are focused on information and behavioral skills, while the last six are more focused on increasing motivation for change and overcoming the obstacles to change discussed above.

1. **Use popular literature sources in addition to typical textbook material.** The 2001 *Time* magazine cover story is an excellent example. Far more than most academic writing, it presents key background information in a vivid, easily accessible, popularized manner, with eye-catching graphics and dramatic examples. For instance, it displays maps of coastal areas that will be inundated if global warming melts polar icecaps and raises the ocean levels even as little as one meter. They include huge areas of Louisiana, Florida, and North Carolina, as well as regions of Bangladesh and Egypt that currently are populated by scores of millions of people.

   Popular literature sources not only provide important background information, but can also address the crucial behavioral skills component. For instance, the recent *Time* article has a page entitled “What You Can Do,” listing 20 simple and practical steps that households can take to fight global warming. These practical suggestions give a sense of empowerment to meet the threat, and thus they remove the motivational obstacle of helplessness and combat the tendency to deny dangers that is associated with fear appeals. Similar lists of realistic and helpful actions are contained in other sources, such as the Union of Concerned Scientists’ publication the *Consumer’s Guide to Effective Environmental Choices* (Brower & Leon, 2000) and the booklet entitled *50 Simple Things You Can Do to Save the Earth* (Earthworks Group, 1989).

2. **Provide online resources for students.** Our current computer-savvy students can take advantage of many online resources that provide a wealth of information and action advice on all kinds of environmental issues. Examples include the web sites of the Union of Concerned Scientists (www.ucsusa.org), Natural Resources Defense Council (www.nrdc.org), Greenpeace (www.greenspeace.org), Friends of the Earth (www.foe.org), and Environmental Defense (www.environmentaldefense.org). Many of these organizations also have activist subgroups that students can join and thereby receive urgent action bulletins and participate in coordinated
lobbying and action campaigns. In doing so, participants’ motivation and behavioral skills may also be enhanced.

3. **Present vivid scenarios of environmental problems for class discussion of remedial actions.** Here is a possible example:

The Environmental Protection Agency has stated that in order to prevent the occurrence of further global warming, the U.S. will have to reduce its fossil fuel use by 75% in the next few years and maintain it at that reduced level for at least 50 years. What specific steps should our government take to accomplish that goal? If those steps aren’t sufficient, what should the government do?

Presentation of such a scenario should be followed by extensive class discussion, covering a wide variety of possible governmental actions and also considering actions by organizations and individuals that students suggest. The discussion might end with analysis of what can be done before or until the government takes action. Such discussions should be aimed at increasing participants’ motivation for changes toward sustainable behavior patterns.

4. **Present descriptions of specific environmental problems and have the class discuss their implications for society** (a different emphasis than point 3). Here is an example:

Research has shown that, worldwide, the average sperm count of men in many countries has fallen by 50% in the last 50 years (see Colborn, Dumanoski, & Myers, 1996). This drastic change is thought to be a result of the introduction and widespread use of chlorinated chemicals during those years (e.g., in plastics, fertilizers, pesticides, etc.). Now, assume that this trend continues and that in 50 more years, half of all men in the world are completely infertile. What will be the implications and results of this change? How will it affect personal lives and relationships? How will it affect government policies?

The far-reaching, melodramatic nature of this kind of problem is expected to get students thinking in unaccustomed ways about previously unrecognized possibilities. Although this sort of discussion is not directed specifically at governmental actions, it might again conclude with consideration of what steps the government ought to take—first to avoid the problem, and second to help remediate it if it occurs. The major goal of such a discussion will probably be to increase participants’ motivation for change, but in conducting it, the obstacles of helplessness and fear will need to be avoided, or addressed and overcome.

5. **Discuss the importance of clear behavioral norms to guide individual and group behavior.** The above discussion examples will probably lead students to realize how important governmental laws and regulations are in shaping overall patterns of response to environmental threats. These laws and regulations essentially set norms of proper behavior for organizations and individuals (examples include smog checks and fuel-efficiency standards for autos). In addition, another source of norms is widespread cultural patterns that can be either helpful (e.g., curbside recycling) or disruptive (e.g., wasting water, burning leaves, fertilizing lawns) in efforts to save energy or prevent toxic pollution. Prominent behavioral
norms typically motivate people to follow them, and they also may provide behavioral skills about how to live more sustainably. In doing so, they help to combat the obstacles of inertia and selfishness.

6. **Harness and redirect students’ beliefs in technological progress.** To do that, a teacher could emphasize the extreme amount of increased efficiency that will be necessary to overcome the fast-growing effects of environmental pollution, global warming, destruction of the ozone layer, etc. For instance, a doubling of efficiency in using energy and natural resources, if carefully directed, could potentially decrease humanity’s impact on the Earth’s environment by one-half. However, that won’t be nearly enough to save us from an environmental holocaust. Olson (1995) has suggested that it might require a ten-fold or more increase in the efficiency of our technology to reverse the current pattern of destroying the Earth’s life-giving environment. Such a massive increase will certainly be difficult to achieve, but there is no doubt that setting it forth as a worldwide goal would be a major motivational impetus to innovative advances. This approach also combats the obstacles of inertia, fearfulness related to lack of available remedial actions, and unrealistic beliefs in technology as a panacea.

7. **Encourage group activism to combat environmental problems.** Organized group activism is often necessary to help reduce environmental damage, precisely because the major polluters are often governments or powerful corporations that can ignore individual complaints. Cooperative activity toward common goals builds group cohesiveness and helps to overcome the obstacles of inertia, selfishness, helplessness, and fear. Such organized activity can sometimes be remarkably effective in changing public policies, and it is also important in building a motivational sense of collective efficacy that will empower people toward greater pro-environmental efforts. Principles for promoting social change and practical examples of effective methods are offered in a booklet by Wollman et al. (1998). In these efforts, as mentioned earlier, the mass media must be recruited and used effectively as crucial allies in spreading information and increasing public motivation to preserve the environment.

8. **Finally, and most important, present environmental problems as a war against extinction.** Students will probably already be aware that many species of animals and plants are becoming extinct as a result of environmental changes and pressures on their ecosystems. But they may not have thought about the possibility of a related trend—the potential extinction or near extinction of human beings. That possibility is a holocaust beyond all previous experience and almost beyond comprehension. As such, it warrants the all-out effort of a war.

A psychological way of presenting this idea is to view environmental preservation and achievement of sustainable living patterns as a *superordinate goal* (Sherif, Harvey, White, Hood, & Sherif, 1961) that all peoples can unite in striving for—a
war against the common enemy of an uninhabitable world. The metaphor of war has been used in many great campaigns in the U.S., from the war on poverty of the 1960s through the war on terrorism of the 2000s. The metaphor is used because it has intense motivational force in overcoming the obstacles to change. These campaigns have aimed to create the public fervor of what William James (1911) called “the moral equivalent of war.” Such a fervor would be a strong motivation toward the goal of sustainable lifestyles that can preserve the environment and forestall the environmental destruction that threatens the Earth. Far beyond the fervor generated by a “war on poverty” or a “war on terrorism,” a war to preserve our life-giving environment could and should inspire even more heroic efforts.

**Future Steps**

Once aroused, the motivation of individuals, organizations, and nations for sustainable living patterns needs to be directed through relevant behavioral skills toward the specific actions that will be most effective in preserving the Earth’s environment. In specifying those actions as goals, the expertise of many disciplines will be needed—natural sciences, social sciences, and humanities. Here the interdisciplinary efforts of national and international bodies will be important in establishing realistic and effective goals, such as those illustrated by the Montreal Protocol on CFCs and the ozone layer and by the Kyoto Protocol on CO₂ and global warming (cf. IPCC, 2001; Stern, Young, & Druckman, 1992).

As more and more social scientists begin to teach about environmental responsibility, it would be desirable to develop a clearinghouse to which they could report on their efforts and describe methods that they have found useful. A possible approach might be to establish such a clearinghouse under the auspices of SPSSI, similar to the SPSSI curriculum collection on prejudice and intergroup relations (cf. Educational Resources, 2000).

**References**


STUART OSKAMP is professor emeritus of psychology at Claremont Graduate University, Claremont, Calif. He has served as president of SPSSI, president of the American Psychological Association Division of Population and Environmental Psychology, and as editor of the *Journal of Social Issues* and the *Applied Social Psychology Annual*. He is the author of *Attitudes and Opinions* and *Applied Social Psychology* (both second editions), and he founded and co-edited the “Claremont Symposium on Applied Social Psychology” series of volumes. Professor Oskamp’s main research areas are applied social psychology, attitudes and attitude change, social issues and public policy, and environmentally responsible and sustainable behavior, such as recycling and energy conservation.