

# **Expressed Environmental Attitudes and Actual Behavior: Exploring the Concept of Environmentally Desirable Responses**

*Dr Alan Ewert & Dr Graeme Galloway, Ph.D.*

## **Abstract**

Numerous studies have examined the environmental attitudes and beliefs held by the public. While the vast majority of these studies report a relatively strong bias toward pro-environmental beliefs, a paradox arises when actual behaviors are compared with expressed beliefs and attitudes. Within this framework, actual behaviors in, and toward, the environment, often do not match the beliefs and attitudes expressed by an individual. This seeming contradiction is explored by examining three factors. First, we explore the construct of environmental attitudes. Second, we examine potential reasons as to why there is a discontinuity between expressed attitudes and actual behaviors. Third, we propose the concept of “Environmental Desirability” as one potential explanation, and discuss this within the context of response bias as a manifestation of issues such as self-deceptive positivity and impression management. The paper concludes with a perusal of a questionnaire currently being developed, that seeks to provide a measurement tool which ascertains the presence and level of “environmental desirability.”

## **Environmental Attitudes**

One of the most widely studied constructs in the study of human interaction with the natural environment is environmental attitudes. While not identical, related terms that tend to fall under environmental attitude research have included environmental awareness, sensitivity, concern, beliefs, and feelings. In addition, numerous studies on environmental attitudes have been conducted on a selected few variables including: age, gender, residence, income, ethnic and cultural background, political ideology, childhood experiences, and social context (Teisl & O’Brien, 2003). For example, age has traditionally been reported as being inversely related to environmental concern. That is, younger respondents generally reported higher concern for the environment. Likewise, a number of studies have reported that women report higher levels of environmental concern but be less environmentally active than men (Mohai, 1992).

Other variables such as early childhood experiences in the outdoors (Place & Ewert, 2001), levels of income, education, more urbanized places of residence, and more liberal political ideologies also appear to be directly related to many of the terms falling under the rubric of environment concern and pro-environmental attitudes.

One of the more vexing problems associated with environmental attitude research, however, continues to be the relationship between environmental attitude and actual behavior. In this case, much less consistency has been found between environmental concern and environmental behavior (Olli, Grendstad, & Wollebaek, 2001). That is,

individuals expressing high levels of environmental concern and pro-environment attitudes often display behaviors and actions that have low levels of congruency with their expressed views. Moreover, many of the variables that show some consistency with respect to environmental attitudes, display weak or inconsistent relationships to environmental behaviors (Diekmann & Preisendorfer, 1998; Kraus, 1995).

Research has suggested that the resultant link between specific variables and actual behaviors is much more complex and multidimensional. For example, age appears to related more to cohort than specific number of years old. Women appear to practice more pro-environment behaviors than men only for those actions that are personal, private, and related to the household (McStay & Dunlap, 1983). Place of residence, either rural or urban, may serve instead, as a surrogate measure of extractive-nonextractive behaviors and occupations and increasingly has become a vague and inconsistent variable of measurement (Van Liere & Dunlap, 1980).

Olli, Grendstad, and Wollebaek (2001) suggest three reasons for the lack of congruity between specific attitudes and/or variables and actual behaviors. First, statistical analytic techniques may be underestimating the actual relationships between the variables under study. Second, measurement may be imprecise or at differing levels. That is, a scale item measuring a specific attitude (e.g., the earth's resources are finite) may be compared to a general behavior (e.g. using public transportation). Third, the social context (e.g., social network of which the individual is part of) may be neglected.

It is this third reason, which serves as the basis of this conceptual paper. While Olli et al. (2001) thought of social context within the confines of participation in environmental organization, we argue that social context also refers to the social milieu and social learning that has lead the individual to this point in time. More specifically, we believe that prior learning, whether within a social network (e.g., friends or family), exposure to the media, or more formal education and/or training, tends to create, within the individual, a set of attitudinal responses and statements that, may not represent actual beliefs or behaviors, but represent a more socially-desirable set of responses (SDR). Further, it is this set of socially-desirable responses that are not strongly linked to an individual's behaviors or actions, and hence, help create the "gap" between what people say they believe or feel about the environment and what they actually do.

## **Socially Desirable Response Bias**

Ewert and Baker (2001) suggest that the gap often found between environmental attitudes and environmental behaviours might be attributable , at least in part, to a bias to respond in socially desirable ways to test items designed to assess environmental attitudes (such a bias being referred to as "environmentally desirable responding"). Specifically, people could be responding to such items in ways which are consistent with well-known and socially acceptable views about environmental issues and positions, and not on the basis of how they really feel. In such cases, a stated environment-related attitude might not be associated with the behaviours expected of people who truly hold the attitude.

In what follows, the topic of socially desirable responding is examined in detail with a view to indicating how best it can be dealt with in studies of associations between environmental attitudes and behaviours. We also describe a questionnaire we are developing to index two aspects of environmentally desirable responding – impression management and self-deceptive positivity.

## **Socially Desirable Responding (SDR) - Types, Effects, Causes, and Control**

### ***Types and effects of SDR.***

Of all the response biases identified in the literature, SDR has received by far the most research attention and several questionnaires have been developed for its measurement (see King & Bruner, 2000; Paulhus, 1991 for discussions of SDR instruments). As already indicated, SDR is characterized by the answering of attitude assessment items in ways which make the respondent appear most favourable in relation to prevailing social norms. In situations where SDR is not of theoretical interest - that is, it is not conceptually related to other variables under examination (see Paulhus, 1991, p. 23) - it may threaten the validity of research by obscuring the nature of the relationships of interest by leading to spurious correlations, or suppression or moderation of relationships between variables (Ganster et al., 1983).

Two factors have consistently been identified in factor analytic examinations of results obtained using SDR instruments – impression management, and self-deceptive positivity (others vs self-deception respectively). Impression management involves the deliberate tailoring of answers to questionnaire items to convey an image of the responder to an audience as being socially conventional and dependable. On the other hand, self-deceptive positivity is an honest but overly positive self-presentation, the conscious tendency to see oneself in a favorable light (King & Bruner, 2000; Paulus, 1991). The next section examines several issues to do with the control of such responding.

### ***Causes and Control of SDR***

A variety of circumstances which might foster the occurrence of such SDR have been documented in the response bias literature. These include: age of participants – younger people are more likely to show SDR; characteristics of the interviewer/experimenter – the more socially similar they are to the participants, the greater is the likelihood of SDR; asking about personally or socially sensitive topics; compromise of participant anonymity; demand characteristics, for example, how questions are phrased can cue participants about the experimenter's expectations, or participants might anticipate that their responses will attract normatively influenced or evaluative consequences (King & Bruner, 2000). Stress-related variables such as instructing participants to respond quickly, distracting them during task performance, and participant emotional arousal, are also known to increase the likelihood of SDR (Paulhus, 1991). In addition, SDR can be associated with the following factors:

- Priming: Where socially desirable responding to earlier items in a questionnaire increases the likelihood of such responding to later items (Todorov, 2000);

- Participant Cultures and Nationalities: Where specific cultures and ethnicities may create a bias in responding to questions. (See Keillor et al., 2001; Middleton & Jones, 2000);
- Ambiguous test items or topics that the participant has no opinion about.

Two classes of approach to controlling SDR have been identified:

- 1) Attempt to stop known causes of SDR from bringing about such responding.
- 2) Remove the effects of SDR, if they do occur, from the relationship between behaviours of interest and affected attitudes.

An important requirement in regard to each of these approaches is an instrument to measure SDR – in the first case, to check, where feasible, whether attempts to stop its occurrence were successful, and, in the second case, to provide a measure of SDR which can be used for statistical removal of its influence, if such is detected. Each of these approaches will now be considered in more detail.

### ***Attempts to Stop SDR From Occurring***

Procedures to stop SDR from occurring include, where possible, removing circumstances known to be associated with the bias, or stopping study participants manifesting SDR in such circumstances. For instance, maximizing participant anonymity is associated with lower SDR. In cases where this is not appropriate, investigators can still attempt to reduce the likelihood of SDR with non-anonymous participants by, for example, telling them that the test contains methods for detecting faking, or by use of the “bogus pipeline” technique. The latter involves participants being hooked up to electronic equipment which, so they are told, can determine whether they are telling the truth (see Paulhus, 1991, pp. 18-19 for a discussion of related techniques). Such techniques can also be useful in reducing SDR associated with some cultures and nationalities, younger participants, and responses to sensitive or threatening questions.

Reduction of the likelihood of SDR in the abovementioned ways should also reduce the possibility of priming of an SDR response mode, as can varying the order of survey items across participants. Using interviewers who are socially distant from participants, telling participants that there are no expectations nor evaluative consequences of their responses, minimizing stress associated with the study, might reduce SDR associated with those variables. Reduction of SDR could also be brought about by providing appropriately detailed and clear statements of test items, and by provision of a “no opinion” response option to avoid SDR default responding. In addition, during test construction, individual items can be examined to see if they are correlated with an SDR measure and, if so, modified or eliminated.

A newer approach to controlling SDR in attitude assessment is the Implicit Association Test, which does not index people’s explicit attitudes by use of self-report measures, but rather their implicit attitudes through use of a reaction time task to assess the strength of association between pairs of concepts (see King & Bruner, 2000).

### ***Removing the Effects of SDR***

If a significant correlation is observed between scores on an SDR measurement instrument and measures of attitudes, statistical control of the SDR is possible. For instance, the effect of SDR can be controlled by being partialled out of the relationship between the variables of interest using multiple regression or partial correlations. On the other hand, if appropriate, SDR can be dealt with by removing data for participants whose scores on that variable exceed a predetermined value (Zerbe & Paulhus, 1987).

Among other things, then, instruments to measure SDR are crucially important in regard to a variety of issues to do with the control of that bias. We now turn to a description of an instrument we are developing to measure the particular form of SDR of interest in this research program – environmentally desirable responding.

### **The Environmentally Desirable Response Scale (EDR): Description and Research Requirements**

As indicated above, Paulhus (1991) characterizes two types of SDR – impression management, and self-deceptive positivity. The EDR we are developing contains items chosen to index both those types of responding. The items were worded around environmental themes rather than less specific ones in an attempt to increase the likelihood of consistency of responding across the EDR and environment-related topics.

The EDR comprises ten items to do with impression management which are modified versions of items chosen from the Paulhus (1988) Balanced Inventory of Desirable Responding (BIDR), and the Crowne and Marlowe (1960) Marlowe-Crowne Social Desirability Scale (MCSD) – see Paulhus (1991). The self-deceptive positivity component of the EDR comprises 10 items, all of which are modified versions of items selected from the BIDR. The items chosen from the BIDR and the MCSD were the ones that could be most easily modified to apply to an environmental context.

The impression management items describe desirable but uncommon behaviours, or undesirable but common ones. Higher endorsement of the former, and lower endorsement of the latter, indicates higher environmentally desirable responding. The self-deception items concern the extent to which people show overconfidence in their judgement and rationality, higher scores indicating higher response bias.

Items included in the EDR are reported in Table 1. As is the case for the BIDR, a 7 point rating scale (1=not true, 4=somewhat true, 7= very true) is used by participants to rate the extent of their agreement with each statement. A “no opinion” response option is also included. For each sub-scale of the EDR, 5 items are reverse scored.

**Table 1**

**Items included in the Environmentally Desirable Response Scale.**

***Self-deceptive positivity***

1. I don't care what other people think about me when they find out what my views about the environment are.
- \*2. I have not always been honest with myself about my attitudes to the environment.
3. I always know why I like the things I do about the environment.
- \*4. Once I've made up my mind about an environmental issue, other people can sometimes change my opinion.
5. I never regret my decisions about environmental issues.
6. I am completely rational concerning my views about the environment
- \*7. I rarely appreciate criticism concerning my views about the environment.
8. I am very confident about the correctness of my judgements about environmental issues.
- \*9. I do mind if some people happen to dislike me because of my views about the environment.
- \*10. I don't always know the reasons why I feel the way I do about the environment.

***Impression management***

- \*1. I sometimes tell lies to other people about my attitudes to the environment if I have to.
2. I do not gossip about other people's views about the environment.
- \*3. I sometimes feel resentful when I don't get my way in a discussion about environmental issues.
4. No matter who I am talking to about environmental issues, I am always a good listener.
5. I always try to practice what I preach about environmental issues.
6. When I don't know something about an environmental issue, I don't mind admitting it.
- \*7. At times I have really insisted on having things my own way in discussions about environmental issues.
- \*8. I have been upset when people expressed ideas about the environment which were very different from my own ideas.
9. I rarely form an opinion about an environmental issue until I have thought about the issue thoroughly.
- \*10. I have sometimes deliberately said something to hurt the feelings of someone who disagreed with me about an environmental issue.

- item is reverse scored.

Refinement of the instrument requires an examination of its psychometric properties. Specifically, dimensions underlying responses to the 20 attitude items it comprises need to be investigated in order to see whether the components of impression management, and self-deceptive positivity are indeed being indexed by the designated items. Another

issue to be addressed concerns the extent to which components identified are correlated. Given that those components are proposed to be separate aspects of socially (and environmentally) desirable responding, they should be orthogonal (unrelated). Separate scale, and total instrument, reliability will also be assessed using coefficient alpha, and test-retest correlations.

## **Concluding Comments**

Environmentally desirable responding which is not conceptually related to the environment-related attitudes being assessed in a particular survey, can obscure the true nature of the relationship between such attitudes and environment-related behaviours. The EDR described here is, in principle, one means by which the true nature of such relationships can be identified. Of course, socially desirable responding is not the only type of response bias that might need to be controlled in studies of these and other themes. Other notable kinds include acquiescence (tendency to agree), and extremity response bias (tendency to use extreme ratings) (see Paulhus, 1991, pp. 46-50 for a fuller description and control options). Clarification of the associations which hold between environmental attitudes and behaviours will, in turn, provide a stronger basis than has previously been available for the management of the broad range of issues which attach to person-nature interactions.

Finally, while the construct of social-desirability has some intuitive value, it should be noted that not all scholars subscribe to it as a viable concept. For example, Wrightsman (1992) suggests that individuals respond to questionnaire items on the basis of "personal desirability" which may have nothing to do with social desirability. Moreover, the relationship between an individual's score on a socially-desirable response instrument and the instrument measuring the variable/s under question remains both ambiguous and amorphous. Thus, while some would suggest that empirical measurements such as self-reported behavior are often exaggerated and subject to social desirability (Stern & Oskamp, 1987; Tarrant & Cordell, 1997), others would contend that either the construct is conceptually difficult to distinguish or does not exist (Lam & Cheng, 2002).

## **References**

Diekmann, A. & Preisendorfer, P. (1998). Environmental behavior-Discrepancies between aspirations and reality. *Rationality and Society*, 10(1), 79-102.

Ewert, A., & Baker, D. (2001). Standing for where you sit: An exploratory analysis of the relationship between academic major and environment beliefs. *Environment and Behavior*, 33(5), 687-707.

Ganster, D., Hennessey, H., & Luthans, F. (1983). Social desirability response effects: Three different models. *Academy of Management Journal*, 26, 955-966.

Keillor, B., Owens, D., & Pettijohn, C. (2001). A cross-cultural/cross-national study of influencing factors and socially desirable response bias. *International Journal of Market Research*, 43, 63-84.

- King, M., & Bruner, G. (2000). Social desirability bias: A neglected aspect of validity testing. *Psychology & Marketing, 17*(2), 79-103.
- Kraus, S.J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin, 21*(1), 58-75.
- Lam, S. & Cheng, S. (2002). Cross-informant agreement in reports of environmental behavior and the effect of cross-questioning on report accuracy. *Environment and Behavior, 34*(4), 508-520.
- McStay, J. & Dunlap, R.E. (1983). Male-female differences in concern for environmental quality. *International Journal of Women's Studies, 6*, 291-301.
- Middleton, K., & Jones, J. (2000). Socially desirable response sets: The impact of country culture. *Psychology & Marketing, 17*(2), 149-163.
- Mohai, P. (1992). Men, women, and the environment: An examination of the gender gap in environmental concern and activism. *Society and Natural Resources, 5*, 1-19.
- Olli, E., Grendstad, G., & Wollebaek, D. (2001). Correlates of environmental behaviors: Bringing back social context. *Environment and Behavior, 33*(2), 181-208.
- Paulhus, D. (1991). Measurement and control of response bias. In J. Robinson, P. Shaver, & L. Wrightsman (Eds.). *Measures of personality and social psychological attitudes*, pp. 17-59. New York: Academic Press Inc.
- Place, G. & Ewert, A. (2001). Impact of early-life outdoor experiences on an individual's environmental attitude. 2001 Symposium on Leisure Research, Denver, CO, October 3-6, 2001.
- Stern, P.C. & Oskamp, S. (1987). Managing scarce environmental resources. In: D. Stokols & I. Altman (Eds.), *Handbook of environmental psychology* (Vol. 2, pp. 1043-1088). New York: John Wiley.
- Tarrant, M.A. & Cordell, H.K. (1997). The effect of respondent characteristics on general environmental attitude-behavior correspondence. *Environment and Behavior, 29*, 618-637.
- Teisl, M.F. & O'Brien, K. (2003). Who cares and who acts? Outdoor recreationists exhibit different levels of environmental concern and behavior. *Environment and Behavior, 35*, 506-522.
- Todorov, A. (2000). The accessibility and applicability of knowledge: Predicting context effects in national surveys. *Public Opinion Quarterly, 64*(4), 429-451.
- Van Leire, K.D. & Dunlap, R.E. (1980). The social bases of environmental concern: A review of hypothesis, explanations, and empirical evidence. *Public Opinion Quarterly, 44*, 181-199.
- Wrightsman, L.S. (1992). *Assumptions about human nature*. Newbury Park, CA: SAGE Publications.
- Zerbe, W., & Paulhus, D. (1987). Socially desirable responding in organizational behavior: A reconception. *Academy of Management Review, 12*, 250-264.

### ***About the authors***

Email: [aewert@indiana.edu](mailto:aewert@indiana.edu)

Email: [g.galloway@bendigo.latrobe.edu.au](mailto:g.galloway@bendigo.latrobe.edu.au)