



## SOCIAL WELL-BEING, ENVIRONMENTAL ISSUES, AND HUMAN BEHAVIOUR: A THEORITICAL APPROACH

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**ABSTRACT** In psychological science, environmentalism refers to a behaviourally motivated tendency to act in ways that have pre-environmental intentions. Examining the premise that behaviour is primarily a function of the organism and its environment is the first step towards comprehending the complexities between the human psyche and environmental consequences. Breaking old habits is frequently a necessary part of a psychological shift that manifests as actionable behaviour and establishes itself by establishing new ones. Currently, this new area of study at the intersection of environmental science and psychology is searching for reliable models that can incorporate factors from multiple of the aforementioned broad categories. They should be able to propose interactions from both the disciplines, and channelize its scope for explaining one or more types of environmentally significant behaviour so as to foster sustainability and social wellness. This scholastic work has visited the psychological aspect focusing on individual's belief, drives, and so forth in order to understand and change the target behaviour that stands detrimental to the living environment. The conceptual review has also tried to statuette a broad fame-work that can increase theoretical rationale of both psychology and environmental economics domain in humanities and social science.

**KEYWORDS :** Human psyche, Psychological disorder, Environmental consequence, Environmental well- being

### INTRODUCTION

The materialistic ambition to gain personal security, power, and status—and most importantly, to enjoy bodily comfort—has essentially resulted in environmental influence across human history. By influencing companies' decisions for their own gain, humans have been shown to seriously disturb the environment.

In psychological science, the highly coveted "Environmentalism" refers to a behaviourally oriented tendency to act in ways that are beneficial to the environment. Understanding the basic connection between the human psyche and our physical surroundings is necessary, nevertheless, given the strange human attitude regarding the destruction and preservation of slogans. Here, psychology is essentially manifested in actionable behaviour, which involves changing old habits and forming new ones for the benefit of oneself and society (Dahlstrand and Biel, 1997).

Strong models that can incorporate factors from multiple wide areas are currently sought after by the nascent subject of psychological and environmental science interface. This is due to the fact that both domains are anticipated to interact in order to explain one or more forms of environmentally meaningful human behaviour that can eventually promote sustained well-being.

Therefore, in order to comprehend and highlight the target behaviour that poses a threat to the living environment, the researchers have tried to review the psychological part of this work that focuses on individual beliefs and motivations. Additionally, the conceptual assessment attempted to outline a wide framework for advancing environmentalism and, eventually, enhancing the theoretical rationality of the social science and humanities fields.

### Behavioral Issues Concerning Environmental Problems

Since human conduct as a whole is what is causing climate change and environmental degradation in the twenty-first century, it is important for everyone to understand the human drivers of climate change (Clayton and Brook, 2005).

Communities are already being forced to relocate due to present or projected climate change, and these forced relocations can involve severing emotional ties to place and upsetting pre-existing social networks, according to research findings by Ayman, Devine-Wright, and Prange (2009). As a result, environmental sustainability encompasses both the sustainability of the socially constructed interaction between humans and nature as well as an ecological crisis (Becker et al)

Realizing the importance of the physical context of human behaviour, researchers began to consider the relationship between humans and nature in the late 1960s. Human behaviour is the primary cause of environmental issues such as air pollution, noise pollution, global

warming, and biodiversity loss (Vlek and Steg, 2007).

As a result, topics like emphasizing sustainability and preserving the natural world by encouraging pro-environmental behaviour have been greatly researched and expanded upon in recent years. Affective behavioural influences on environmental concern and behaviour, such as empathy for others (Allen and Ferrand, 1999) and "emotional affinity" for nature (Kals, Schumacher, and Montada, 1999), have been the subject of some researchers' investigations.

The social-ecological models have been used more and more by behavioural and environmental scientists as a framework for understanding and regulating the resilience of human-environment systems (Berkes et al., 2003; Folke, 2006; Peterson, 2010).

Psychologists' knowledge of individual and community ideologies, values, and beliefs is thought to be a valuable tool for assisting in the explanation and treatment of emotional responses to the social justice concerns posed by the effects of climate change (Spence et al., 2009).

At the same time, Bechtel and Corral-Verdugo (2010) found that environmental conservation is linked to both its antecedent factors and its consequences. It is crucial to study the consequences because human behaviour is influenced by both its antecedents and its consequences. One of the main factors is that, despite their ability to express their thoughts, beliefs, and preferences clearly, individuals are infamously bad at identifying the reasons behind their actions (Nisbett and Wilson, 1977).

### Human Psychology And Environment

In addition to meeting their basic needs—such as clothing, food, and shelter—humans also like to satisfy their other interests. Thus, the study of environmental psychology is based on the differentiation between needs and desires. In this regard, Tay and Diener (2011) stated that "While needs can be regarded as relatively inflexible part of people's consumption, wants in the form of desire are more adaptable, as they are shaped by the perception of what is considered important or valuable in a culture".

In addition to not obtaining precise feedback on the outcomes of their behavioural adjustments, people generally are unaware of the types of their desire-driven behaviour that have a major impact on others' usage of the resources that are accessible to them (Gatersleben et al., 2002). As a result, when someone is aware of the suffering of others and feels obligated to alleviate that suffering, their altruistic behaviour will grow (Schwartz, 1977). Practically speaking, it is expected that environmental psychologists will investigate how human activity significantly influences environmental characteristics.

Environmental psychologists have proposed many frameworks to explain low-cost behaviour and activities with environmental aim, but

there appears to be a lack of systematic study on the breadth of applications of each theoretical approach (Stern, 2000). According to Doherty (2008), psychologists have been unable to address the underlying causes of environmental despair, even though they possess a wide range of abilities and positions that could potentially lead to chances for influencing pro-environmental behaviours.

The psychological community's long-standing lack of recognition of their own major position in addressing environmental concerns and promoting pro-environmental behaviour may be one of the causes (Kidner, 1994; Gifford, 2008). However, Prochaska and Velicer (1997) have provided a look into the process of individual behaviour change across time in their Trans-Theoretical Model of Health Behaviour Change. The six main stages of the change process are as follows, and they have identified roughly ten procedures that help people move between them:

1. Pre-contemplation: The stage in which people are not intending to change or take action.

2. Contemplation: People are intending to change within the foreseeable future, but are not ready to take action; doubts about the effectiveness of action and of uneven costs and benefits may stall people at this stage for some time (in a state of "chronic contemplation").

3. Preparation: People are intending to take action in the immediate future; they are very aware of the costs and benefits of change and are likely to have taken some related action recently, including having a plan of action in place.

4. Action: People have made or are making specific overt modifications to their behaviour

5. Maintenance: People are working to prevent a "relapse" to the previous behaviour; levels of confidence about their effectiveness (self-efficacy) tend to be higher than before action was first taken.

6. Termination: The changed behaviour has become normative; there is no chance of relapse

An emotional "shift from materialist to post-materialist values, from anthropocentric to ecological worldviews" is said to be necessary for a shift towards sustainability and well-being (Leiserowitz et al., 2005). According to Kollmuss and Agyeman (2002), environmental knowledge in the form of awareness is a subcategory of a more comprehensive environmental attitude. It is the beginning of emotional involvement, which in turn moulds the sense for an environmental attitude.

Emotional connection appears to be crucial in forming one's ideas, values, and attitudes towards the environment, and it has been further stated that the more strongly someone feels an emotion, the more likely they are to act in a way that is pro-environmental (Grob, 1995)

According to Kollmuss and Agyeman (2002), the earliest model of pro-environmental behaviour was predicated on a linear progression of environmental information, environmental attitude, and pro-environmental behaviour. In order to comprehend the relationships between individuals and their environments, social ecology has previously attempted to utilise some of the fundamental ideas and presumptions from systems theory, including homeostasis, interdependence, deviation amplification, and negative feedback (Maruyama 1963; Katz and Kahn 1966; Emery, 1969)." Jensen and Schnack (1997) have added that there is a need for a teaching method that gives students the bravery, dedication, and motivation to engage in social and behavioural interests related to global issues. Thus, this paper's objective is to examine the research literature, related theories, and hypotheses on emotional involvement that promotes environmental sustainability and well-being.

#### **Pro-environmental Behaviour And Human Psyche**

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and personal security, family, and so on, as well as the organisations and technologies that humanity has developed to satisfy these needs (Stern, 2000). Over the past century, the number of people on Mother Earth has grown from 1.5 billion in 1900 to 6.3 billion in 2003 (Cohen,

2003), and it is predicted that by 2050, there will be 8.9 billion people on the planet (United Nations, 2002). Our current overuse of natural resources raises concerns about sustainability for coming generations given the size of the population today.

Thus, it is imperative that current generations take the initiative to adopt environmentally friendly practices that go beyond the scope of mandatory work duties. According to Griskevicius, Tybur, and Van den Bergh (2010), this type of endeavour is referred to as pro-environmental activity, which is classified as a helpful behaviour orientated towards the environment, which is a public benefit. In this context, pro-behaviour refers to an independent effort that includes making positive recommendations and adjustments, recognising issues and coming up with innovative solutions, and getting past obstacles to enhance current procedures (Frese and Fay, 2001).

Since people who care more about the environment should be more inclined to take action to safeguard it, pro-environmental employee behaviour is a new area of study in organisational psychology (Tudor et al., 2008). (Hinds and Sparks, 2008). The models of altruism and pro-social behaviour can be used to analyse how an individual's mind manifests itself in pro-environmental behaviour.

1. Eisenberg and Miller (1987) defined pro-social action as "voluntary intentional behaviour" that benefits another; the motive is not specified and might be either good or negative, or both.

2. According to altruism, which is a subset of pro-social behaviour, persons who have had their needs met are more likely to act in an ecologically responsible manner because they have more resources to care about larger, less personal social and environmental challenges.

The altruistic idea was exaggerated by Stern et al. (1993), who claimed that "social orientation," "egoistic orientation," and "biosphere orientation" combined to explain why people act in ways that are beneficial to the environment. Later, Lehmann (1999) discovered that egoistic orientation alone is the strongest predictor, followed by social and biospheric concern (e.g., using the metro instead of driving a car to have time to read and rest). Researchers have distinguished between primary motives based on human motivation, such as whether to drive or bike to work today despite the rain.

However, there are also internal obstacles to more strong and differently focused pro-environmental reasons, including "I'll use my personal car because it's more comfortable." In this instance, personal comfort (selected reasons) takes precedence over environmental ideals (primary motives) (Moisander, 1998). As Perugini and Bagozzi (2004) have added, it can be argued that people frequently distinguish between "desiring a goal and intending to achieve it" or between wanting and intending to do some.

Over the course of a person's lifetime, the relationship between a human being and their surroundings deepens, and these interactions are largely influenced by the culture in which they live. Much of our intrinsic environmental drive is shaped by the value systems mentioned above, which include our close social network, which includes our family, neighbours, and peer groups. On the basis of early experiences, environmental sensitivity is primarily defined as inclinations to be concerned about the environment, learn about it, and take action to protect it (Chawla, 1998). As a result, while we are young, the family and natural surroundings had the most impact; education and friends were most frequently stated in early adulthood; and pro-environmental organisations were most frequently mentioned in maturity (Chawla, 1999).

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### Emotional Attachment

Emotions are thought to be an essential tool for human evolution and environmental adaptation. Emotional attachment is a crucial pro-environmental attitude in today's world since it allows one to react emotionally to environmental degradation. According to Grob's (1991) theory, people are more inclined to act in ways that benefit the environment if they have a higher emotional response. Scholars in the field of neuroscience have specifically said that a critical topic for the study of human concern for the environment is the interaction between emotions and rational processes in human decision making (Damasio, 1998).

He has proposed that human decision-making to act in a pro-ecological manner can be influenced by a "well-tempered" mix of cognitive and emotive processes. It has been confirmed by Kals et al. (1999) that elements like love and emotional attachment to nature are significant. Analytical reasoning is known to be ineffective without the guidance and support of emotion and affect (Damasio, 1994). Personality is not merely a genetic trait; rather, it is a malleable and dynamic entity (Mischel and Shoda, 1995).

Some people have a fixed (or "entity") hypothesis based on emotional

attachment, which holds that certain characteristics, including intelligence, are just fixed attributes. Some have a malleable (or incremental) hypothesis, which holds that people can improve their most fundamental traits by working hard and learning new things. According to research, those who have a changeable theory are more likely to face obstacles, learn, persevere through difficult activities, and recover from setbacks (Dweck, 1999).

However, there are also research findings regarding the responses to "guilt appeals" that suggest it is crucial to distinguish between messages that evoke feelings of shame and guilt, with the latter stemming from reflections on personal traits based on emotional attachment and the former from reflections on one's behaviour (Tangney, 2003).

### Sensation

Sensitivity is a type of brain function that makes a person aware of their immediate surroundings. Visual experiences, which are intimately related to observable sensations, play a major part in man's sensory understanding of reality. "Touch and sight supplement each other to such an extent that from the appearance of an object we can often enough predict its tactile properties" (Boring, 1948, p. 2).

According to Richins and Dawson (1992), the sensation for materialism is a basic organizing value that directs three different types of orientations: (a) the belief that material possessions are a sign of success; (b) the attachment to and belief that possessions are a source of happiness; and (c) the belief that possessions are essential to one's existence. As a result, a higher level of mindfulness fosters wellbeing by helping people become more clear about their beliefs and make decisions that are in line with them. The objectives may get more "intrinsic" and acquire a feeling of attachment as a result of this process. Since 2007, Lyubomirsky has stated that personal well-being can best be served by following "intrinsic" and "authentic" goals, i.e., goals that are inherently satisfying and meaningful, and rooted in one's core values.

### Desire For Possession/hedonism

The theory of the meaning of material possessions, which suggests that the use of material items performs three functions—instrumental, symbolic, and affective—is one of the significant topics that offers a promising approach (Dittmar, 1992). It has been discovered that there is a heritable component of happiness that can be fully explained by the architecture of personality, even though happiness, which is essentially derived from material possessions, is subject to a wide range of external influences (Davidson, 2001; Weiss, 2007). Three key aspects of habits serve as the foundation for pleasure that is restricted by material belongings. First, habits need a purpose in order to be fulfilled. Second, when results are generally favorable, the same approach is likely to be repeated. Third, mental processes mediate habitual responses. People will psychologically associate a circumstance with the associated goal-directed behaviour if they consistently behave similarly in that context. A person is more inclined to respond in accordance with the linkage's strength and accessibility the more often this occurs. Accordingly, a cognitive structure that is learned, maintained in memory, and recalled from memory when people see a specific scenario is what sets off habitual behaviour (Aarts, Verplanken, & Van Knippenberg, 1998).

Pro-environmental conduct frequently clashes with hedonic aims, or the pursuit of pleasure. As a sustainable lifestyle, frugality predicts a condition of enjoyment that contributes to psychological wellness (Brown and Kasser, 2005) as well as intrinsic motivation that enables the maintenance of lower consumption (De Young, 1996; Iwata, 2001). (Lindenberg and Steg, 2007). Happiness is typically not linked to objective elements like financial status or health, but rather to non-rational aspects like love and a stronger interaction with nature. Religious and philosophical ideas about happiness have influenced people all across the world (Bentham, 1997).

When examining the effects of people's pro-environmental behaviour, happiness should be taken into account as a distinct positive consequence of sustainability (Gardner and Prugh, 2008). This psychological state can be regarded as a "autonomous" or intrinsic consequence of being sustainable (Crompton and Kasser, 2009; Kasser, 2009).

### Environment And Pro- Behaviour

One of the primary factors influencing an individual's intrinsic

motivation has been identified as their personal value system. But the issue of what influences someone's values is a complicated one. Fuhrer et al. (1995) said that "a person's values are most influenced by the 'microsystem', which is comprised of the immediate social network, neighbours, peer-groups, etc." . At the same time, Hines et al. (1986) conducted a meta-analysis based on self-consciousness and discovered the following factors linked to responsible pro-environmental behaviour, as summed up by Kollmuss and Agyeman (2002):

**Knowledge of issues:** The person has to be familiar with the environmental problem and its causes.

**Knowledge of action strategies:** The person has to know how he or she has to act to lower his or her impact on the environmental problem.

**Locus of control:** This represents an individual's perception of whether he or she has the ability to bring about change through his or her own behaviour. People with a strong internal locus of control believe that their actions can bring about change. People with an external locus of control, on the other hand, feel that their actions are insignificant, and feel that change can only be brought about by powerful others.

**Attitudes:** People with strong pro-environmental attitudes were found to be more likely to engage in pro-environmental behaviour, yet the relationship between attitudes and actions proved to be weak.

**Verbal commitment:** The communicated willingness to take action also gave some indication about the person's willingness to engage in pro-environmental behaviour.

**Individual sense of responsibility:** People with a greater sense of personal responsibility are more likely to have engaged in environmentally responsible behaviour.

The health of society and ecosystems as a whole are directly impacted by our actions. The globe is impacted by our lifestyle choices. Therefore, internal motivation should be the driving force behind transformation. According to Eckersley (2006), this transformation will result from decisions made by each citizen individually and will represent the will of the group to do things differently.

### Scope For Future Research

Over the course of a person's lifetime, the relationship between a human being and their surroundings deepens, and these interactions are largely influenced by the culture in which they live. Gardner and Stern (1996) put up a set of guidelines for consideration. Finding target behaviors that have a major impact on the environment comes first, followed by behaviour analysis to determine the accountable actors and activities.

From the perspective of the actor and their immediate society, this should come after taking into account the entire spectrum of causative variables and investigating their potential significance to the goal behaviour. We support Gardner and Stern's (1996) argument and suggest that future humanities and social science academics apply their knowledge of and expertise in human psychology to advance their studies of environmentalism.

### REFERENCES

- Aarts, H., Verplanken, B. and Van Knippenberg, A. (1998), "Predicting behaviour from actions in the past: repeated decision making or a matter of habit?" *Journal of Applied Social Psychology*, Vol. 28, pp. 1355-1374.
- Agyeman, J., Devine-Wright, P. and Prange, J. (2009), "Close to the edge, down by the river? Joining up managed retreat and place attachment in a climate changed world", *Environment and Planning*, Vol. 41, pp. 509-513.
- Bechtel, R.B. and Corral-Verdugo, V. (2010), "Happiness and sustainable behaviour", In V. Corral-Verdugo, C. Garcia and M. Frias (Eds.), *Psychological Approaches to Sustainability*. New York: Nova Science Publishers.
- Becker, E., Jahn, T. and Stiess, I. (1999), "Exploring uncommon ground: Sustainability and the social sciences", In E. Becker and T. Jahn (eds.), *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*, London: Zed Books, pp. 1-22.
- Clayton, S. and Brook, A. (2005), "Can psychology help save the world? A model for conservation psychology". *Analyses of Social Issues and Public Policy (ASAP)*, Vol.5 No. 1, pp.87-102.
- Cohen, J.E. (2003), "Human population: The next half century", *Science*, Vol. 30 No. 2, pp. 1172-1175.
- Dahlstrand, U. and Biel, A. (1997), "Pro-environmental habits: Propensity levels in behavioural change", *Journal of Applied Social Psychology*, Vol.27, pp. 588-601.
- Damasio, A. (1998), "Emotion and reason in the future of human life", In B. Cartledge (Ed.), *Mind, brain and the environment: The Linacre lectures 1995-96* (pp. 57-71), New York: Oxford University Press.
- Davidson, R.J. (2001), "Toward a biology of personality and emotion", *Annals of the New York Academy of Sciences*, Vol.93 No.5, pp. 191-207.

- De Young, R. (1996), "Some psychological aspects of a reduced consumption lifestyle: The role of intrinsic satisfaction and competence motivation", *Environment & Behavior*, Vol. 28, pp. 358-409
- Doherty, T.J. (2008), "The psychologist as a community resource for sustainability", Paper presented at the American Psychological Association Annual Conference, Boston, MA.
- Eckersley, R. (2006), "Progress, sustainability and human wellbeing: Is a new worldview emerging?" *International Journal of Innovation and Sustainable Development*, Vol. 1 No. 4, pp. 306-317.
- Eisenberg, N. and Miller, P. (1987), "The relation of empathy to pro-social and related behaviors", *Psychological Bulletin*, Vol. 10 No. 1, pp. 91-119.
- Emery, F.E. and Trist, E.L. (1972), "Towards a social ecology: contextual appreciation of the future in the present", Plenum Press, London, UK.
- Few, R. (2007), "Health and climatic hazards: Framing social research on vulnerability, response and adaptation", *Global Environmental Change*, Vol.17, pp. 281-295.
- Folke, C. (2006), "Resilience: the emergence of a perspective for social-ecological systems analyses", *Global Environmental Change*, Vol. 16, pp. 253-267
- Gardner, G. and Prugh, T. (2008), "Seeding the sustainable economy", In Starke, L. (Ed.), *State of the World*. New York, W. W. Norton & Company.
- Gatersleben, B., Steg, I. and Vlek, C. (2002), "Measurement and determinants of environmentally significant consumer behaviour", *Environment and Behaviour*, Vol.34, pp. 335-362.
- Gifford, R. (2008), "Psychology's essential role in alleviating the impacts of climate change", *Canadian Psychology/Psychologies Canadienne*, Vol. 49 No.4, pp. 273-280.
- Griskevicius, V., Tybur, J.M. and Van den Bergh, B. (2010), "Going green to be seen: Status, reputation, and conspicuous conservation", *Journal of Personality and Social Psychology*, Vol. 98 No. 3, pp.392-404.
- Iwata, O. (2001), "Attitudinal determinants of environmentally responsible behaviour", *Social Behavior and Personality*, Vol. 29, pp. 183-190.
- Jensen, B. and Schnack, K. (1997), "The action competence approach in environmental education" *Environmental Education Research*, Vol. 12 No. 3-4, pp. 471-486
- Kals, E., Schumacher, D. and Montada, L. (1999), "Emotional affinity toward nature as a motivational basis to protect nature", *Environment and Behaviour*, Vol.31, pp. 178-202
- Katz, D. and Kahn, R.L. (1966), "The social psychology of organizations", Wiley, New York.
- Kidner, D.W. (1994), "Why psychology is mute about the environmental crisis", *Environmental Ethics*, Vol.16, pp. 359-376
- Kollmuss, A. and Agyeman, J. (2002), "Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behaviour?" *Environmental education research*, Vol. 8 No. 3, pp. 239-260.
- Leiserowitz, A.A., Kates, R.W. and Parris, T.M. (2005), "Do global attitudes and behaviors support sustainable development?", *Environment*, Vol.47 No. 9, pp. 28-38.
- Lindenberg, S. and Steg, L. (2007), "Normative, gain and hedonic goal frames guiding environmental behaviour", *Journal of Social Issues*, Vol. 63, pp. 117-137
- Maruyama, M. (1963), "The second cybernetics: deviation amplifying mutual causal processes", *American Scientist*, Vol. 51, pp. 164-179.
- Mischel, W. and Shoda, Y. (1995), "A cognitive-affective systems theory of personality: Reconceptualising the invariances in personality and the role of situations", *Psychological Review*, Vol.102, pp. 246-268.
- Nisbett, R.E. and Wilson, T.D. (1977), "Telling more than we can know: Verbal reports on mental processes", *Psychological Review*, Vol. 84 No. 3, pp. 231-259.
- Oskamp, S. (2000), "A sustainable future for humanity?" *American Psychologist*, Vol.55, pp. 496-508
- Stern, P.C. (2000), "Toward a Coherent Theory of Environmentally Significant Behavior", *Journal of Social Issues*, Vol. 56 No. 3, pp. 407-424
- Peterson, G. (2010), "Expansion of social ecological systems science", *Resilience Science*, pp. 16-18.
- Prochaska, J. and Velicer, W. (1997.) "The Trans-theoretical Model of Health Behavior Change", *American Journal of Health Promotion*, Vol.12 No. 1, pp. 38-48.
- Richins, M., and Dawson, S. (1992), "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research*, Vol. 19, pp. 303-316.
- Schwartz, S. (1977), "Normative influences on altruism", in: L. Berkowitz (Ed.) *Advances in Experimental Social Psychology*, Vol. 10 New York, Academic Press
- Spence, A., Pidgeon, N. and Uzzell, D. (2009), "Climate Change: Sparking off Debate about the Hot Topic", *The Psychologist*, Vol.22 No. 2, pp. 118-121.
- Stern, P.C. (2003), "Toward a coherent theory of environmentally significant behaviour", *Journal of Social Issues*, Vol 56 No. 3.
- Stern, P.S., Dietz, T. and Karlof, L. (1993), "Values orientation, gender, and environmental concern", *Environment and Behavior*, Vol. 25 No. 3, pp. 322-348.
- Tay, L. and Diener, E. (2011), "Personality processes and individual differences: needs and subjective well-being around the world", *Journal of Personnel Social Psychology*, Vol.101 No.2.
- United Nations Environment Programme (2002), "Fact Sheet, North America. *Global Environment*" Outlook