
Why We Don't "Walk the Talk": Understanding the Environmental Values/Behaviour Gap in Canada

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Abstract

Worldwide, studies have shown increases in environmental values and beliefs over the past four decades. However, in few cases have researchers observed parallel increases in environmentally-supportive behaviour (ESB). In fact, the gap between environmental values and ESB is of growing concern for both academics and practitioners. We explored 'the environmental values-behaviour gap' through a nationwide survey in Canada (n=1664). Approximately 72% of respondents 'self-report' a gap between their intentions and their actions. We explore three categories of explanatory variables to account for the gap: individual, household, and societal. The descriptive analysis presented here provides a better understanding of why good intentions do not always translate into environmentally supportive behaviour. We demonstrate the relative importance of the three categories of constraint variables.

Keywords: *environmentally-supportive behaviour, environmental values-behaviour gap, Canada*

Introduction

Individual commitment to environmental conservation may take many forms: some recycle, use public transit, buy local or organic products, or participate in protests on environmental issues. Others may write letters to the newspaper, help to restore damaged ecosystems, compost, or make efforts to conserve water and energy. However, despite evidence showing that a large proportion of the public in various regions of the world expresses commitment to the environment, participation in environmentally-supportive behaviour rarely mirrors the strength of this stated commitment (Dunlap and Van Liere 1978, 1984; Schultz and Zelezny 1998, 1999; Aoyagi-Usui et al. 2003). While an individual may express environmental values, in some instances other priorities such as safety or financial security may take precedence over environmentally-supportive behaviour. In this paper, we refer to the incompatibility between pro-environmental values and environmentally-supportive behaviour as the 'environmental values-behaviour (EVB) gap'.

Research into the EVB gap informs our understanding of the various influences that may explain an individual's decision to act in a way that seems incongruous with his or her stated values for the environment. Calls to promote sustain-

ability must focus at both the institutional level—lobbying for changes to the political and economic systems in order to encourage ‘green’ behaviour (Sandilands 1993), and the individual level (Blake 1999). Although the focus of this article is on the individual, it is equally important to consider the extent to which small-scale environmentally supportive behaviours can distract us from large-scale trends that threaten the environment more severely than plastic grocery bags. As Catriona Sandilands (1993, 46) states:

The privatization of environmental change undermines both collective and individual resistance; it turns politics into actions such as squashing tin cans, morality into not buying overpackaged muffins, and environmentalism into taking your own cloth bag to the grocery store. None of these actions challenges capitalist economic growth . . . none of these actions provokes a serious examination of the social relations and structures that have brought about our current crisis.

Thus, while it is important to encourage individual participation in environmentally supportive behaviours, it is also important to encourage reflection on our consumer society and the political and economic structures that benefit from and sustain it. Considering the importance of institutional change, the role of the individual is two-fold: as consumer and citizen (Blake 1999).

There is a great deal of literature that explores environmentally-supportive behaviour (ESB) and environmental support (pro-environmental values, beliefs, and priorities) of ‘ordinary people’. ESB refers to those actions that are taken with the intention of benefiting or reducing negative human impacts on the natural environment (Stern 2000). Stern uses the term ‘environmentally-significant behaviour’ but we feel that replacing ‘significant’ with ‘supportive’ better describes the intended meaning of behaviour that reflects or demonstrates a positive, affective orientation to the environment.

In the 1970s, researchers found growing evidence of environmental concern amongst populations in the United States. However, many empirical studies noted a discrepancy between an individual’s stated and actual commitment to the environment. In fact, some researchers state that improving our understanding of how concern does or does not translate into behaviour is more important than documenting either level of concern or level of engagement (Wall 1995a). This ‘gap’ between concern and action has been theorized and studied closely by several researchers. Among them, Glenda Wall and David Tindall and their colleagues have conducted research in Canada. Though not originating from a Canadian context, Dorceta Taylor’s work on the concern gap for black Americans and white Americans can inform our study of the

EVB gap in Canada. In 2002, the *Journal of Environmental Education Research (JEER)* published an entire issue devoted to the EVB gap (Courtenay-Hall and Rogers 2002; Kollmuss and Agyeman 2002; Maiteny 2002). Finally, we draw upon a study from the UK on vehicle purchases to present an empirical study of the EVB gap (Lane and Potter 2007).

The articles in *JEER* are centred on the advances made in Kollmuss and Agyeman’s (2002) attempts to model the EVB gap. Kollmuss and Agyeman advance a model to study ‘the gap’ that incorporates internal (i.e. knowledge, values) and external (i.e. infrastructure, political climate) variables to better understand constraints to environmental behaviour. In response, Maiteny (2002) describes the value of experience in forming one’s orientation towards the environment, and considers the implications of experiences on behaviour. Finally, Courtenay-Hall and Rogers (2002) provide an insightful critique into the attempt to model the EVB gap. The authors acknowledge the general pedagogical aim of the model—to demonstrate that providing environmental education will not necessarily translate into environmental behaviour. They proceed to point to the positivist orientation of the aim to ‘model’ environmental behaviour and provide a convincing argument that our insistence on modelling is related to several broader research-related gaps (i.e. the critical thinking—‘behavior change’ gap, the ‘reflective practitioner’—researcher as authority gap).

Common to all studies is the role of the researcher in deciding when and where there exists an EVB gap. For instance, Tindall et al. (2003) conducted a study of environmental activists, positing that women would be more engaged in both individual-level and political change-oriented activism than men. However, the researchers found that though more engaged in individual-level behaviours, women were not more engaged in political activism. The researchers probed the gap between the women’s strong environmental concern and relatively weak political activism and made several insightful conclusions as to the role of the increased household duties on constraining women’s political activism. Similarly, Wall (1995b) explores recycling behaviour and organic produce purchase. She finds inconsistency between attitude and behaviours and discusses the importance of access to services and knowledge in order to facilitate ESB. Taylor (1989) found that limited financial resources and insufficient knowledge of the indicators of poor environmental quality explained some of the difference between blacks and whites for their EVB gap.

In contrast, we seek to determine whether individuals are aware of an EVB gap and what factors they see as most important for explaining that gap. While it is unlikely that we should ever see a perfect correlation between intention and action, there are several policy interventions that might facil-

itate greater involvement in ESB, and better knowledge of the proportion of the population that acknowledges a gap is useful information for academics and policy-makers alike. The variables advanced in the literature on the EVB gap include environmental orientation (Lane and Potter 2007; Tindall et al. 2003; Wall 1995b), access to services (Wall 1995b), financial resources (Taylor 1989; 2000), time (Tindall et al. 2003), and support from others (Kollmuss and Agyeman 2002; Wall 1995b).

Building on new and existing variables discussed in previous literature, we use survey data to estimate how many respondents acknowledge an EVB gap. Further, we report descriptive statistics for several variables that may constrain individuals from acting on their values. The purpose of the descriptive analysis is to identify factors that may act as constraints for Canadians, and to determine the environmental values and beliefs from a Canadian perspective. It is important to clarify that we are not interested in actual behaviour here. Rather, our aim is to determine how many respondents acknowledge a gap and then use descriptive data to explore potential variables that may constrain ESB. This work is intended to further the discussion on the values-action, or EVB gap, and to strengthen the evidence from Canada. The objectives of this paper are:

1. To introduce the innovation of having respondents “self-report” their EVB gap;
2. To describe the influences that respondents recognize as contributing to their EVB gap;
3. To reflect on the implications of our results for increasing participation in ESB and suggest future research to further illuminate barriers to participation.

The remainder of the article is divided into five sections: (1) a summary of the three categories of constraint variables, (2) a more detailed outline of our research methods (sampling, the variables, and analysis), (3) the results of our analysis, (4) a discussion of these results, and (5) a conclusion that provides recommendations for future research and potential policy outcomes and applications.

Constraint Variables

The variables we use to examine the gap between stated environmental support and actual ESB are grouped conceptually into three categories: individual, household, and societal. Individual variables refer to items that are controlled, to a great extent, by the individual. There may be an outside influence—for example, the role of parents and friends in shaping values—but these variables all refer to characteristics of a single respondent. The individual variables we examine in this article include basic values, environmental beliefs, and lack of knowledge/information. Household variables include those

influences that exist at the household level. Thus, the locus of control no longer lies exclusively with the individual but rather with a small group. Household variables include time, money, and support from other household members. The final category, societal variables, reflects social context and thus includes perceived control over decision-making, and access to eight community environmental service items (CES). We use the term ‘community environmental services’ to describe environmentally related, publicly and privately provided goods, infrastructure, and services that can facilitate ESB.

Individual Variables

Basic Values

The definition and measurement of values has attracted a great deal of attention within sociological and social psychological literature, reflected in the multiple values instruments available in the literature (Stern and Dietz 1994; Stern et al. 1995; Johnson et al. 2004). The interest in values is due, in part, to the theory that basic values form the basis of more specific beliefs and behaviour (Krause 1993; Stern and Dietz 1994; Gooch 1995; Stern et al. 1995; McFarlane and Boxall 2003). Contrary to many models and theories, values are never perfectly correlated with behaviour. Most of us have a number of fundamental values that guide our behaviour, and one value can be violated while another is acted upon. For example, many see the environmental benefits of choosing organically-grown food. However, someone who also values frugality may feel conflicted when presented with organic products if they are significantly more expensive than the cost of conventionally-produced food. Schwartz’s values inventory (SVI) has been widely used in ESB literature (Barr 2007; de Groot and Steg 2007; Poortinga et al. 1994). Considering the length of this instrument, Stern and his colleagues (1998) developed a shortened version of the SVI and found it to be an acceptable values measure (Aoyagi-Usui et al. 2003; Stern et al. 1993; Stern et al. 1995). The shortened SVI captures four values clusters that include the ten individual values identified by Schwartz. The original inventory includes 56 items (Schwartz 1992). The four clusters are structured in two groups, where the two values categories are seen as having tension, or as potentially conflicting: self-transcendence versus self-enhancement; and conservatism versus openness to change. Self-transcendent values items are referred to as ‘altruistic’, while self-enhancing values are referred to as ‘egoistic’. ‘Traditional’ items capture the tension between conservative values and openness to change². Each item is carefully worded to avoid the appearance of some items as ‘selfish’. Previous studies have shown relatively consistent support for the positive relationship between altruistic values and ESB (Stern et al. 1995; Schultz and Zelezny 1999). Although weaker and less consistent in the direction

of the relationship with ESB, egoistic and traditional values have been found to be predictors in some studies (Stern 2000).

Environmental Beliefs

Beliefs are propositions that we accept to be empirically true and that we use to prioritize conditions or behaviours. Because they are more situation-specific than values, beliefs are subject to change depending on information or context (Vaske et al. 2001). Beliefs can be influenced by what we learn or how we perceive our surroundings. Dunlap et al.'s (2000) New Ecological Paradigm (NEP) scale has been used extensively as an indicator of environmental beliefs. The NEP scale measures the degree to which respondents adhere to the New Ecological Paradigm or the Dominant Social Paradigm (DSP). The NEP assesses beliefs that humans and other species are intricately connected, that resources are limited and should be used conservatively, and that humans have inflicted much damage to other species. The DSP essentially assesses the opposite: that mankind was created to reign over the earth, and that resource-depletion is a non-issue because acceptable substitutes will always be found³ (Dunlap and Van Liere 1978). Many studies have shown a positive association between NEP scores and support for pro-environmental policies and ESB (Dunlap et al. 2000; Stern et al. 1995; Stern 2000; Widegren 1998).

Lack of Knowledge/Information

In the earliest models of environmental behaviour, knowledge was conceptualized as the source from which environmental beliefs were formed and behaviour manifested (Kollmuss and Agyeman 2002). However, it is likely that providing individuals with information without an understanding of the target audience's knowledge, values and context (among other variables) is not sufficient to change behaviour. As new technologies are introduced and new knowledge is confirmed by science (e.g. links between dioxin and cancer) individuals are presented with a constantly shifting constellation of scenarios and trade-offs. Thus, a lack of knowledge or an abundance of contradictory information can play a significant role in limiting ESB. The debate over paper versus plastic bags, incineration versus land-filling of waste, and idling versus restarting your engine while waiting in your vehicle represent a few examples where the environmentally responsible choice is not always intuitive.

Household Variables

Support from Other Household Members

Lack of support from other household members refers to the situation where one or several members of a household may have a strong value that goes against an environmental-

ly-supportive action. In some cases the majority or the more powerful member of the household may assert his or her position in such a way that others feel they have no choice but to subvert their own priorities for the environment. In a Danish study of consumers' propensity to avoid packaging waste, Thøgersen (1999) found that one of the most significant influences for those who bought products with less packaging was their assessment of the norms in their social environment. Indeed, what we perceive as 'normal' and acceptable will likely have a significant influence on the ESB in which we engage. The translation of social norms in our own homes can influence the perceived network of support for ESB. Children living with parents who have different habits and routines than their own may feel restricted in their ability to support green businesses, conserve water, recycle, or grow their own food. Individuals who share housing, as many students and young couples or singles do, may have to compromise their environmental behaviour to appease other household members.

Time

The perception that ESB requires more time than more traditional behaviour may dissuade many potential acts of ESB. Although some behaviours may actually save time, learning about these requires a time investment that some may feel they simply cannot afford. Lack of time can serve as a potential constraint to participation in ESB. In fact, Tindall et al. (2003) hypothesized that the reason for female activists' low levels of participation in political activism is a reflection of the limited time that this demographic has to spend on activities above and beyond responsibilities at work and in the home. Time may not constrain activities such as turning off the lights or taps to conserve electricity and water, respectively. However, for actions like writing to politicians, taking public transit, or recycling, the additional time required to perform these tasks may limit individuals' ability to engage.

Money

Affluence is generally rejected in the literature as a predictor of ESB and pro-environmental values (Dunlap and Mertig 1995; Diekmann and Franzen 1999). However, the specific ways in which high-income versus low-income individuals express support for the environment or engage in ESB may vary. Regardless, a perceived lack of money can clearly, for example, prevent individuals who hold pro-environmental values from purchasing expensive, environmentally-friendly or organic products. Affluence on the other hand can also allow individuals to afford less environmentally supportive behaviours such as driving a vehicle to work rather than relying on public transit.

Societal Variables

Perceived Control Over the Decision

Perceived control refers to the individual's autonomy over relevant decision-making and action. For instance, many might feel a preference to support green sources of energy, but when buying electricity off the grid, most consumers do not have control over whether they are purchasing nuclear, coal-generated, wind or hydropower.

Community Environmental Services

The availability and quality of community environmental services (CES) plays a significant role in determining the extent of individuals' participation in ESB. Clearly, when CES are readily accessible and appealing, the ESB they facilitate will be much more easily practiced than in areas without a similar level of structural support. For instance, Derksen and Gartrell (1993) found that people with access to a structured, institutionalized recycling program that makes recycling easy and convenient had much higher levels of recycling than people who lack access.

Methods

Survey Procedures and Sampling

To examine the EVB gap in a Canadian context, we use data from a questionnaire that was mailed throughout the ten provinces of Canada in 2004. The data presented in this paper are part of a larger project that focused on rural-urban differences in ESB in Canada (see Huddart 2005). The study sample was purchased from SM Research Inc⁴, a marketing firm, and was stratified to sample equal numbers of rural and urban households, and to attain proportional representation from the ten provinces. Our questionnaire was mailed in February 2004, following a modified version of Dillman's (2000) tailored design method. We mailed 5000 surveys and received 1421 responses. Due to a large number of undeliverable surveys (994), we replaced the non-deliverable surveys with additional surveys sent to 994 new addresses and received 243 viable returned questionnaires and 200 non-deliverable surveys. Thus the final response rate was 34.7% (1664/4800). We tested for non-response bias by telephoning 75 non-respondents. A comparison of the age, sex, and place of residence of mail survey respondents and phone respondents suggested that there were no differences between the two groups (for more details see Huddart 2005).

The Questionnaire

Self-reporting the ESB Gap

We asked participants to self-report the gap between their environmental values and their behaviour in the question, "To what extent is your impact on the environment a pri-

ority in your life?" Although the measure may seem tangential to the intent of the study's purpose, the three possible responses should clarify the aim of determining a self-reported gap in behaviour: (1) My impact on the environment is a very low priority for me; (2) I always consider what my impact is when I act, but often time and resources prevent me from doing what I feel is best, or (3) I have oriented my entire lifestyle around my concern for the environment. Respondents who choose the second category perceive a gap between what they would like to do for the environment and their actual behaviour. We then selected these respondents (n=1202) to explore the reasons for this gap using questions on individual, household, and societal variables.

Individual Variables

We examined respondents' basic values and environmental beliefs, and the importance of knowledge in preventing respondents from participating in ESB. We used Stern et al.'s (1998) shortened Schwartz Values Inventory (SVI) scale to assess basic values. Principal components analysis revealed three factors: altruistic, egoistic, and traditional value dimensions⁵. We created an ordinal measure for each values category by splitting the responses into equal thirds (based on response options) to facilitate interpretation of the results. The ordinal measures of the values variables are weak, moderate and strong. Environmental beliefs were assessed using Dunlap et al.'s (2000) 15-item New Ecological Paradigm scale. In keeping with Dunlap et al.'s recommendation, a NEP-DSP continuum was created by summing responses to the 15 scale items. As with the values categories, we created an ordinal variable (weak, moderate, strong) based on the range of responses (15 to 75) to assist in the interpretation of results. A low score is associated with a DSP, a high score with the NEP. We created the categories 'low', 'moderate', and 'high' by dividing the range of possible values by three. The role of knowledge in restricting ability to participate in ESB was assessed by respondents rating the importance of the statement 'Not enough knowledge or information' on a five-point scale ranging from 1 = not at all important to 5 = very important.

Household Variables

Three variables were used to assess household influences: 'Lack of support from other household members', 'Not enough time', and 'Not enough money'. All were rated on a scale ranging from 1 = not at all important to 5 = very important.

Societal Variables

The influence of societal variables was assessed by examining respondents' control over decision-making and

availability of community environmental services (CES). Respondents rated the importance of the statement ‘No control over the decision or action’ on a scale ranging from 1 = not at all important to 5 = very important. The availability of eight CES was included: pick-up recycling, drop-off recycling, public transit, composting subsidies, environmentally-friendly products, organic products, community garden plots, and a farmer’s market. Respondents indicated whether the service was available in their community, not available in their community, or whether they did not know of its availability.

Analysis

All procedures were executed with the Statistical Program for the Social Sciences (SPSS), version 14.0. The results section presents a descriptive analysis of the EVB gap. We first ran a frequency analysis to show the percentage of respondents who ‘self-report’ a gap. Subsequent analyses explore constraints only for those who report being prevented from acting on their best intentions. For each analysis, the data were weighted to reflect the actual urban-rural distribution in Canada (approximately 80/20) rather than the distribution of our sample (50/50).

Results

The results are structured to show the prevalence of a self-reported EVB gap in our Canadian sample and to describe the three classes of constraints: individual, household, and societal. Table 1 shows the results of the self-reported EVB gap. While 16.9% purport to have little concern for the environment, and 10.8% claim to have oriented their lifestyle around their concern for the environment, 72.3% indicated that they were prevented from doing what they feel is best for the environment. Next, we examine the importance of several variables in restricting these respondents’ participation in ESB.

Table 1. Distribution (%) of self-reported gap between priority of the environment and environmentally supportive behaviour (n = 1663)

My impact on the environment is a very low priority for me	16.9
I always consider what my impact is when I act, but often time and other resources prevent me from doing what I feel is best	72.3
I have oriented my entire lifestyle around my concern for the environment	10.8

Individual Constraints

Values are divided into three groupings—altruistic, traditional, and egoistic—based on the results of a principal components analysis. The frequency (%) and strength of each values category are presented. The majority of respondents

have strong altruistic and traditional values, while they are roughly equally split between moderate and strong egoistic values. Indeed, only 1.3% of participants have weak altruistic values and only 1.4% of respondents have weak traditional values (see Table 2). Since these classes of values draw from a Likert-scale type question asking respondents to assign a value (from 1 to 7) of importance to each of 15 values items, the values classes are not mutually exclusive e.g., a respondent can have strong altruistic values and strong traditional values. A large proportion of the sample has strong altruistic (79.9%) and traditional (83.5%) values. A smaller percentage has strong egoistic values (48.9%).

Very few (1.7%) respondents adhere to the set of beliefs that Dunlap and Van Liere (1978; 1982) have described as the Dominant Social Paradigm (DSP), suggesting that these beliefs may in fact be less ‘dominant’ than the NEP. We scaled the original NEP scores (ranging from 15 to 75) to start from zero in order to facilitate the interpretation of the results. Low scores on the NEP scale indicate adherence to the DSP (scores from zero to 17), high scores (36 to 54) suggest adherence to the NEP. Nearly half (49.7%) of Canadians report a strong adherence to the NEP. The remaining respondents are intermediate to the two extremes (scores from 18 to 35) (Table 2).

Table 2. Individual Constraints: Distribution (%) of the basic values and New Ecological Paradigm (NEP) scores

	Basic Values (n = 1157)			NEP (n = 1214)
	Altruistic	Traditional	Egoistic	
Weak	1.3	1.4	5.7	1.7
Moderate	18.8	15.1	45.4	48.6
Strong	79.9	83.5	48.9	49.7

Table 3 demonstrates the importance of the final individual constraint (knowledge), all household constraints (support, time and money), and one of the societal constraints (control). These items are presented together as they are measured on the same scale. Combining the categories ‘important’ and ‘very important’, Table 3 shows that 60.2% of respondents feel their ESB is restricted by a perceived lack of knowledge or information. Table 3 also shows that lack of support from other household members is an important constraint for 25% of respondents, while lack of time constrains the ESB of 61.2% of respondents. Lack of money is an important constraint for 45% of respondents. By summing the categories ‘important’ and ‘very important’, we show that just under half (48.1%) of respondents feel they do not have control over the decision or action (Table 3). Some of the lack of control may be due to a lack of CES.

Table 3. Distribution (%) of individual, household, and social constraints to participation in environmentally supportive behaviour

	Not at all important	Not important	Neither important nor unimportant	Important	Very important	<i>n</i>
Individual:						
Lack of knowledge/ information	6.6	12.4	20.8	48.2	12.0	1119
Household:						
Lack of support from other household members	20.1	22.9	32.0	22.6	2.4	1094
Lack of time	4.3	13.1	21.5	43.6	17.6	1112
Lack of money	10.7	15.4	28.8	35.2	9.8	1118
Societal:						
Lack of control over decision-making/action	9.4	15.8	26.7	39.2	8.9	1103

Table 4 shows the final societal constraint: availability of CES to respondents. Approximately 80% of respondents have access to curbside and drop-off recycling services, while 78.2% have access to public transit. Similarly, access to stores selling organic (84.3%) and environmentally-friendly products (75.3%) are widely available to respondents. While 39% of respondents report being aware that community gardens exist in their community, only 18% are aware of having access to composting subsidies (47.7% of respondents do not know if this service is available). Farmer's markets are widely available (for 84.6% of respondents).

Table 4. Societal Constraints: Availability of community environmental services (%)

	Not Available	Available	Don't Know	<i>n</i>
Curb-side recycling	16.3	80.9	2.8	1135
Drop-off recycling	9.2	82.2	8.6	1117
Public transit	20.1	78.2	1.7	1134
Composting subsidies	34.3	18.0	47.7	1123
Environmental goods	5.7	75.3	19.0	1135
Organic goods	4.0	84.3	11.7	1112
Community garden	32.6	39.0	28.4	1112
Farmer's Market	10.3	84.6	5.1	1139

Discussion

For most Canadians, the barriers to ESB span the spectrum of locus of control from the relatively controllable elements such as beliefs and knowledge, through the moderately controllable variables related to the composition of and decision-making structures within one's household, to the difficult to control realities of an individual's place of residence and the community environmental services available to them.

At the individual level, Canadians indicated that a lack of knowledge or information is a significant hurdle in their attempt to practice ESB. Although we indicated earlier that simply providing information is widely recognized as an ineffective means of increasing participation in ESB, well-timed and positioned information that speaks to a broad array of audiences can be a powerful mechanism for enabling ESB, particularly in situations where societal variables do not impede ESB. The results presented in this study relate to a larger issue: that we often struggle to identify "the right thing to do" even according to our own values and beliefs. Quite possibly, many individuals are aware that using public transit or carpooling generally has less impact on the environment than driving; however, it may be that many do not understand the environmental trade-offs involved with idling versus shutting off one's car engine, or the positive or negative consequences associated with various sources of bio-fuels.

With only 16.9% of our sample declaring that they do not consider the environment or structure their life choices around reducing their environmental impact, it is clear that the general message regarding the environment has been well sold. However, it appears that individuals still lack the specific, detailed facts that would enable them to make informed, environmentally supportive decisions. Presumably this information is available, but we argue that it is not accessible enough, particularly to a public that feels time-compressed.

While most respondents have few individual constraints to ESB, 72.3% of Canadians recognize a gap between their intentions and their actions. A pro-environmental values orientation is widely believed to be fundamental to participation in ESB. Our sample shows that many Canadians hold strong altruistic values, widely believed to be amenable to ESB (Stern and Dietz 1994; Schultz and Zelezny 1999). The relationship between traditional and egoistic values and ESB are less understood but the strong support for altruistic values

suggests that our sample has a values orientation that is amenable to environmental concern.

Since the inception of the NEP scale, Riley Dunlap has worked with various authors to monitor adherence to the NEP (Dunlap and Van Liere 1978; 1984; Catton and Dunlap 1978; Dunlap et al. 2000) and other researchers have looked at the NEP in an international context (Aoyagi-Usui et al. 2003; Schultz et al. 2005). Broadly, the results from this large body of literature suggest that the NEP is becoming increasingly common. Our results support these findings: very few Canadians adhere to the DSP, while 49.7% of respondents have beliefs that align with the NEP. A belief that aligns with the NEP implies that these respondents accept the rights of other species as equal to those of humans (at least theoretically), understand that the earth has limited resources, and feel a sense of responsibility to bring about the structural change needed to care for the environment. Our results suggest that environmental beliefs do not appear to act as a constraint for our Canadian sample.

Household explanatory variables presented more widely-acknowledged restrictions for our respondents. We examined the importance of support from household members, time, and money. Time was the most important constraint of the household variables. Considering that there has been a steady increase of hours worked per week and weeks worked per year in Canada since 1996 (Heisz and LaRochelle-Cote 2003), time availability is an important variable to consider with respect to participation in ESB.

In general, the results presented for the societal variables do not indicate large constraints: most Canadians have access to some type of recycling program; most urban areas in Canada have a public transit system available, and businesses are providing 'green' product options in most communities. Community gardens and composting subsidies are not widely available (though these are primarily relevant for those respondents who lack access to green space on their own property or rent their home and are not permitted a garden or composting system). Given concerns over climate change, community gardens represent a potentially fruitful avenue for reducing the carbon footprint of a community by reducing the distance that food travels from the field to the table. Incorporating the comments on time-availability that we made above, a lack of CES may constrain participation in ESB in Canada.

Of some concern is the number of people who do not know what is available in their community. Advertising and marketing are under-utilized and potentially effective mechanisms for increasing awareness of a CES. Providing CES of high quality that are readily accessible to both rural and urban Canadians will likely contribute a great deal to reducing the EVB gap.

Policy Implications

Much of the existing research on ESB assumes that human agency is the key determinant of action, while social and institutional constraints are considered only for their effects on individual attitudes rather than as determinants for setting the parameters of ESB. Conventional economics, for example, focuses on individual level decisions, trade-offs, and on some of the societal structures that mediate these decisions, such as prices, taxes, and subsidies (Beder 2001). Applying the price-based instruments advocated by many economists can be a useful mechanism for facilitating the translation of environmental values into ESB. However, each of these areas of research often fails to account for many of the different levels of explanatory variables examined in this paper and how they interact. As Redclift and Benton (1994, 7-8) write,

One of the most important insights which the social scientist can offer in the environmental debate is that the eminently rational appeals on the part of environmentalists for 'us' to change our attitudes or lifestyles, so as to advance a general 'human interest' are liable to be ineffective. This is not because . . . 'we' are irrational, but because the power to make a significant difference, one way or the other, to global or even local environmental change is immensely unevenly distributed.

Thus, taking into consideration the variables that create context for ESB—the individual, household, *and* societal variables—can improve our understanding of the reasons why so many of us fail to 'walk the talk'.

Of course, the reasons people do not engage in pro-environmental action will not be entirely explained by the constraints they face. For one, different actors perceive constraints differently. Unfortunately, many government bodies take the 'if-you-build-it-they-will-come' approach to overcoming these constraints—creating infrastructure using very little public involvement and rarely offering forums for feedback once services are established. Simply providing more environmentally-supportive infrastructure or more information is unlikely to result in overall higher levels of ESB unless efforts are made to better understand the variables employed here, to explore other explanatory variables, and to understand the ways in which culture and infrastructure interact to create environmental norms that enhance ESB.

In order to increase participation in ESB we will have to improve our understanding of the values of distinct target audiences. There is a rich body of work on the use of values in framing information campaigns (Lakoff 2006) that could be adapted to environmental issues. Our research indicates that straightforward information campaigns that reduce the per-

ception that ESB items are time-consuming and expensive will encourage participation. For instance, involvement in ESB could potentially increase amongst individuals and groups with strong traditional values if appeals are made that show the connection between ESB items and family safety and saving money. The use of public forums may also aid in enhancing individual consciousness about consumer choices and citizen responsibility. Governments and non-governmental environmental organizations would do well to 'advertise' opportunities to practice ESB; just as companies see advertising as an investment. Governments, in particular, should consider the cost-savings over the long and short term from some ESB. For instance, walking and biking to work reduces the demand on roadways and, combined with healthy eating (which can be associated with local and organic food), can reduce pressure on health care services. Pressure from private interest groups represents an important constraint on the ability of governments to enact environmentally significant policies, though this topic is beyond the scope of this paper.

Future Research

There is a tendency to view individuals as unable to significantly alter environmentally damaging trends and to place more emphasis on the role of governments and corporations. Such an approach overlooks the seemingly obvious fact that both governments and corporations are comprised of and created by individuals. Rather than seeing the difficulty in producing a model that can predict ESB as a reason to give up on research into ESB, or to understate its importance, we should explore, and be fascinated by the fact that even under identical structural conditions and faced with similar constraints, human action will be immensely varied, both in the type of ESB practiced and the frequency with which the ESB items are practiced. In this matter, the concept of trade-offs is important. Economists purport to have a firm understanding of trade-offs, but in an environmental context, they often focus on matters of a small degree, such as willingness to pay premiums for organic products. Future research could add a rich layer to our understanding of the EVB gap by better understanding trade-offs between priorities, expenditures of time, or values, in addition to the existing, thorough economic analyses of financial trade-offs.

Conclusion

Our goal in this paper has been to contribute to the academic literature regarding the EVB gap in the hope that through strengthening the foundations of our understanding of the gap, future policy interventions designed to increase participation in ESB may be more successful. Many of the

behaviours we describe in this paper relate to consumer choices, but others go well beyond, to include broader issues of lifestyle choices. Future work in this vein should examine many of these broader, structural elements that enable or constrain our ability to practice ESB. We hope that in the future, other social scientists as well as practitioners will begin to understand that trade-offs are not solely in the domain of finance and consumer sovereignty, and that values trade-offs, prioritizing, and the influences of households and society can play a powerful role in mediating the translation of intent to action.

Endnotes

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E-mail: huddartk@ualberta.ca
2. For a critique on how the use of values measures ignore the realities of the disempowered, see Plumwood 1991.
3. For example, an item that reflects the DSP reads "Humans have the right to modify their environment to suit their needs" while an item reflecting an NEP orientation is "Plants and animals have as much right as humans to exist."
4. SM Research is located at 327 Renfrew Dr. Suite 301, Markham, Ontario, Canada, L3R 9S8. Their website is <http://old.smres.com/service.asp>.
5. An example of an altruistic statement is "Protecting the environment, preserving nature"; an egoistic statement reads "Having an impact on people and events"; a traditional statement reads "Having material possessions and money".

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