

CONCEPT OF BEHAVIOURAL SOCIAL PSYCHOLOGICAL APPROACH OF COMPARATIVE MANAGEMENT

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ABSTRACT

Four approaches to encouraging energy conservation are reviewed: structural, interpersonal influence, social learning and diffusion, and cognitive. Strengths and weaknesses of each approach are noted, and the efficacies of multi-approach change efforts are discussed. Particular emphasis is placed on the distinction between device-oriented and lifestyle-change behaviors.

KEY WORDS: *Comparative Management, Behavioral Social Psychological Approach, Structural Approaches*

INTRODUCTION

Comparative Management

What is the concept about?

Comparative Management focuses on the similarities and differences among business and management systems from different contexts. Comparative management means identifying, measuring and interpreting the common things and differences between behavior of managers, their techniques and practices adopted in different countries. It focuses on business and management from various aspects. It is the study of principles of management, and their application in various situations. International companies use different policies and strategies for comparison to remain in the competition. It is defined as the study of management in different nature and various environments which show different observations in different countries. Individual and collective energy conservation can be achieved in two basic ways. First, new devices can be adopted that either use fossil fuels more efficiently (e.g., automatic pilot) or substitute renewable for fossil sources (e.g., active and passive solar heating systems). Life goes on as before, for few if any lifestyle changes are necessary with this device-orientation. The adoption of a device is a one-shot act rather than a repeated behavior. The conservation is achieved continuously and more efficiently by the new equipment. Hence, the chief obstacle to this approach is the resistance to the adoption, often initial capital cost. A second means of conservation involves using less energy by changing the household's lifestyle. From a behavioral perspective, this approach contrasts sharply with device adoption. [Some energy conservation methods entail varying degrees of both ideal types. Thus, wood stoves to replace central heating are conservation devices that require lifestyle adaptations to be effective.] It is frequently difficult because lifestyle changes require continuing, rather than one-shot, behaviors. Some of these changes may be too trivial, perhaps, to label "lifestyle." Learning routinely to turn off lights in unused rooms and place lids on cooking pots afford such minor examples. But significant conservation usually entails a true lifestyle alteration, sometimes including some degree of sacrifice. Illustrations include switching from the private car to public transportation for regular commuting, eliminating long trips in favor of nearby vacation locations, and permanently lowering in winter and raising in summer the preferred house temperatures.

This distinction is critical to any broad psychological analysis of conservation behavior (Stern & Gardner 1981). Yet there is a general failure to keep this distinction in mind, a failure that often confuses and narrows the energy conservation issue. To cite a conspicuous example, President Reagan apparently ignores device-conservation and fuel substitution in thinking of conservation only in terms of sacrificial lifestyle alteration. "We all know what energy conservation is," he is quoted as stating. "It's freezing in the winter and boiling in the summer." Advocates react by

suggesting that it would be tactically expedient to replace entirely the term "energy conservation" with "energy efficiency" precisely to avoid the negative connotation of sacrifice. But this shift focuses largely on the device-orientation and obscures important lifestyle changes that do not necessarily entail sacrifice. In response to such confusion, our paper explores this device versus lifestyle distinction. We review major behavioral change efforts in energy conservation from a social psychological perspective. And we highlight the implications of the device-lifestyle distinction for optimal means of inducing changes in a wide variety of energy conservation behaviors. Our discussion looks at four major approaches to shaping behavior ranging from the macro to micro in scope: (1) structural, (2) inter-personal influence, (3) social learning and diffusion, and (4) cognitive.

Concept of Social Psychological Approach

Social psychology focuses on three main areas:

1. **Social thinking,**
2. **Social influence, and**
3. **Social behavior.**

Issues of Social Psychological Approach

- Social Cognition.
- Attitudes.
- Violence and Aggression.
- Prejudice and Discrimination.
- Social Identity.
- Group Behavior.
- Social Influence.

Advantages of Social Psychological Approach:

1. Social psychology is a study of how the people's behavior is influenced by social and physical environments and how the individual behavior is influenced and affected by other people.
2. Social psychologist knows how to interact with other people and using a better knowledge to help them.
3. Social psychologists study people's personality, including criminal activity and substance abuse. Moreover, social psychology is a wider study of people's social life also includes nonverbal behavior.
4. Social psychology does not only deal with social influences, but also looks at social life and social behavior and understanding.
5. Again, social psychology teaches one how to become a better researcher or critical thinker about the society.
6. Another advantage of social psychology is that it gives professionals more understanding of concepts such as attitudes, social cognition, interpersonal attraction, group dynamics, self-concept, social influence and persuasion.
7. Social psychology helps people to understanding differences in behavior within different culture.

Disadvantages of Social Psychological Approaches:

1. **Only professionals, people with higher education, and people with many years of practice in the field is allowed to it publicly**
2. **Invading into people's personal lives**
3. **Lack of control**
4. **Low ethics**

STRUCTURAL APPROACHES

A structural or macro approach to energy conservation operates at the societal level. Laws and policies are the direct targets of change; individual behavior is influenced only indirectly. This approach assumes that human behavior is a function of the social context and situation, as well as personal factors. Thus, if the context within which behavior occurs is modified, so will the behavior. If the state legislature decides to provide a tax credit to those persons installing a solar water heater, it is likely the number of solar water heaters will increase, even though at first the number of pro-solar persons may not.

Numerous specific structural approaches are available. Incentives provide a reward to those persons engaging in some pro-conservation behavior (e.g., solar tax credits, manufacturer rebates for purchasing energy-efficient appliances, and freeway lanes restricted to cars carrying three or more passengers). Disincentives punish non-conservation behavior (e.g., the energy utilities' progressive rate structure and taxes levied on gasoline purchases or "gas guzzlers"). Subsidies provide money to a conservation enterprise deemed advantageous to the public (e.g., state funds used to finance mass transit or the development of solar power). Legislation establishes standards of conduct that result in energy conservation (e.g., a speed limit of 55 miles per hour, mandatory water rationing and building codes requiring energy-efficient devices in new homes).

The device versus lifestyle distinction has important implications for these efforts. While it is true that structural approaches can be applied to both types of behavior, the specific approach will vary depending on which type has been targeted for change. A one-time rebate is probably effective in influencing the decision to purchase a particular energy-saving device, but would not be able to maintain a lifestyle change. Incentives (or disincentives) for lifestyle changes need to be continuous in their application. For example, the tier rate structure or priority freeway lanes would not be effective if they occurred every once in awhile. Similarly, subsidies aimed at device implementation can be effective if applied once (e.g., a one-time only grant for solar development). However, subsidies intended to alter lifestyles will need to make long term commitments (e.g., mass transit).

Those structural approaches that have been evaluated appear to be working. In an attempt to encourage conservation in master-metered building, a Department of Energy program implemented a new type of billing system in which tenants paid a pro-rata share of the energy costs for the entire building. Such a system was found to produce significant conservation (McClelland 1980). In 1976 a voluntary water rationing program in Marin County, California produced a 23% decrease in water consumption, compared to the previous year. A stricter mandatory program resulted in even greater savings, a 68% decrease. Even more interesting, substantially reduced water consumption continued after all controls had been lifted (PG&E 1979).

Mass transit programs have been evaluated most often. One demonstration project designated priority lanes for buses on a commuter highway and increased the frequency of peak-period bus trips. These changes resulted in a five-fold increase in bus-ride ship (Rose & Hinds 1976). A similar project in Santa Monica, California increased bus ridership by 225% (Billheimer, Bullemer & Fratessa 1977). A particularly innovative approach is illustrated by one transit district's offer of free bus rides. After 11 months of free rides, cessation of the policy resulted in a loss of only 20% of the new riders (McClelland & Canter 1981).

Other innovative approaches are available. Numerous researchers have suggested that a lottery system be set up to encourage conservation. In this scheme, reduced consumption would qualify a household or business for a lottery, with a chance of winning a substantial prize.

California's state legislature is considering a plan, whereby vending machines would not only sell cans of soft drinks but would also "eat" aluminum cans. The vending machine would operate in a slot-machine fashion so that each recycled container has a chance to win a small monetary "jackpot," say 50 cents. Such an approach would take advantage of the well-known power of variable Ratio reinforcement schedules.

California's Pacific Gas and Electric has proposed an interesting incentive program that would operate at the community level. PG&E would provide \$10,000-\$100,000 in energy conservation goods and services to a community for each one percent of community load reduction. PG&E and community representatives would initiate jointly community plans and neighborhood education programs.

Structural approaches to energy conservation have numerous advantages. They impact large numbers of people, legitimize conservation-activities via their association with governmental and quasi-governmental agencies, and are often more cost-effective than more personalized approaches. Their greatest advantage, however, may derive from the fact they can induce behavior change even when supporting attitudes are absent. Moreover, behavior change often leads to subsequent attitude change. Thus, structural approaches are not dependent on an existing base of pro-conservation attitudes for their success, but favorable attitudes may arise as persons seek to explain and justify their pro-conservation behavior.

INTERPERSONAL INFLUENCE

Social incentives, such as acceptance, approval, recognition, and rejection, exert powerful influences on behavior. These incentives, plus more subtle principles uncovered through the social psychological study of interpersonal dynamics, might be enlisted in the service of energy conservation. These strategies are most effectively applied in the context of small groups. Private organizations, community service groups, and residential neighbors could form small conservation groups. Perhaps the crime prevention groups sponsored by many police departments could serve as models. "Conservation consultants" might lead informal seminars on ways to reduce residential or commercial energy use. These group sessions would combine an informational function with the powerful dynamics of small group interaction. Two social-psychological principles are especially pertinent here--free choice/perceived control and public commitment to take action.

The perception that a course of action was freely chosen increases commitment to that course of action. Hence, participatory groups are optimal for motivating behavior. Indeed, democratic decision-making has been institutionalized in organizational movements such as "participatory management" and "quality circles." A classic experiment on group dynamics was conducted by Lewin (1947) during the food rationing period of World War II. He attempted to persuade housewives to buy and serve less preferred cuts of meat. The study compared the effect of an informational lecture with the effect of a more democratic discussion-oriented group. He found that the discussion-based group was far more effective in changing food consumption patterns. Similarly, members of conservation groups should be encouraged to express their opinions, discuss conservation options, and actively choose the combination of conservation measures they feel are most practical for their circumstances.

Feelings of control are critical to device adoption and use. Becker, Seligman, and Darley (1979) have demonstrated that the perception of control is an important factor in determining whether or not an energy-conserving device is used. They investigated consumer resistance to a thermostat which automatically lowered household temperature at night to reduce energy consumption. They were able to make the device more attractive to consumers by adding a mechanism that allowed the user to override the system. This override mechanism served the psychological function of restoring the user's perception of control.

The power of public commitment is widely recognized. Groups such as Alcoholics Anonymous and Weight Watchers encourage members to publicly commit themselves to a goal during group meetings. The logic underlying such public commitment is that behavior is partly determined by the experience or anticipation of approval or disapproval by others. When we commit ourselves in the presence of valued others to behave in a certain way, we are likely to anticipate approval or disapproval from those valued others. Several recent studies (e.g., Seaver & Patterson 1976; Pallak & Cummings 1976) have demonstrated the power of public commitment for energy conservation behavior. A final point: Lifestyle modifications require sustained commitment. It is

difficult to maintain a behavior involving sacrifice (e.g., carpooling) in the absence of ongoing reinforcement. Group conservation efforts provide ongoing reinforcement in the form of social incentives. Approval from other group members and the development of pro-conservation group norms should serve to sustain and expand individual commitment to conservation practices.

Other interpersonal approaches are available. The "foot-in-the-door" technique suggests it is easier to obtain large, substantial commitments from people who have already made a small commitment. This technique has been successful in increasing recycling behavior (Arbutnot et al. 1976). The use of a recycling center increased as the number of requests for small commitments increased. A similar strategy could be used to increase device-oriented energy conservation. Initially, residential consumers might be asked to install a water flow restrictor provided to them free of charge. Next, homeowners might be requested to cover their hot water storage tank with an insulation blanket. Compliance with relatively small requests should make the energy consumer more receptive to major conservation measures.

SOCIAL LEARNING AND DIFFUSION

Social learning theory is a widely used tool of psychologists. It has been particularly helpful in changing such self-destructive behaviors as overeating, smoking, and alcoholism (Henderson, Hall & Lipton 1979). Simply stated, it works on the Bentham premise that desirable behaviors should be rewarded and undesirable behaviors should be punished. Early theory draws on the work of Skinner; later theory has been influenced by Bandura. The mechanisms for learning have expanded to include a variety of sources such as the imitation of others. Vicarious learning also occurs; seeing the behavior of others rewarded or punished can bring about behavioral change in the observer.

Such a strategy has profound implications for changing lifestyle behaviors. Learning theorists believe that behaviors exist in the individual's repertoire because they have been rewarded in the past; they are maintained by social reinforcement or intrinsic rewards. Thus, a change strategy would focus on establishing specific new behaviors. Role models are often used to demonstrate how the new behaviors can be used effectively. Ongoing participation by the role model reinforces the fledgling behaviors.

A social learning approach to energy conservation might look like this: An individual is provided with personal energy conservation goals that can be met by particular behaviors (e.g., setting the thermostat at a lower or higher level, turning out the lights when leaving a room). Behaviors are modeled by a person known and respected by the individual, perhaps a neighbor. The model provides encouragement, support, and feedback. Positive gains by the conserver are given public recognition and approval. Variations on this strategy might use the help of public figures to act as models. The support group might be formalized to include a large section of the neighborhood; indeed, there might be neighborhood goals and recognitions.

A social learning approach assumes a new form when applied to device-oriented behavior. Based on anthropological and sociological models of social diffusion, Darley (1978) hypothesizes that innovative energy behavior disseminates through hierarchical networks. That is, someone adopts an energy-saving device because they hear about it from a friend or someone at work. Although Darley applies the model to both device and lifestyle innovations, the track record for social diffusion favors its application to the adoption of devices rather than lifestyle changes. Anthropologists have traced repeatedly the spread of many inventive tools and linguistic forms; but there is less frequent documentation of the spread of particular habits and attitudes (Kroeber 1948).

A social diffusion approach to energy conservation could take the following form: The "sociometric star" of a neighborhood or workplace is identified. This well-connected person (or family) is given a number of free energy saving devices on one condition--the person must agree to host a certain number of "energy parties." Friends would be invited to the house to see, first hand, the positive effects of conservation devices. For example, guests might hold their hand under the faucet to feel the hot water produced by the solar water heating system. (This would

be especially impressive around midnight') The host could proudly point to his or her ceiling insulation, low-flow showerhead, and so forth. Personal anecdotes and evidence of lower utility bills would, of course, accompany each demonstration.

According to diffusion theory, energy-saving innovations will gain acceptance if an effort is made to diffuse these innovations via social networks. Why? Because vicarious learning and reinforcement, as well as modeling and identification, processes are all at work when a higher-status acquaintance demonstrates his or her "wares."

Attempts to evaluate the diffusion model may encounter certain difficulties (Darley and Beniger 1981). Identifying the appropriate contact system is problematic because the contact system involved may depend on the nature of the innovation being diffused. For example, expensive solar applications may diffuse through one system, while inexpensive weatherstripping applications may diffuse through another. Low-density networks will require slightly different models than high-density networks since information transfer occurs more slowly. Despite these methodological difficulties, research on diffusion approaches may lead to an exciting, original method of influencing device-oriented conservation behavior.

COGNITIVE APPROACHES

A cognitive approach focuses on how human beings process information. Research indicates that people give disproportionate weight to information presented in certain ways. Attempts to promote energy conservation will be more successful if framed in a cognitively sophisticated manner.

An individual engaged in the process of decision-making will weigh vivid, personal information far more heavily than abstract, impersonal information. This knowledge can be used to maximize the probability that a proconservation message will be effective. Suppose we want to induce a homeowner to insulate and weatherstrip his or her home. A straightforward method would be to provide the homeowner with a brochure that includes a description of types of insulation and weatherstripping, a description of insulation procedures, a summary of research on the benefits of these measures, and figures on the energy savings likely to result from these measures. While this approach provides all the essential information, it is neither vivid nor personal. An improved brochure would present the same information in the form of a vivid case study. The case study with photographs and testimonials, would tell the story of a household similar to his or her own that was able to save an impressive amount of energy by insulating and weatherstripping.

An even better approach would communicate the same information face-to-face. A residential energy audit represents a prime opportunity to maximize "vividness" and "personalness" in the presentation of devices. Yates and Aronson recommend that residential auditors use a "smoke stick" (a smoke-producing device that "seeks out" air leaks) to dramatize vividly the heat loss that can be prevented by weatherstripping. They argue that rather than explaining heat loss, "it is far more compelling to show the point vividly by allowing the customer to watch the smoke pour out under the doors and over the window sills."

Another strategy for lifestyle change involves providing timely feedback on particular behaviors. Stern and Gardner (1981) note this is generally a highly effective strategy, much better than the use of impersonal information or prompts. They report that frequent feedback of household energy use usually produces short-term savings of 10 to 90 percent. Less clear is the most effective form this feedback would take. Possibilities include more frequent meter readings, installing meters on individual appliances, and warning lights or buzzers that tell the consumer when their daily allotment has been used.

Two findings from the work of Kahneman and Tversky (1979) have implications for energy conservation messages. If we wish to persuade people to make a decision involving risk (e.g., investing in an alternative energy source), we can be more effective by emphasizing how to minimize losses rather than how to maximize gains. Such an approach could be easily incorporated into informational campaigns. Instead of merely listing the estimated savings resulting from a particular lifestyle change or device installation, the energy consumer could be

shown how much money is lost each month or year because of failure to adopt conservation measures. This strategy would be particularly effective for large-scale, device-oriented measures because such measures are often perceived as risky. Risk, in this context, refers to two salient features of extensive device installation--cost and novelty. The high initial cost of large-scale installations (e.g., solar) make conversion risky for most households. Additionally, because innovations such as solar are not currently prevalent, many consumers view these technologies as unproved novelties.

Kahneman and Tversky (1979) have also demonstrated that people tend to overweigh cases with a low probability of occurrence and underweight cases with a high probability of occurrence. Thus, a case study describing a household which achieved close to the maximum savings possible through a combination of devices and lifestyle changes could be more effective than information about average savings associated with a given conservation practice or device.

Miller, Brickman, and Bolen (1975) have demonstrated that an appeal which influences self-concept is more effective in producing a desired behavior than a persuasive appeal that labels existent behavior as inappropriate. Thus, a communication based on the message "You are a conservation-conscious person" appears to be more effective than communications based on the message "You should become more conservation conscious." Presumably, the first message is less likely to be recognized as persuasion, thus arousing less reactance. An application of this principle might involve printing a congratulatory message on the energy bills of all households, regardless of their actual consumption. The message might read, "Your adjusted energy consumption last month was less than most of your neighbors. Thank you for being energy efficient." In addition to creating a new self-concept, such a strategy would facilitate social comparison processes within neighborhoods. Of course, the ethics of this approach must be duly considered.

RECOMMENDATION

If one has ever given great thought to why we act the way we do, or the reason why our attitudes change or develop a certain way, one will be thinking of social psychology. Social psychology studies many aspects and variables that impact situations. Social psychology and those that study social psychology are able to answer many questions as to why some people are better leaders than others and to why someone is better at a certain position rather than others. Social psychology is a form of studies that use scientific methods to figure out how we think, feel and the behavior of us as humans. What social psychology does is that it can fully understand human's behavior in various social situations and environment....

SUMMARY

Social psychology is the social science that specializes in behavior change. From this perspective, our paper briefly reviews four major approaches to encouraging energy conservation behaviors: structural (including legislative and other governmental policy initiatives), interpersonal, social learning and diffusion, and cognitive. Particular emphasis is placed on the distinction between device-oriented and lifestyle-change energy conservation. Attention to this seldom-noted but critical distinction among conservation behaviors leads to a more sophisticated use of all four change strategies. Each of the approaches can potentially contribute to inducing both types of energy behavior change; but they must often be applied differently in the two situations.

The behavior at issue for device conservation is the initial adoption. Hence, structural programs to ease the initial capital cost barrier are especially appropriate--such as the zero-interest-program (ZIP) for home insulation and automobile taxes geared inversely to gas mileage ratings. Likewise, other "front-end-lead" efforts aimed at influencing the adoption decision are indicated under other change approaches. Easily understandable information about device reliability, pay-back, and tax credits using vivid, concrete case data diffused through established friendship networks would be to the point.

Lifestyle-change conservation is generally more difficult to establish. It requires methods under each approach that afford long-term continuing support, for its effectiveness depends as much on its continuing support as its initiation. At the structural level, progressive tiers of energy costs and heavily subsidized public transportation meet this condition. Immediate and continued energy-usage feedback, showing the conservation savings directly, is useful. Similarly, vivid and concrete modeling of new lifestyle habits that entail enhanced social prestige and self-esteem are also indicated.

CONCLUSION

We conclude that many behavioral change efforts in the energy conservation field to date have been too piecemeal and unfocused to be effective. Energy behavioral-change programs could be made increasingly more effective: (1) by carefully differentiating the type of conservation behavior being sought and fashioning the program directly to fit it (especially in terms of the device versus lifestyle orientation); and (2) by designing mixed-approach programs that operate in unison at both the macro and micro levels.

REFERENCES

- Arbuthnot, J., Tedeschi, R., Wayner, M., Turner, J., Kressel, S. and Rush, R. (1976-1977), "The Induction of Sustained Recycling Behavior Through the Foot-in-the Door Technique," *Journal of Environmental Systems*, 6, 355-368.
- Becker, L., Seligman, C. and Darley, J. (1979), *Psychological Strategies to Reduce Energy Consumption*, Princeton University, Report PU/CEES 90.
- Billheimer, J., Bullemer, R. and Fratessa, C. (1977), *The Santa Monica Freeway Diamond Lanes (Vol. I)*, Washington, DC: US Government Printing Office.
- Darley, J. (1978), "Energy Conservation Techniques as Innovations and Their Diffusion," *Energy and Buildings*, 1, 339-343.
- Darley, J. and Beniger, J. (1981), "Diffusion of Energy Conserving Innovations," *Journal of Social Issues*, 37 (2), 150-171.
- Henderson, J., Hall, S. and Lipton, H. (1979), "Changing Self-Destructive Behaviors," in Stone et al. (Eds.) *Health Psychology*, San Francisco: Jossey-Bass.
- Kahneman, D. and Tversky, A. (1979), "Prospect Theory: An Analysis of Decision Under Risk," *Econometrica*, 47 (2), 263-291.
- Kroeber, A. (1948), *Anthropology* (Revised edition), New York: Harcourt and Brace.
- Lewin, K. (1948), "Group Decisions and Social Change," in Newcomb and Hartley (Eds.) *Readings in Social Psychology*, New York: Holt.
- McClelland, L. (1980), *Encouraging Energy Conservation By Residents of Master-Metered Rental Housing: An Evaluation of RUBS, the Resident Utility Billing System*, Institute of Behavioral Science, University of Colorado, Boulder. Final report to the US Department of Energy.
- McClelland, I. and Canter, R. (1981), "Psychological Research on Energy Consumption: Context, Approaches, Methods," in Baum and Singer (Eds.) *Advances in Environmental Psychology*, Vol. III, Hillsdale, NJ: Erlbaum Associates.

Miller, R., Brickman, P. and Bolen, D. (1975), "Attribution Versus Persuasion As A Means for Modifying Behavior," *Journal of Personality and Social Psychology*, 31(3), 104-123.

Pacific Gas & Electric (1979), *Comparison of Electricity and Water Consumption During Drought. Report to the California Public Utilities Commission.*

Pallak, M. and Cummings, W. (1976), "Commitment and Voluntary Energy Conservation," *Personality and Social Psychology Bulletin*, 2, 27-31.

Rose, H. and Hinds, D. (1976), "South Dixie Highway Contraflow Bus and Carpool Lane Demonstration Project," *Transportation Research Record*, 606, 18-22.

Seaver, W. and Patterson, A. (1976), "Decreasing Fuel-Oil Consumption Through Feedback and Social Commendation," *Journal of Applied Behavior-Analysis*, 9, 147-152.

Stern, P. and Gardner, G. (1981), "Psychological Research and Energy Policy," *American Psychologist*, 36 (4) 329-342.

Yates, S. and Aronson, E. (1982), "A Social-Psychological Perspective on Energy Conservation in Residential Buildings," unpublished manuscript.