A Discussion of Underlying Theories Explaining the Spillover of Environmentally Friendly Behavior Phenomenon

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Abstract

This conceptual paper attempts to established theories of human behavior in explaining the process or stages of the pro-environmental behavior spillover phenomenon. The first stage is the formation of attitude (environmental concern) and behavior during a person’s involvements at workplace, explained by The Social Identity Theory and Place Attachment Theory. The second stage is where he/she feels the need to maintain behaviors consistent with the acquired attitude and norms, even while outside the workplace or at home, explained by the Theory of Cognitive Dissonance. The last stage is where the person performs environmentally friendly behavior as a responsible member of the community.

Keywords: Spillover of environment friendly behavior; Social Identity Theory; Place Attachment Theory; Theory of Cognitive Dissonance

1. Introduction

We have to constantly remind ourselves that the quality of the environment depends almost entirely on human behaviour patterns. The various environmental problems that we are facing today, such as global warming and climate change, air pollution, water shortages, depletion of natural resources, and loss of biodiversity are indeed rooted in human behaviour (Gardner and Stern, 1996). The common recognition of this fact has encouraged the use of the science of human behavior to further understand the root of the problems and create strategies for solving them. We have to accept that, not only it is important that we examine the chemistry, biology, physics, ecology or economics of environmental problems; but it is also crucial that we understand the importance of the behavioral dimensions and study ways we can influence...
and change it. According to Midden, Kaiser and McCalley (2007) the benefits of using environmental
friendly products or devices (such as, energy efficient appliances, water saving devices, home insulation)
is too small compared to the aggregate impact of the overall population consumption growth. Moreover,
these technically innovative products also imply behavioural changes on the part of the consumers since
they would need to understand the environmental benefits offered by these products before they would
want to buy, and use them in their homes. (Steg and Vlek, 2009).

2. Review of pro-environmental spillover behavior literatures

In the past, studies have been carried out to understand how to encourage a specific consumers pro-
environmental behavior (for instance on persuading consumers to participate in a recycling program, or
sharing of private transportation, or preferences for organic produces, or use of energy saving light-bulbs)
rather than on achieving general (overall) changes in value orientation and subsequent environment-
friendly lifestyles. Some researchers warned that this narrow focus on single behaviors and problems is
inefficient and too slow, compared to the greater challenges that lies ahead (Gray, 1985; Orlander and
Thogersen, 1995), and others have claimed that a too narrow focus often leads to the creation or
worsening of environmental problems outside the intended focus (Thogersen, 1999). Kilbourne and
Polonsky (2004) consequently suggested that the focus should be to have comprehensive consumer-
directed environmental strategy that is directed to changing the overall lifestyle patterns, not just a
specific behavior.

One of the most prominent is the multidisciplinary approach to the education of the environment and
development issues implemented in educational institutions throughout the formal educational system.
Alternatively, researchers have also begin to explore into aspects of the organizational learning elements
that could also result in improved employees’ knowledge and experience about environmental protection
issues. For example, studies focusing on the implementation of the Environmental Management System
(EMS) have showed that employee involvement, achieved through work related experience, training and
other organizational aspects have in fact facilitated in the formation of a positive environmental attitude
(environmental concern) and the related personal norms (Graves and Sarkis, 2010; Marrow and
Rondinelli, 2002; Rondinelli and Vastag, 2000; Berger and Kanetkar, 1995).

Some of these studies have also shown that these positives environmental related attitude and norms
were not just confined to workplace domain, but have spilled over into other personal aspects of their
lives (Nik Ramli et al., 2009). In his article, Thorgersen (2004) has outlined 3 important prerequisite that
could lead to an effective behavior spillover process. The prerequisites are that a) the person knowingly
and willingly behaves in an environmentally responsible way; b) there are obvious opportunities for
acting in an environmentally responsible way and; c) individuals are aware of relevant similarities
between environmentally significant behaviors of each domain.

And all of these three prerequisite apparently seem to be present within the organizations
implementing the environmental management system. To further enhance the understanding of this
phenomenon, a recent study have also identified other organizational elements, such as employee
organizational identification and perceived management support that have also positively contributed to
this spillover process (Nik Ramli and Naja, 2011).

After reviewing the above literatures concerning the spillover of pro-environmental behavior, two
major gaps could be cited. Firstly, none of the previous research articles have presented this phenomenon
in an illustrative model that could simplify the understanding of the processes and variables involved. Fig.
1. shown below attempt to address this gap. Secondly, any empirical study requires strong theoretical
underpinning to ensure justifications of the research framework and offers generalisability of the findings
(Le Compte and Preissle, 1993). Though the theory of cognitive dissonance was briefly mentioned in
previous studies, a more thorough discussion is still required. This paper has also attempted to strengthen the theoretical foundations of this phenomenon by relating it to the Social Identity Theory and Place Attachment Theory. Both of these theories have never been cited in earlier pro-environmental behavior spillover literatures.

3. Theories underpinning the pro-environmental behavior spillover phenomenon

3.1. Stage 1: Development of Pro-environmental Attitude

The first stage of this spillover process is the attitude formation stage. Studies have shown that repeated behavior in a very structured and formal setting is expected to heighten the effects on attitude and behavior. Relying on the assumptions made from action-opinion theories where repeated behavior is believed to contribute strongly to the formation of an attitude, active employee involvement with the implementation of environmental programs and activities could also contribute to forming a person’s concerns for environmental well-being in general. Involvement here denotes, “active and actual participation in a consistent and continuous nature”. It is a desirable condition, has an organizational purpose, and connotes passion, focused effort, commitment, enthusiasm, and energy, thus has both attitudinal and behavioural components (Macey and Schneider, 2008; Vandenberg et al., 1999; Lawler, 1986, 1992).

Fig. 1. Theoretical Model of the spillover of environment friendly behavior
The implementation of a strong EMS that continuously expose employees with information, training, knowledge, activities, responsibility, accountability, performance appraisal, and other informal activities that could strongly influence their predisposition and determine the manner they respond toward environmental issues. A person involved with the implementation of an EMS has to have the knowledge, information about the environment related activity in his or her organization. They have to undergo trainings related to it. They have to perform their part in the EMS, and expect to be held accountable and recognized for whatever he or she has achieved. All the experience and hands-on activities that are carried out by individuals to “protect the environment”, in a long-run has to have some effects on his attitude, values and norms. Fig. 2. below is included to provide a general sense of what does it means to be involved with pro-environmental activities found during the implementation of the EMS.

One important point to note is that the term employees referred to in this article also connotes individuals as group members or some form of social interaction. We believe that social or group pressures that exist among employees in an organization have a significant role to play in this attitude and norm development stage. This assumption is supported by the Social Identity Theory. The Social Identity Theory states that when people are categorized as group members, they internalize that membership as a part of their self-concept and form a shared group identity and the socialization process occurring therein can be used to predict the diffusion of belief through its social system (Tajfel, 1974).

According to Latane (1996) the result of individuals influencing each other in a dynamic way can create a social influence that could change an individual’s thoughts, feelings, attitudes, or behaviors. Duke (2010) carried out an experimental study to investigate how environmental behavior is indeed influenced by social forces. He concluded that social (inter-group) comparison and (intra-group interaction through) small group discussions could be used as intervention strategy to promote relatively enduring pro-environmental behavior. Empirical evidence from another research by Hargreaves (2011) suggested that interaction processes is an important mechanism through which pro-environmental behavior was spread throughout the workplace from employee-to-employee, and if more regularly reinforced could render it to be more durable.

The implementation of the EMS seems to fits into the criteria described in the above discussions, since the successful implementation and accreditation of the EMS depends on group cooperation from the most varied hierarchical levels and functions. Carrying out EMS programs requires a combination of different types of individual competencies which can only be effective through the formation of cross-functional teams (Rothenberg, 2003). Communication and training as an active social process is also an integral part of its implementation. Environmental teams are also essential to support the organizational learning, to create ideas, to identify conflicts, and look for the best practices in environmental management. Thus, the continuous employees’ hands-on involvement with relevant environmental programs and activities and the teamwork that is essential for effective and successful implementation of the EMS could further enhance the impact of developing the positive attitudes and pro-environmental behavior.

Another important finding from the study of the spillover of pro-environmental behavior by Nik Ramli and Naja (2011) is that it has shown involvement with practical aspects of organizational environmental practices does not only influence one’s own environmental attitude, but his or her attitude toward relationship with the organization itself. The belief that he is helping the organization doing something good eventually created a feeling of identification with the organization. This is understandable since both attitudes are derived from the same concern for the environment.

According to the organizational identification theory, employees who value the noble efforts undertaken by the organization will feel prouder about their organizational membership, which in turn increases their organizational identification and promotes the associated responses (Jones, 2010). Kim et al., (2010) differentiated employee association and employee participation in company CSR efforts; concluding that it is employee participation that resulted in directly influencing employee organizational
identification. The same outcome could be expected for employee that had an opportunity to experience hands-on environmental protection activities within the implementation of the EMS. Employee participation with such noble cause could contribute to a rich psychological and emotional link between employee and the organization (Berger et al., 2006; Bhattacharya et al., 2008).

Another theory that could explain this psychological dimension of employee involvement is the Theory of Place Attachment. Morgan (2010) highlighted several approaches to the Place Attachment Theory, where one is defined as a socially constructed phenomenon, while another approach sees it as the relationship between the physical environment and the human psyche, and lastly a phenomenological or humanistic approach that attempt to explore the deeper emotional quality of people’s relationship to places. Hay (1998) refers place attachment to the experience of a long-term affective bond to a geographic location, such that it becomes one anchor of his or her identity.

Amtrak: Environmental Policy states:

We will protect the environment and conserve its resources by reusing material, recycling waste, and preventing pollution. We will minimize the environmental impacts of Amtrak’s operations through reviews of the design, construction, and maintenance procedures for our equipment and facilities, and by implementing appropriate control measures.

Amtrak’s goal is to recycle paper, cardboard, aluminums, plastic, newspaper, and glass at its facilities and operations. This effort will support Amtrak’s environmental stewardship policy of material reuse. Amtrak incorporates pollution prevention into its regular operations, the start-up of new initiatives, and modification of existing processes. It is accomplished through the following source reduction techniques:

1) Promoting the use of alternative, non-hazardous materials
2) Increasing the purchase of recycled content and recycled products
3) Modifying processes and procedures to eliminate or reduce waste or pollution
4) Improving housekeeping practices
5) Routinely maintaining equipment and facilities
6) Increasing environmental awareness and training
7) Employing environmental Best Management Practices, including spill and leak prevention, waste segregation, preventive maintenance, material handling improvements, inventory control, and production scheduling.

A. Employee Involvement

Amtrak will foster a team-approach to conserve resources and promote environmental awareness through integration and coordination among Amtrak waste generators, Division, Environmental Department, and other departmental personnel. We will also include applicable environmental and P2 goals as a part of Management employee performance measures, where applicable.

B. Tracking and Reporting

Amtrak has established a tracking system designed to start to establish baseline waste characterization and monitor waste generation data to enabling quantitative evaluation of P2 progress. In addition, Amtrak plans to develop and maintain a system for reporting material usage, waste generation, and waste minimization internally and in accordance with regulatory requirements.

C. Resource Allocation

Amtrak will update funding requests to include return-on-investment for P2 and waste minimization as applicable and seek funding, as needed, for project implementation to realize cost savings, or cost avoidance. In addition, Amtrak will support recruitment and assignments of Division personnel to support the P2 program and project implementation.

Fig. 2. AMTRAK Pollution Prevention Program. Sources: www.governmentattic.org/docs/AMTRAK_EMS_Manual_Rev2004.pdf
Results from studies have consistently revealed that there is a significant relationship between self-identity that has resulted from collective group processes, as a significant predictor of a person pro-environmental behavior (Dono et al., 2010). A recent article by Whitmarsh and O’Neill (2010) also mentioned that assertion of identity is understood as an attempt by a person to establish consistency in attitudes and actions and continuity across experiences, and appears to be highly relevant in exploring consistency and, ultimately, spill-over effects across pro-environmental behaviors. Gosling and William (2010) also showed that pro-environmental behaviors increased when the person felt the connectedness to his physical environment.

Even though it accounted for only a modest amount of the variation in behavior, these findings are also consistent with the framework that suggest that emotional association with nature leads to an expanded sense of self and greater valuing of non-human species, and eventually motivates his or her pro-environmental behavior. The findings of this study appear to support similar results documented in other research that focuses on the relationship between place attachment and environmental concerns, attitudes, and behaviors (Stedman 2002; Vaske and Korbin 2001; Vorkinn and Riese 2001). Another interesting study by Halpenny (2006) not only confirmed place attachment as a positive and significant predictor of environmental intention and could foster individual’s decisions to engage in pro-environmental behavior, but she also observed the presence of a “carry-over” effect where positive bonds with specific places, especially nature-based settings, have encouraged individuals to engage in pro-environmental behavior in their everyday lives.

3.2. Stage 2: Cognitive dissonance and the drive for consistency

Festinger’s (1957) cognitive dissonance theory assumes that people cannot tolerate inconsistencies and will work to eliminate or reduce it whenever it exists. This theory has obviously stood the test of time in that it is mentioned in most general and social psychology textbook today. According to the theory, a state of “dissonance” will be aroused whenever a person simultaneously has two cognitions that are psychologically inconsistent. Cognition is a thought, a piece of knowledge, or a belief. Cognition also encompasses knowledge about attitudes, values, behavior, other people, ourselves, general knowledge, or any other target (Worchel, et al, 2000).

Dissonance cognitions are inconsistent or incompatible with each other or they psychologically contradict one another. For example, the cognition “Car pooling is good” and “I look good driving my new Volvo to office” are in dissonant. Another example of dissonant cognition is “Energy saving bulbs are efficient and longer lasting” and “Traditional bulbs are cheaper”. The pairs of cognitions include one of it to be cognition about the perceiver’s personal actions. This is an important element of the theory and would be one of the basis in discussing this research framework. As mentioned earlier, since the state of cognitive dissonance is an unpleasant one, the individual will be motivated to reduce the dissonance in some way and achieve greater “consonance” (consistency). This reduction of dissonance between an act and an attitude can take place in a number of ways.

Firstly, this can be done by changing one of the cognitions so that it is no longer in dissonant with the other. For instance, using the earlier example of dissonance arising from “efficiency of energy saving bulb” and “cheaper traditional bulbs”, the person might change his earlier cognition about the traditional bulb by stating that “traditional bulb cost more in the long run”.

Secondly, another dissonance reduction strategy is to think of other cognitions that are consonant or consistent with one of the dissonant ideas. By increasing consonant cognitions, one increases its value and thereby reduces the amount of dissonance experienced. Again referring to the above example, to support the cognition “purchasing energy saving bulb is better” a new cognition is added to the psychological mind-set, that is, “the product is the endorsed by a trustworthy eco-label”. The third dissonance reduction
tactic is to alter the importance of one of the discrepant cognitions. For example, “the energy saving bulb do not flicker and is 4 times brighter”. This additional cognition reduces the importance of “the much cheaper price of traditional bulb” cognition and thus lower the amount of dissonance experienced.

Another very important aspect of the theory of Cognitive Dissonance is that it is somewhat counterintuitive and, in fact, fits into a category of counterintuitive social psychology theories sometimes referred to as action-opinion theories. The fundamental characteristic of action-opinion theories is that they propose that actions can influence subsequent belief and attitude. This is counterintuitive in that it would seem logical that our actions are the result of our belief/attitudes, not the cause of them. However, as found in the wisdom of Aristotle’s statement that “men acquire a particular quality by consistently acting in a particular way” would give another light to the matter. In fact, there is considerable evidence now to support the view that attitude change is best accomplished after exposure to a situation in which behavior is first change directly. If behavior is changed, a change in attitude will usually follow. The theory of Cognitive Dissonance states that our attitudes are often rationalizations for the things that we have already done. For example the person who has given up smoking through a long and agonized process becomes the strongest critics of anyone else who smokes. The same could be said of a person who focuses his or her energy at the workplace, where he or she spends majority of his or her time, and is explicitly or implicitly reinforced with codes of behavior that emphasizes the importance of minimizing the organization’s environmental impact. Such a person would surely have developed significant perspective of other environment-related issues in general. These examples actually depict a process in which a person’s behavior is followed by substantial attitude change. It also assumes the presence of pressures toward consistency between attitude and behavior.

The results of experimental research on dissonance theory has provided a knowledge base that makes it possible to develop measures for changing people’s attitudes and behavior by targeting their inner contradictions. This understanding would also have a pertinent contribution to the area of environmental attitudes and behavior studies as well. Since several studies have indicated that there is an inconsistency between environmental attitudes and behavior (Brat, 2004; Mainieri, et al., 1997), we could expect that people develop some degree of dissonance with regard to their behavior toward the environment. According to Thogersen (2004) if two volitional behaviors are believed to lead to the same super-ordinate goal, a desire to avoid cognitive dissonance should create a drive to perform both of them. If two different behavior categories are believed to be connected to the same attitude (environmental concern) than a desire to avoid this dissonance should create a drive within the person to act more consistently toward the environment. Experimental studies have also demonstrated that cognitive dissonance can produce environment-friendly adjustments in behavior by increasing the salience of the discrepancy between a person’s behavior and his or her norms for environmentally friendly behavior (Aitken et al., 1994; Dickerson, et al., 1992; Kantola, et al., 1984).

A critical observation that must be mentioned is that all of the above mentioned studies were related to behavior adjustments from individual private-life setting which is, as discussed previously, different from what is proposed in Figure 1. As could be observed in the research model, the source-behavior category is in an organizational setting and is also uni-directional. And as mentioned earlier, we believed that behavior in such structured and formal setting is expected to heighten the effects on attitude and behavior (Rondinelli and Vastag, 2000; Stern, 2000) and when routinely repeated this could also contribute to forming a person’s concerns for environmental wellbeing in general. For example, a person environment responsible behavior in an organization (e.g. taking care of scheduled waste, use of recycled material, complying with regulation etc) and his personal behavior outside the organization (eat organic fruits, buy energy saving bulb, donate to environmental protection causes) have to come from his same concern for the wellbeing of the environment. It has to come from knowing and being aware of environmental issues. Dissonant cognitions could arise if his or her behavior inside the organization and outside the
organization is contradicting each other. Cognitions such as, “environment care is not only about organization”, “individual action also matters to the environment”, “I have seen for myself and I know pollution is bad” could be sufficient driving force to be consistent in his or her reaction to environmental issues. It could most probably bring the person to extend his concerns for the environment to his or her target- behavior outside the organization.

3.3. Stage 3: Spillover behavior at home

When discussing the spillover of pro-environmental behavior phenomenon, this last stage is what matters most. Justifying the proposition that environmental behavior is contagious, that a behavioral norm that originated from one domain could spread to another domain, could give policy makers a cost-effective and socially acceptable alternative in addressing the deteriorating environmental situation. Considering the dire environmental situation that we are facing, and thus enormous challenge that lay ahead, any suggestion, however trivial it seems, must seriously be taken into consideration. Even though many might tend to agree with the assumptions put forward by proponents of the rational choice theory that assumes people will choose to behave in a way that would only ensure their immediate personal benefits over something they see as too idealistic (Scott, 2000).

Suggesting that people will be even more willing to behave in a pro-environmental manner only if it is motivated by self-interest. However, repeated studies have shown that consumer choice for a pro-environmental behavior is more strongly influenced by positive universalism values over other selfish reasons and their decision is a practical way to express their ethical values and concern for the common good (Thogersen, 2011; Thogersen and Olander, 2002). Based on our own studies, we also conclude that sustainable behavior at home, such as - responsible water usage, 3-R (recycle, reuse and reduce), waste segregation, buying energy efficient products, cutting down electricity use, car pooling to office, wasting less food etc – are behaviors driven by a person’s knowledge, experience, and concern for the environment wellbeing. More importantly, our study also shows that the opportunities to develop these drivers for pro-environmental behavior exist at the workplace. (Nik Ramli and Naja, 2011).

4. Conclusion

This study proposes that human behavior – attitude, values and norm – are a function of the environment they are in. This includes workplace environment, where people do spend more than half of their active living time interacting and being influenced by it. The attitude, values and norm are what make the whole person – no matter where he or she is. We cannot compartmentalize a person according to his geographical where-about – having one personality (active attitude, values and norms) at workplace, and later switch on to another personality while somewhere else. Having dual and conflicting personalities – is always a cause for an uneasy feeling within a person. The natural need to avoid this uneasy feeling is the premise of the Spillover of Environment Friendly Behavior Phenomenon. This phenomenon is rooted within well established social-psychological theories, where people are expected to have a strong desire to be consistent in their attitudes, beliefs, words, and behaviors. The work-environment where employee routinely gets involves with environmental activities and programs is to be the starting point (or source behavior) of the spillover process. The prerequisite for the successful and effective implementation of the EMS is for the organization to nurture true commitment of all employees and the strong support from management.

However, it is sometimes observed, that employees can be indifferent toward the implementation of the EMS. There seems to be a barrier to employee whole-hearted involvement with the organization’s environmental protection efforts. We believe that one significant barrier is the cynical feeling that all that
is done is not for the environment – but for profit and other organizational narrow interests. Studies done by Marrow and Rondinelli (2002) and McDonach and Yaneske (2002) identified some of the main reasons for certification with the ISO 14001 are export market pressure and compliant with overseas head-office instructions. Other studies note “boosting of public image” as the reason for the certification (Zutshi and Sohal, 2003). Thus, a person would not be inclined to adopt an idea proposed by the organization if he perceived the organization itself as not embracing it whole-heartedly. In fact the opposite might happen, where the person would psychologically and emotionally be detached from the idea, even though physically he would be carrying out his responsibility as some routine chores. Such situation would be an opportunity loss for a potentially viable environmental protection effort.

As such, we conclude that employee perception of true management support for the environmental protection effort as the most crucial factor and would reinforce the important role of organizational factors in the spillover phenomenon. Employee must be able to “see” that the organization is committed to minimizing the organization’s negative environmental impact – through budget allocations, non-financial resources, enforcement of environmental protection policies and procedures, and feedback. These actions shows that management “means business” and would expects that employees would positively reciprocate by increasing their effort to understand the organization and their own role in caring for the environment. This care would generally be expressed behaviorally through their support for environmentally related policies and involvement in activities organized by management.

5. Recommendations

Practically, management has to realize that they can get more out of the implementation of the EMS. It should not be just about getting certifications or avoiding the infringement of existing law. Management should not be indifferent to the impact of involvement and support for the implementation of the EMS on employee attitude on behavioral norms. The position of top management as role model or source of inspiration should be used positively in giving effect to employee behavior inside and potentially outside the organization (Zibarras and Ballinger, 2010; Graves and Sarkis, 2011). Management need to ensure maximum opportunities for employees to be involved in environment friendly activities in the organization. Information regarding the positive impact of organization’s and individual environmental protection effort must be shared. Training is obviously a requirement. Employee must feel empowered to contribute more for the organization’s environmental performance, and be recognized for it. Employee must not be made to feel that their contribution is merely to fulfil organizational selfish reasons.

One important fact is that an organization’s show of commitment for the environment is also a positive contributing factor to employee organizational identification. And the benefits of employee organizational identification are conclusively proven in many earlier empirical researches, some of which includes increase employee loyalty, citizenship behavior and some aspects of organizational performance. The role of employee organizational identification is also not only limited to internal organizational benefits but act as a crucial intervening component of the spillover of pro-environmental behavior of employees outside the organization. This information could be used as a strategic tool to further enhance corporate image through its improved corporate social responsibility. Research carried out in the USA into the components of a company’s reputation, named environmental responsiveness, environmental self-regulation and waste minimization programs as ‘of the highest importance’ in determining a company’s reputation (Peattie, 1995:225).

Organizations could in fact involve family members (children and spouses) in the usual company sponsored social events such as, “open family day” where team-building activities can be carried out using the save-the-environment themes. Organizations implementing the EMS are not only producing ecologically friendly products through sustainable production processes, but also contribute in the
development of an ethical citizen are sensitive to the needs of the physical environment. It is also important to note that this is in line with policy maker’s efforts to develop holistic human capital, through the internalization of positive and progressive attitudes, values and ethics through education, training and lifelong learning (Ninth Malaysia Plan; p.237).

It is also hoped that this paper would create an interest among researchers to carry out more intensive study about this spillover of environment friendly behavior phenomenon, using established experimental research methodology. Other organizational elements (such as, organizational climate dimensions and organizational culture) can also be explored to further enhance the role of managers in business organizations in nurturing a more environmentally responsible society.

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