

Assessing the Potential Effectiveness of Environmental Advertising: The Influence of Ecological Concern and Ad Type on Systematic Information Processing

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ASSESSING THE POTENTIAL EFFECTIVENESS OF ENVIRONMENTAL
ADVERTISING: THE INFLUENCE OF ECOLOGICAL
CONCERN AND AD TYPE ON SYSTEMATIC
INFORMATION PROCESSING

by

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ABSTRACT
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Following the postulation of motivation propelled message processing brought up by Chaiken, Giner-Sorolla and Chen (1996) within the framework of the heuristic-systematic model (HSM) (Chaiken, 1980; 1987; Chaiken, Liberman, & Eagly, 1989), this study attempts to explore the extent to which individuals' environmental concern can affect persuasion via systematic information processing. The study examines the comparative effectiveness of a product-based informational approach versus a social norm-based transformational approach regarding individuals with varied levels of environmental concern. A mixed model design is conducted to test the relationship between environmental concern, ad type, systematic processing of information and advertising effectiveness. The regression analysis performed on the results of 167 students' responses to the study shows no interaction effects between environmental concern and ad type. Nevertheless, students' environmental concern is found to be an important predictor of systematic processing of ad information, their perception of advertising message featuring ecological benefits, their evaluation of the brand performance and their propensity to purchase green.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
LIST OF TABLES	v
CHAPTER	
I. INTRODUCTION	1
A. Environmental Concern and Ecoconscious Behavior	1
1. The Rise of Ecoconsciousness	1
2. Ecoconsciousness-Motivated Behavior	1
3. Environmental Concern Defined	2
4. Environmental Concern and Ecofriendly Behavior	3
B. Environmental Advertising and Green Consumerism	7
1. Ecological Consideration for Marketers	7
2. Environmental Claims	9
3. Green Advertising and Consumers	10
4. Environmental Concern, Green Appeal, and Information Processing	14
II. LITERATURE REVIEW	17
A. Theoretical Framework	17
B. Informational Advertising and Transformational Advertising	18
C. Accuracy motivation and Informational Advertising	19
D. Impression Motivation and Transformational Advertising	21
E. Multiple-motivation HSM, Environmental Concern, and Communication Effectiveness	24
F. Research Questions and Hypotheses	28
III. RESEARCH METHOD	33

A. Mixed-model Design as Research Method	33
B. Sampling.....	33
C. Experimental Stimuli.....	35
D. Instrumentation	38
E. Dependent Variables	39
1. Attitude toward the Advertisement Measure	40
2. Attitude toward the Brand Measure.....	40
3. Purchase Intention Measure	41
F. Intervening Variable	42
1. Systematic Processing toward the Ad.....	42
G. Independent Variable	42
1. Environmental Concern Measure	42
H. Control Variables	43
1. Subjective Norms Measure	43
2. Systematic Processing toward Environmental Information in Mass Media.....	44
3. Issues Related to Purchase Process.....	44
4. Demographic Information.....	45
I. Experimental Procedure	45
J. Reliability and Validity	47
K. Descriptive Statistics.....	58
IV. FINDINGS.....	63
A. Relationship Between Environmental Concern and Systematic Processing toward the Ad	64

B. Influence of Informational Appeal versus Transformational Appeal, Environmental Concern on Systematic Processing toward the Ad	65
C. Relationship Among Environmental Concern, Systematic Processing, and Communication Effectiveness	65
D. Influence of Informational Appeal versus Transformational Appeal, Environmental Concern on Communication Effectiveness	67
E. Other Findings with Demographics, Social Norms, Systematic Processing of Information, and Environmental Concern on Communication Effectiveness	68
V. DISCUSSION	70
VI. CONCLUSION.....	74
A. Summary of Key Findings	74
B. Theoretical Contributions.....	75
C. Limitations	77
D. Future Research Directions.....	79
E. Practical Implications	81
BIBLIOGRAPHY	82
APPENDIX A Questionnaire with Informational Ad	93
APPENDIX B Questionnaire with Transformational Ad	99

LIST OF TABLES

Table 1. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Attitude toward the Ad.....	47
Table 2. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Attitude toward the Brand	48
Table 3. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Purchase Intention	48
Table 4. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Systematic Processing toward the Ad.....	49
Table 5. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Systematic Processing toward Environmental Information in Mass Media.....	50
Table 6. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Subjective Norms.....	50
Table 7. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Environmental Concern	50
Table 8. Principal Axis Factoring with Oblimin Rotation: New Ecological Paradigm	53
Table 9. Reliability Coefficients: New Ecological Paradigm	54
Table 10. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Eco-conscious Behavior	55
Table 11. Correlation and Reliability Coefficients: Environmental Concern and NEP	56
Table 12. Correlation between Environmental Concern and Systematic Processing toward Environmental Information in Mass Media.....	57
Table 13. Correlation between Environmental Concern and Eco-conscious Behavior	57
Table 14. Descriptive Information: Attitude toward the Ad (Rank from 1 to 5)	58
Table 15. Descriptive Information: Attitude toward the Brand (Rank from 1 to 5)	58
Table 16. Descriptive Information: Purchase Intention (Rank from 1 to 5)	59

Table 17. Descriptive Information: Systematic Processing toward the Ad (Rank from 1 to 5)	59
Table 18. Descriptive Information: Subjective Norms (Rank from 1 to 5)	60
Table 19. Descriptive Information: Purchase Habits (Rank from 1 to 5)	60
Table 20. Descriptive Information: Systematic Processing of Environmental Information in Mass Media (Rank from 1 to 5)	61
Table 21. Descriptive Information: NEP, Environmental Concern, Eco-Conscious Purchase	62
Table 22. Multiple Regression: Environmental Concern, Systematic Processing, and Communication Effectiveness	63
Table 23. Partial Correlation: Environmental Concern, Systematic Processing toward the Ad, and Advertising Effectiveness	66

I. INTRODUCTION

A. Environmental Concern and Ecoconscious Behavior

1. The Rise of Ecoconsciousness

Environmental issues have become an increasingly visible public concern during the past four decades. The green movement has spread across the globe and moved from the fringe to the mainstream (Dagnoli, 1991; Simon, 1992; Brown & Wahlers, 1998; Dunlap & Scarce, 1991; Gallup Reports, 1991; Gallup Reports, 1989). Thanks to sweeping mass media coverage and extensive education initiatives, people have become more knowledgeable about environmental issues (Banerjee & McKeage, 1994; Kangun, Carlson, & Grove, 1991; Dunlap R. E., 2008). A growing number of people now understand the impact that their behavior, as well as corporation's accountability, has on the environment (Laroche, Bergeron, & Barbaro-Forleo, 2001; Mostafa, 2007).

Increasing evidence suggests the emergence of a new generation of ecocentric consumers who are motivated by their environmental concern at the point of purchase (Schwepker & Cornwall, 1991; Taylor J. , 1992; Chase & Smith, 1992). The commitment to preserve nature's resources and maintain ecological sustainability propels many consumers to make environmentally sound purchases (Ottman, 1993; Laroche, Bergeron, & Barbaro-Forleo, 2001).

2. Ecoconsciousness-Motivated Behavior

Henion and Wilson (1976, p. 282) defined an ecologically concerned consumer as one "whose values, attitudes, intentions, or behaviors exhibit and reflect a relatively consistent and conscious concern for the environmental consequences related to the purchase, ownership, use or disposal of particular products or services." Environmentally

conscious consumers or green consumers as termed by marketers are distinguished by their consideration for more than the mere purchase and consumption processes, expanding concerns to include the production process and disposal issues (Zinkhan & Carlson, 1995).

Indeed, the discretion with which individuals exercise their choice of products can either help balance the ecosystem or speed up its deterioration. For every purchase decision to be made, there is the potential for that consumer to contribute to a more or less sustainable pattern of consumption. Sticking to a list of ecologically benign brands is not a simple matter determined by a mere command of one's will; rather, a green choice involves a complex rationalization process propelled by diverse criteria of selections (McCarty & Shrum, 2001; Charles H. & Cornwell, 1991; Kim & Choi, 2005). Under those criteria, there are various consumption values, such as functional, emotional, cognitive and social (Sheth, Newman, & Gross, 1991). It is therefore essential to investigate the motivational factors that shape these green choices.

Existing research indicates that consumers' environmental concern seems to be an important indicator of their ecofriendly behavior, to the extent that they are willing to pay a premium price for environmentally safe products (Moon, Florkowski, Brückner, & Schonhof, 2002; Chase, 1991; Levin, 1990; Kassarian, 1971; Coddington, 1993), and engage in socially responsible investments (Cullis, Lewis, & Winnett, 1992).

3. Environmental Concern Defined

Fundamentally, environmental concern pinpoints one's attitude toward the environment and the relationship between humans and the ecosystem. The concept incorporates multiple dimensions in the sense that the attitude reflects different aspects

regarding humans and nature, such as awareness of ecological problems, support for environmental regulation, and exhibition of ecoconscious behavior (Samdahl & Robertson, 1989). Schultz (2000) divided environmental concern into three correlated factors: concern for the self (egoistic), other people (altruistic) and the biosphere (biospheric). Kinnear and Taylor (1973) proposed two facets of ecological concern: an attitudinal construct that dealt with attachment to the environment and a behavioral construct concerned with ecology protection. In other words, environmental concern can be viewed as a proactive attitude toward nature and the ecosystem, and individuals' behavioral script regarding environmental preservation and protection (Kinnear, Taylor, & Ahmed, 1974; Webster F. E., 1975).

4. Environmental Concern and Ecofriendly Behavior

Studies on environmental concern and behavior started to arise around the 1970s, following the first "Earth Day." Research efforts on environmental concern have been extensive, yet have met mixed success, following three traditions that vary in the main factors considered: (1) demographic variables, (2) political orientations, and (3) psychological factors.

The first tradition deals exclusively with the demographic variations (such as age, education, income, and residential location) among advocates of environmental protection as opposed to their less ecoconscious counterparts (Samdahl & Robertson, 1989). The results showed that those who tended to be environmentally conscious were likely to be young and well educated (Tognacci, Weigel, Wilden, & Vernon, 1972; McEvoy III, 1972; Dillman & Christensen, 1972; Buttel & Flinn, 1974; Buttel & Flinn, 1978), urban (Tremblay Jr. & Dunlap, 1978; Buttel & Flinn, 1978; Lowe & Pinhey,

1982), and female (Webster J. F., 1975; Stern, Dietz, & Kalof, 1993). Later, evidence started to imply that demographic variables alone may not be sufficient in explaining environmental consciousness and ecofriendly behavior. Neuman (1980) argued that demographic characteristics as gender, age, education, income, and political stance were not indicative of behavioral intention in respect to conservation. Van Liere and Dunlap (1981) claimed that the limited explaining power of sociodemographic variables in predicting environmental concern implied a widespread environmental concern among Americans. Samdahl and Robertson (1989) indicated that sociodemographic factors were ineffective in explaining either perceptions of environmental problems, support for environmental regulations, or ecological behaviors.

The second tradition concerns political ideology as the determinant of environmental concern and behavior differences (Samdahl & Robertson, 1989). Although researchers found no significant correlation between environmental concern and political party affiliation (Dillman & Christensen, 1972; Buttel & Flinn, 1978), studies uncovered a relationship between liberal orientation and environmental concern (Dunlap R. E., 1975; Mazmanian & Sabatier, 1981; Buttel & Flinn, 1978). Research also suggested that within the category of liberalism, “anti-laissez-faire” liberalism was a better determinant of environmental concern than “welfare-state” liberalism (Buttel & Flinn, 1978; Mazmanian & Sabatier, 1981). Moreover, Samdahl and Robertson (1989) found pro-regulatory liberal ideology to be a strong indicator of an individual’s tendency to support environmental regulation. In addition, Kahn (2006) conducted a study to examine whether environmentalists, manifested as Green Party registered voters in California, would demonstrate their devotion to the cause over to private household consumption choices.

Kahn (2006) found that the average “green” individual led a less resource-intensive lifestyle than did the average “brown,” reflected by more public transit usage, less gasoline consumption, and a greater percentage of hybrid vehicle purchases among the former than the latter. Kahn (2006) suggested that the preference for a more voluntarily restrained consumption pattern of the environmentalist communities may be due to their easier internalization of the consequence of excessive consumption and environmental deterioration, adherence to the community norm of sustainable living, and recognition of their moral reputation and maintenance of credibility as a political group.

The third tradition focuses on the psychographic attributes of the ecologically responsible consumer, incorporating environmental concern into a social paradigm and belief system (Samdahl & Robertson, 1989). Studies have been directed toward understanding motivations of green consumers (Bagozzi & Dabholkar, 1994), and exploring the psychological factors that influence pro-environmental behavior (Dietz, Stern, & Guagnano, 1998). Researchers believed individuals concerned with the environment held worldviews that varied fundamentally from those who were less concerned about the environment (Dunlap & Liere, 1978; Dunlap & Van Liere, 1984). For example, Webster (1975) found, contrary to his prediction, that the socially conscious consumers were not opinion leaders, but rather an upper-middle class “counterculture” (Webster J. F., 1975). Mayer (1976) later noted that the socially/ecologically conscious consumer may well be those well-educated, affluent middle-class liberals who suffer from frustration and uncertainty about express mainstream culture values in traditional ways during the cultural change in the 1970s (Mayer, 1976; Kinnear, Taylor, & Ahmed, 1974). Dunlap and others proposed and revised a measurement scheme to capture an

ecocentric worldview that postulated a balanced relationship with nature (Dunlap & Liere, 1978; Dunlap, Liere, Mertig, & Jones, 2000). Dunlap and others suggested that assessing an individual's beliefs about balance of nature, limits to growth, mankind domination, fragility of ecobalance, rejection of exemptionalism (e.g., humans are subject to the laws of nature), and prospect of ecological catastrophe would help reflect individual experiences with environmental issues and resonate with information flow from the mass media and elsewhere (Dunlap, Liere, Mertig, & Jones, 2000; Dunlap & Liere, 1978). The new ecological paradigm (NEP) scale developed by Dunlap and others has also been integrated into other social-psychological models of environmental concern and behavior (e.g., Stern et al., 1995; Stern, Dietz, Abel, Guagnano, & Kalof, 1999; Schultz & Zelezny, 1998; Schultz & Zelezny, 1999; de Groot & Steg, 2008), and has proved successful in explaining specific environmentally related beliefs, attitudes, values, and behavioral intentions (Stern, Dietz, & Guagnano, 1995; Stern P. , Dietz, Abel, Guagnano, & Kalof, 1999; Schultz & Zelezny, 1998; Schultz & Zelezny, 1999; Groot & Steg, 2008).

Overall, there exists a large body of research asserting that environmental consciousness is necessary and essential to proenvironmental behavioral changes, even though the correspondence may be moderate. Studies have suggested that personal attachment to the environment can motivate pro-environmental behaviors, ranging from environmental activism, such as ecologically relevant petition for proenvironmental laws and regulations, membership in antipollution organizations (Seguin, Pelletier, & Hunsley, 1998; Lynne & Rola, 1988; Balderjahn, 1988), green buying (Grunert, 1993; Chan T. S., 1996; Tanner & Kast, 2003; Charles H. & Cornwell, 1991), to energy conservation and responsible use of resources (Jacobs, Bailey, & Crews, 1984; Arbuthnot & Lingg, 1975;

Kellgren, 1986; Simmons & Widmar, 1990; Balderjahn, 1988). Therefore, ecological concern is likely to have a bearing on an individual's propensity to behave in favor of the environment. Environmental concern, with its potential to translate into ecofriendly behaviors, can be a crucial consideration when investigating the decision-making process behind green purchasing. Understanding how environmental concern is related to ecologically conscious consumption would help marketers develop strategies to expand their reach into the green consumer segment and those yet to be green consumers. Meanwhile, the upsurge in green consumerism is demonstrated by an increasing willingness to seek environmental information about companies and to read product labels for relevant information (Mayer, Scammon, & Zick, 1992). It is therefore essential to probe into how individuals' ecological concern might influence their information processing patterns regarding green advertising initiatives.

B. Environmental Advertising and Green Consumerism

1. Ecological Consideration for Marketers

Indeed, consumption activities of private households can be very influential in respect to environmental protection. If individuals channel their ecological consciousness toward environmentally friendly purchases, it is likely that the greening of business operations will be expedited. Marketers believe that going green would be advisable and profitable under three circumstances: the maturation of an ecologically conscious consumer group, the emergence of socially responsible corporations, and the greening of business practices (Zinkhan & Carlson, 1995). The greening of marketing is not likely to appear before consequences of an ecological crisis are brought to the knowledge of the consumers and producers (Kilbourne, 1995). When less resource-intensive behaviors and

more green priorities begin to form, a circle of a green marketing will take place, introducing less harmful methods of production, packaging, transportation, and promotion (Kilbourne, 1995).

Given the greening of consumer purchase criteria, ecological responsibility may emerge as a critical consideration in marketing strategies. Green advertising has been considered a feasible avenue to ecologically benign consumption. Many researchers believe that the power to alleviate an ecological disaster and crisis lies in marketing and advertising efforts (Fisk, 1974; Kilbourne, 1995). Kilbourne (1995, p. 17) states that green marketing “is the ecological imperative of the next century and not a whimsical choice of a novel idea.” In fact, a majority of businesses have sensed the challenge as well as the opportunity, rushing to the forefront of green advertising. Since the late 1980s, marketers have incorporated environmental appeals in advertising to cater to the increasing consumer concern about the environment (Scammon & Mayer, 1995). Marketers cautioned that the cost of ignoring the escalating demand for corporate social and environmental responsibility may not only be profit, but may well be survival (Anderson & Cunningham, 1972). Marketers have responded to the green movement by designing new products, repositioning existing brands, and building an ecologically responsible corporate image (Iyer, Banerjee, & Gulas, 1994). It is imperative that marketers to label their products and services as “green,” “sustainable,” “organic,” “biodegradable,” “recycled,” “recyclable,” “ozone friendly,” or “carbon neutral” (D'Souza, 2004; Banerjee, Gulas, & Iyer, 1995). Marketers not only adopt environmentally responsible brand image to attract a small portion of consumers with a sincere desire to protect the environment, but they also start a long-lived green trend by

fanning the hype. Zinkhan and Carlson (1995) suggested that consumers were also embracing green beliefs and sustainable consumptions because going green was socially desirable. Schuhwerk and Lefkoff-Hagius (1995) noted that, even though green appeals were not necessarily more effective than non-green appeals for environmentally involved consumers, they were much more influential than non-green appeals for environmentally uninvolved consumers. Therefore, corporations can contribute to the public good and sustainable development by raising consumers' green consciousness through marketing efforts (Zinkhan & Carlson, 1995). As such, environmental advertising needs to be functionally understood to promote green causes, to enhance marketing competence, and to foster a sustainable society.

2. Environmental Claims

Banerjee, Gulas, and Iyer (1995) defined green claims as messages that focus on the environmental benefits of a product, service or company. Green advertising can connote the relationship between a product or service and the environment, advocate green lifestyles that are connected to a product or service, or highlight an ecofriendly corporate image (Banerjee, Gulas, & Iyer, 1995). Zinkhan and Carlson (1995, p. 1) regarded green advertising as “promotional messages that may appeal to the needs and desires of environmentally concerned consumers.” Scammon and Mayer (1995, p. 34) noted that an environmental claim, in a regulatory sense, specifies “the impact of one or more of its brand attributes on the natural environment.” On one hand, environmental claims can contain multiple ecological attributes, such as biodegradability, compostability, and recyclability (Scammon & Mayer, 1995). On the other, environmental claims can address the brand's ecofriendly nature and environmental

responsibility in general, or be specific about different stages in the product life cycle (e.g. production, packaging, distribution, consumption, and disposal) (Scammon & Mayer, 1995). The headline, copy or voiceover of a green advertisement can be associated with any single or multiple aspect(s) of the biophysical environment, including atmosphere, land, water, animal life, and plant life (Iyer, Banerjee, & Gulas, 1994). Kilbourne (1995) called for a distinction between a unidimensional environmental perspective taken by marketers and a multidimensional perspective taken by ecologists. Based on the level of ecological concern, green can be divided into a political (reformism to radicalism) dimension and a positional (anthropocentric to ecocentric) dimension, with the former addressing the necessity and sufficiency of political reform, and the latter addressing the role humans take on in relation to the rest of the biotic community (Kilbourne, 1995). Kilbourne (1995) developed a frame to incorporate five types of green advertisement: environmentalism, conservationism, human welfare ecology, preservationism, and ecologism, ranging from anthropocentric green to ecocentric green. From the highest standard of ecologism position, the only truly green product should be made from “renewable resources, at rates lower than the resource’s replacement rate for non-frivolous human needs” (Kilbourne, 1995, pp. 16-17).

3. Green Advertising and Consumers

Research has demonstrated that advertising strategy was determined based on specific situational factors, such as the nature of product, the characteristics of the target audience, the purchase motivation, and the importance of the decision (Rossiter, Percy, & Donovan, 1991). In general, previous research on green advertising can be categorized as copy-based and behavioral-based (Shrum, McCarty, & Lowrey, 1995). Whereas copy-

based studies relate to the composition of ads, behavioral-based studies look at demographics (age, income, gender, education) and psychographic (attitude, value, belief) characteristics of the green consumer segment (Shrum, McCarty, & Lowrey, 1995).

Much of the literature on ad-oriented studies focuses on examining the form and structure of the advertising copy (Banerjee, Gulas, & Iyer, 1995; Carlson, Grove, & Kangun, 1993; Kangun, Carlson, & Grove, 1991; Iyer, Banerjee, & Gulas, 1994). For example, Iyer and Banerjee (1993) discovered that green claims tended to emphasize a corporate image rather than a product or service, and emphasize production rather than disposal. Iyer, Banerjee, and Gulas (1994) summarized four objectives of green marketers: to position a product as green, to present the corporate entity as green, to influence behavior, and to enlist support by joining membership or making a donation. Accordingly, seven tactics were identified: zeitgeist, emotional, financial, euphoria, management, testimonial, and comparison (Iyer, Banerjee, & Gulas, 1994). Iyer, Banerjee, and Gulas (1994) found that, among green television ads, for-profit organizations mostly emphasized social responsibility and management control, whereas non-profit organizations largely depended on emotional appeals. Carlson, Grove, and Kangun (1993) found that more green print ads were designed to enhance the image of the company by relating to an environmental cause than by addressing technology, production, or disposal processes.

Apart from the studies on the presentation of green in ad message, researchers are also interested in investigating the receiver end of the message. A large body of research has concentrated on the psychological determinants of consumers' reaction toward ads, products, and brands. For example, studies have examined such factors as consumers'

pre-existing attitudes toward corporations' environmental images (Davis, 1994), consumers' beliefs about whether their efforts alone are enough to make a difference in changing the environmental condition (Ellen, Wiener, & Cobb-Walgren, 1991), and self-identity as a green consumer (Sparks & Shepherd, 1992). Anderson and Cunningham (1972, p. 30) believed that "less dogmatic, less conservative, less status conscious, less alienated, and less personally competent" socially conscious individuals were expected to be more responsive to products geared toward the enhancement of ecological condition as compared to their less socially conscious counterparts. Shrum, McCarty, and Lowrey's (1995) study revealed, based on the analysis results of data from DDB Needham Life Style Study, that green consumers can be characterized as opinion leaders, careful shoppers, and price conscious. In other words, individuals who make a special effort to purchase green have a propensity to be active information seekers, to talk to others about products, to be skeptical about advertising, are not prone to impulse buying, tend to be interested in trying new products, and are not necessarily brand loyal. Other studies found that the internal locus of control is positively associated with willingness to engage in green buying (Schwepker & Cornwall, 1991). Similarly, other studies also show that perceived consumer effectiveness, or belief that the individual's contribution alone will make a difference in the preservation of the environment, also correlates positively with environmentally conscious buying practices (Ellen, Wiener, & Cobb-Walgren, 1991).

Such findings notwithstanding, studies have captured a developing trend that consumers exhibit escalating distrust of advertising claims that are ambiguous or inconsistent with companies' operations (Zinkhan & Carlson, 1995). Rienzo and Lapinski's (2008) study on greenwashing in print advertisement and corporate

environmental concern revealed that an individual's attitude toward an advertisement was positively correlated with perceived adherence to the maxims of conversation in green claims, namely quality, honesty, quantity, and relevance. Also, Maheswaran, Mackie, and Chaiken (1992) indicated that attribute information, combined with brand name salience, determined an individual's product evaluation when both were congruent, while attribute information was more important to individuals under the condition of incongruence.

Other studies have examined the influence of advertising context on a consumer's reaction to the product and brand. A number of studies have suggested that different types of green claims can potentially alter the course of message processing and attitude formation. Manrai et al. (1997) explored how the extremity of green claims affected the processing of the message and its effectiveness, as well as how country of origin of the product interacted with the strength of the green claim. Their study found that consumers' attitudes toward the product and company were positively related to their attitudes toward the country of origin of the product, but when the green claim was extremely low or extremely high in strength, the reverse was true (Manrai, Manrai, Lascu, & Ryans, 1997). Dardis and Shen's (2008) study touched on the interactive effects of different advertising evidence type (informational vs. exemplar), and product involvement (high vs. low) with the gain- vs. lost-framed messages in advertising appeals. Their study discovered that a loss-framed message was more influential when combined with informational evidence in a highly relevant context, whereas in a lower relevant context, the interaction effect of evidence type and message framing did not occur (Dardis & Shen, 2008).

Overall, research seems to be fragmentary and highly specific, with the goal of targeting environmentally involved consumers. Although many studies have explored the

global impact of a green ad on consumer's perception of the ad, brand, and purchase intention (thus its effectiveness), relatively little effort has been dedicated to understanding the underlying mechanisms. Also, consumer ambivalence about green marketing also calls for efforts to identify the connections among environmental concern, ad type, and information processing in ecofriendly purchasing.

4. Environmental Concern, Green Appeal, and Information Processing

Evidence suggests that a number of factors can affect an individual's attitude and behavior, including individual variables such as motivation and information variables such as claim. Although green purchase behavior seems extremely unlikely to be determined by a single motive, empirical research shows that an individual's environmental consciousness presents a core construct in explaining pro-environmental behavior. Dahlstrand and Biel (1997) pointed out that an individual's environment value can play an important role in the initial stage of the green purchase, and through information seeking and personal experience, a specific belief is formed to influence a purchase decision. In other words, environmental concern frames the purchase with green criteria as a salient issue. Studies also imply that under specific circumstances, individuals tend to exert a greater effort in seeking information and scrutinizing the message. Thus advertising context can serve to address individual needs that are governed by various consumption values and guide the interpretation and evaluation of the product message. Different message compositions combined with individual psychological differences would be likely to result in varied responses.

Previous studies have demonstrated that exploring the underlying mechanisms of advertising strategies may help clarify research on the effectiveness of advertising.

Bagozzi and Dabholkar (1994) noted that studies on strategies that promoted recycling behaviors tend to overlook the information processing and motivational factor in fostering behavioral change. Bagozzi and Dabholkar (1994) suggested that unless a theoretical model of information processing is employed to understand how people actually handle the message imbedded in the reinforcers (promotions, brochures, coupons, money, prizes, contests toys, raffles, etc.), and how these reinforcers trigger desired behaviors, these studies of strategies are unlikely to provide diagnostic value. Therefore, this study examines the decision-making process of the green purchase and the mechanism behind advertising strategies in engaging, motivating, and persuading ecoconscious buying.

The objective of this study is to investigate how different appeals may influence individuals' processing of ad information, and how environmental concern is transformed into volition with regard to green purchasing. Of particular interest is examining the relationships among environmental concerns, ad-primed motivation, and connections to cognitive thinking. The study proposes that context may affect the persuasiveness of green ads by priming certain motivations among individuals with different levels of environmental concern. Specifically, environmental concern would differentiate individuals in their sensitivity either to a product-centered informational appeal or to a social norm-targeted transformational appeal. It may be tempting to equip the model with a full range of psychological and behavioral constructs to achieve greater applicability; however, as many researchers have already pointed out, doing so would increase the possibility for a study to lose its specificity and predictive power regarding specific reactions (Bagozzi & Dabholkar, 1994; Van Liere & Dunlap, 1981). In exploring the

motivational factors behind information processing, the study will build on knowledge about information seeking and processing preference among individuals with varied environmental orientations. Pursuing the study under this context will potentially help capture the essence of which green claim would be most persuasive to the target audience, and also build on knowledge about how consumers process information.

II. LITERATURE REVIEW

A. Theoretical Framework

Attitude has been considered to be determined by motivation, and attitude change takes place when information and motivation match (Johar & Sirgy, 1991). Chaiken et al. (Chaiken, Liberman, & Eagly, 1989; Chaiken, Giner-Sorolla, & Chen, 1996) proposed three types of motivation that propel individuals to process information in the attempt to reach a judgment: an accuracy motivation, a defense motivation, and an impression motivation. The extended multiple-motive heuristic-systematic model (HSM) outlines three message-processing goals corresponding to the three motivations: 1) individuals evaluate the validity of the persuasion message in order to achieve objective appraisal; 2) individuals selectively apply information either to fortify the vested preference or uproot contradicting evidence in support of the existing beliefs; 3) individuals examine the desirability of the potential attitudes to gain social approval from important others (Chaiken, Liberman, & Eagly, 1989; Chaiken, Giner-Sorolla, & Chen, 1996).

In line with Chaiken and Eagly's (Chaiken, 1980; Chaiken, 1987; Chaiken, Liberman, & Eagly, 1989) model of heuristic versus systematic processing, message recipients employ a dual information processing strategy: a systematic path whenever an active, comprehensive cognitive effort is needed for message evaluation and decision making, and a heuristic path whenever simple cue is employed for message evaluation and decision making. Regardless of the types of motivations and cognitive goals, individuals engage in either or both forms of message processing in order to meet the sufficiency threshold (Chaiken, Liberman, & Eagly, 1989; Chaiken, Giner-Sorolla, & Chen, 1996). This sufficiency principle is centered on the assumption that the process of

decision-making involves the pursuit of a desired level of judgmental confidence (Chaiken, Giner-Sorolla, & Chen, 1996). Individuals will continue to exert efforts to process information until they reach the level they seek (Chaiken, Giner-Sorolla, & Chen, 1996). Since systematic processing generates more reliable decisions, the prioritized processing strategy shifts from a heuristic mode to a systematic mode when individuals perceive that heuristic processing cannot fulfill the task of pushing actual confidence to the desired level, assuming that they are empowered with adequate capacity (Chaiken, Giner-Sorolla, & Chen, 1996). Systematic processing is triggered when the subject matter contains information that is deemed important or personally relevant (Chaiken, 1980), providing the perceived need to be accountable for one's judgments, need for cognition, and need for control are paramount (Maheswaran & Chaiken, 1991). In such situations pertaining to issues with vested interest, individuals take part in effortful message digestion via scrutinizing and elaborating (Chaiken, 1980; Maheswaran & Chaiken, 1991; Chaiken & Maheswaran, 1994). Cognitive capacity is the prerequisite of systematic processing. Thus, individuals' willingness and ability to allocate the necessary resources are crucial for performing systematic processing of information. As a result, the type of environmental advertising and individual's ecological concern can be crucial in determining message comprehension and decision making.

B. Informational Advertising and Transformational Advertising

One of the most commonly adopted forms of advertising involves a strategy that explicates the functional aspects of the products and other related benefits that are important to the consumer (Johar & Sirgy, 1991). Informational advertising, which highlights a utilitarian approach, mainly deals with explicit information relevant to

product function, quality, and value (Snyder & DeBono, 1985; Johar & Sirgy, 1991). In line with the belief that it is “matter, not the manner” that counts (Fox, 1984, p. 324), practitioners of informational advertising exert efforts in communicating the internal merits of the product, whether it be its superior taste, nutritious ingredients, environmentally safe material, or excellent performance. The major strategies adopted by informational advertising are comparative, unique selling proposition, preemptive, hyperbole, and generic-informational (Laskey, Day, & Crask, 1989).

Another branch of advertising focuses on a strategy that creates a personality for the brand or portrays an identity of the product user (Ogilvy, 1963). Transformational advertising, which mainly involves a value-expressive or symbolic approach, typically resorts to visual appeal, associating images of using the product or the brand (Snyder & DeBono, 1985; Johar & Sirgy, 1991). Practitioners of transformational advertising dedicate efforts to project the experience of consuming the product, and rarely, if ever, address directly on the quality of the product. Through providing an image that consumer can identify with, and deemphasizing any product-specific information, transformational advertising can effectively trigger individuals’ needs to maintain an appropriate and often desirable personality and social impression. The most frequently used transformational strategies are user image, brand image, use occasion, and generic-transformational (Laskey, Day, & Crask, 1989).

C. Accuracy Motivation and Informational Advertising

Accuracy motivation can be perceived as a force behind individuals’ constant quest for truth. Even though objective reality or best judgment may not always be attainable, systematic processing of information often results in a somewhat impartial

decision. For issues that are of particular importance to the individual involved, cognitive thinking is activated when the individual can overcome the barrier of quality and quantity of information (Wood, Kallgren, & Priesler, 1985), as well as that of time constraint (Ratneshwar & Chaiken, 1991).

Studies have repeatedly shown that consumers' level of involvement is counted among the most critical predictors of information-processing strategies (Montoro-Rios, Luque-Martinez, & Rodriguez-Molina, 2008). As the degree of involvement increases, individuals pay closer attention to the message and become more motivated to process the message in-depth. Similarly, eco-minded individuals are likely to actively seek and consciously utilize the product and service information before making purchase decisions.

The nature of the information, not simply its presentation, can influence its potential to meet the validity-seeking objective (Chaiken, Giner-Sorolla, & Chen, 1996). While explicit information may help bridge the knowledge gap necessary to reach a thought-through decision, specious information can bias systematic processing and attenuate the certainty achieved in the judgment. Thus, for those who have strong attachment to the environment, an informational ad that emphasizes the inherent quality and functional merit of the product or service may be perceived to provide more sound information than a transformational ad that relies on feelings by crafting a socially desirable image of the user. In other words, individuals who strictly follow green protocol and prioritize ecological concern can be particularly attentive and responsive to advertisements that inform about the specific green quality of the product.

Demonstrating favorable attitudes and behavioral intention toward informational advertising may be a "manifestation of a quest to be a principled being, one with

congruence between one's actions and underlying attitudes, values, and dispositions" (Snyder & DeBono, 1985, p. 593). Accuracy motivation is also reflected in the Marshallian Economic Model, which holds that purchase decisions are based on rational and conscious deliberation of available choices (Kotler, 1965; Taylor R. E., 1999). Providing relevant and specific information about the product would therefore facilitate the decision-making process (Kotler, 1965; Taylor R. E., 1999). In other words, individuals base their choices on the congruency between their personal beliefs and performance-related product characteristics. Based on the principle of expected rewards, informational advertising that emphasizes the performance and quality of products would consequently serve to fulfill consumers' utilitarian needs (Johar & Sirgy, 1991). In short, accuracy motivation can be perceived as a principle need to match perceived information with their personal values, which informational ads are most likely to effectively fulfill.

D. Impression Motivation and Transformational Advertising

Humans have learned to model behaviors to social and interpersonal standards. Impression motivation functions as individuals are propelled to perform according to the perceived subjective norms in specific social encounters. Goffman (1955) perceived social interaction as similar to performance on stage, composed of verbal and nonverbal self-expressive acts that pertain to the special situation. Humans are constantly challenged with the task of role playing, as a child, as a parent, as a sibling, as a friend, and as a professional. As ordinary social beings, humans strive, more or less, to be the type of person called for by each situation (Snyder & Monson, 1975). Consequently, the behavior and the identity they convey to others vary from situation to situation. Compelled by the desire to manage social impression and informed by situational cues

about what is considered to be appropriate in similar circumstances, individuals control and model their own self-presentation and expressive behavior; in fact, the ability to monitor and condition expressive presentation has been considered a prerequisite for human beings to effective interpersonal and social encounters (Snyder & Monson, 1975).

In line with Deutsch and Gerard's (1955) categorization of informational and normative influence, impression motivation addresses the impact of the normative function of public behavior: that individuals are more or less compelled to conform to appropriate social conduct in front of other people. Concerned about the relationship with important others, either real or imagined, impression-motivated individuals tend to mirror their opinions with those of the anticipated audience (Cialdini, Levy, Herman, Kozlowski, & Petty, 1976), present socially desirable images (Schlenker, 1980), or express socially accountable attitudes (Leippe & Elkin, 1987). Snyder (1974; 1979) conceptualized this "chameleon-like" human mechanism of observing and controlling self-presentation and expressive behavior as self-monitoring. The desire to maintain public image or attitude for the purpose of social approval can not only be predicted through individual constructs such as self-monitoring, but can also be manipulated through moderating situational factors (Chaiken, Giner-Sorolla, & Chen, 1996). Impression motivation can be primed by enhancing the salience of the attitudinal preference of the reference group, strengthening social norms, and increasing the importance of the relationship (Chaiken, Liberman, & Eagly, 1989).

In addressing mainly the reactions to the source of a persuasive message, Kelman (1961) identified three stages of a communication: compliance, identification, and internalization. The process of identification is signified by the agreement with a message

that allows the individual to project a favorable image so as to perform smoothly in social situations (Kelman, 1961). Meanwhile, internalization occurs when the message is consistent with the individual's belief system (Kelman, 1961). As such, impression motivation can be perceived as a pragmatic one of fitting into social surroundings, and transformational ads can serve as means to fulfill their identity in front of various reference groups. Guided by the belief of being the right person in the right place at the right time, individuals can be particularly sensitive and responsive to a message that presents a promising outcome of consuming the product. By conveying information about the image that will be acquired by virtue of using the product, an advertisement may enhance individuals' desire to enhance self-image through reinforcing the perceived subjective norms, and consequently, such a message will be likely to invoke favorable reaction toward the product.

Studies suggest that issue and response involvement can promote impression-motivated systematic processing (Leippe & Elkin, 1987). Contrary to suspicions about the endurance of the response aroused by situational stimulations (Cialdini & Petty, 1981), cognitive elaboration can lead to persistent judgment outcomes in fulfilling impression-motivated goals (Chen, Shechter, & Chaiken, 1996; Higgins & McCann, 1984; Higgins, 1992). Studies have supported that the "strategic" considerations resulting from extensive and complex rationalizations lead to beliefs that may be adopted at later occasions, and the goal of image control can propel individuals to selectively process the information in reaching a judgment (Chaiken, Giner-Sorolla, & Chen, 1996; Chen, Shechter, & Chaiken, 1996). Marketers have frequently adopted visual appeals that focus on the portraying of an attractive image associated with using the product, and

deemphasize the intrinsic values of the product itself (Snyder & DeBono, 1985). Through presenting an image of particular consumer products, transformational advertising may sensitize the individual's need for impression control. Therefore, propelled by the desire to foster a socially popular image, individuals are likely to favor the green claim that focuses on social norms even when they have a lower level of environmental consciousness. Thus, individuals who score low on environmental concern may find an ad that emphasizes the social norm more appealing than when they are provided purely with product-related information.

Presenting favorable attitude and behavioral intentions to transformational advertising can be perceived as “manifestation of a striving to be a pragmatic creature of one's situation, to project images appropriate to one's circumstances” (Snyder & DeBono, 1985, p. 593). Impression motivation reinforces the theorization on the social-psychological model in that purchase decision is also influenced by individuals' social surrounding: culture, subculture, social classes, references groups, and face-to-face groups (Kotler, 1965; Taylor R. E., 1999). Individuals base their choices on the match between their self-concept and image-related product characteristics. Therefore, based on the principle of image consistency, transformational advertising builds the ideal personality to meet individuals' needs of social approval.

E. Multiple-motive HSM, Environmental Concern and Communication Effectiveness

The effectiveness of advertising can be influenced by the capacity and tendencies of the consumer to process the ad message. Chaiken (1980) noted high issue involvement or response involvement as a necessary condition to overcome the cost-benefit analysis of time and energy lavished on cognitive thinking. When individuals devote time and effort

to elaborate on a message, the message should stand a better chance of being stored in long-term memory (Craik & Lockhart, 1972), and is more easily recalled (DeBono, 1987). Therefore, individuals would be motivated to scrutinize the message contents that are of personal importance, since cognitive thinking based on intrinsic arguments mostly reaps more reliable and valid decisions than do the conclusions based on extrinsic persuasion cues (Chaiken, 1980, Eagly & Chaiken, 1984, Chaiken, 1987). Snyder and DeBono indicated that systematic processing is the key to transforming the evaluative reactions to advertising to behavioral intentions, whether it be an informational ad that intends to provide a fit of the product attributes for specific personal usage, or a transformational ad that aims to boost the confidence that a popular social image can be gained (Snyder & DeBono, 1985).

Rossiter, Percy, and Donovan (1991) determined that consumers' reaction to products and brands is determined by two factors: involvement and type of motivation. Regarding involvement, individuals with firm standings in their ecological orientations typically tend to follow their intuitions, display substantial correspondence between their concerns for environment and their behaviors, and do not usually attempt to mold their behaviors to fit situational and interpersonal considerations. Since environmental concern determines a pivotal aspect of their internal beliefs, attitudes, and values, they may be very attentive to and influenced by an advertisement that provides information about the ecological contributions of the product. Individuals who are genuinely concerned about the environment are likely to follow a systematic information processing strategy upon encountering a persuasive message. Under conditions of high motivation and/or high critical thinking ability, strong arguments can facilitate communication whereas weak

arguments can inhibit persuasion. Individuals may perceive informational claims as more detailed and explicit with respect to the ecological considerations about the product and the company than transformational claims that rely solely on an otherwise nonexistent feeling-based association. For those who enjoy strong passions for environmental causes, informational advertising provides relevant and concrete data for the cognitive needs of individuals and greater confidence in their abilities to assess the merits of their choices (Puto & Wells, 1984). As a result, those heavily ecocominded individuals would be more likely to trust the product and the brand to a greater extent when given product- and process-orientated claims instead of user-image-oriented claims. Alternatively, for individuals who have less interest in environmental impact, their motivations and abilities to process the information through a systematic way may be impaired unless other factors are introduced to capture their attention.

Research suggests that interpretation of information is guided by a particular schema that is currently at play or most easily accessible (Higgins & King, 1981; Wyer & Srull, 1981). For example, Spivey, Munson, and Locander (1983) explained that communication can be enhanced through employing appeals that emphasize either a utilitarian perspective or a value-expressive perspective to fulfill consumer needs. Products can be promoted either on the traditional value of their tangible, physical attributes, or in a less measurable manner based on the psychological and social benefits they promise (Goodwin & Etgar, 1980). Yi (1990) investigated the priming effects of cognitive and affective context of product attributes on interpretation of the message in ads and assessment of brands. His study revealed that stressing a particular attribute increases the chance that this particular attribute will be brought up in the process of

product evaluation and brand assessment (Yi, 1990). Johar and Sirgy (1991) also argued that the effectiveness of persuasion would be enhanced when a value-expressive appeal and corresponding product type, or a utilitarian appeal and corresponding product type, were matched. Their model suggests that value-expressive and utilitarian advertising strategies influence persuasion through two distinctive routes: self-congruity and functional congruity (Johar & Sirgy, 1991). Findings also support the notion that prior exposure to certain concepts can increase the accessibility of these concepts (Higgins & King, 1981; Wyer & Srull, 1981). Therefore, messages can be devised to direct attention to certain aspects of the information that selectively address a particular schema or concern. Highlighting information that can lead to the activation of the schema or concern in a given advertisement would consequently guide the interpretation of product message and the formation of brand evaluation. For those who are more conscious of ecological problems, informational advertising may evoke individuals' desires for maximizing certainty, and fulfills the requirement of desired level of certainty by providing information on the intrinsic quality of the product or service. For those who are less conscious of ecological problems, transformational advertising may evoke individuals' desires for impression control, and satisfies the desire by presenting the product or service as the popular and responsible choice.

Generally, the influence of informational advertising versus transformational advertising on individuals with different levels of environmental consciousness is determined by the relative salience of the accuracy motivation or the impression motivation. When individuals' internal states and dispositions toward environmental problems is explicit and the accuracy motivation reinforces the desire for information,

then informational ads are likely to be more effective in assisting persuasion than transformational ads; when individuals' devotion to ecological causes is less evident, yet the social normative influence of going green takes the upper hand, transformational ads are likely to be more persuasive in promoting the brand than informational ads. In short, informational ads may succeed in engaging the accuracy motivation of individuals who have a higher level of concern toward the environment. Transformational ads may succeed in motivating impression control of individuals who have a lower level of concern toward the environment. Therefore, it can be assumed that individuals with high and low level of environmental concern may exhibit different evaluative reactions to advertisements that are based on information and transformation appeals.

F. Research Question and Hypotheses

Considering the wide spread of environmental concern, and that there may be only a very small proportion of consumers with consistently green lifestyles, it is important to consider how to bridge the gap between awareness and behavior by encouraging environmentally-conscious consumption. This paper seeks to understand whether different orientations toward the environment extend so far as to affect product choice based on the message gleaned from two types of ads. The study is designed to extend the existing research by adopting the multiple-motive, heuristic-systematic processing model as a theoretical framework in order to understand how individuals' environmental concern might influence systematic message processing with regard to two types of advertising claims, and the corresponding persuasion outcome, assessed through attitude toward the ad, attitude toward the brand and purchase intention.

Chaiken (1980) postulated that individuals tend to exert time and effort in processing of information regarding matters of personal salience. Consideration on the ecological impact may serve as a potential incentive for message processing due to elevated level of desired confidence. The study wishes to assess the influence of ecological orientation on individuals' cognitive processing of information. Thus, the following research question is proposed.

RQ1. Does environmental concern affect individuals' systematic information processing of an environmental ad?

According to Chaiken's (1980) theorization on information processing in persuasion, in order to achieve the desired level of confidence, individuals extend their efforts to interpret a message and to reach a judgment. Under contexts that involve a higher level of motivation, individuals typically resort to systematic processing, since systematic processing is considered as the more effective route to minimize the gap between the desired level of confidence and the actual level of confidence. Therefore, individuals who enjoy a compassion for environmental welfare are more likely to systematically process the information proclaimed in an ad prior to making a purchase decision. Thus,

H1. Regardless of the type of ad presented, individuals who score higher on the environmental concern scale will exhibit more systematic processing of information as compared to those who score lower on the environmental concern scale.

Fundamentally, sufficient and relevant information is considered as a prerequisite for systematic processing. In other words, message content may have the potential to shape individuals' ways of handling the message. Informational and transformational

appeals can prime different individual motivations: informational appeal can elicit the demand for accuracy, whereas transformational appeal can elicit the need for impression control. Depending on the level of ecological consciousness, individuals may divide based on their sensitivity to these two different types of appeal. Propelled by varied types of motivation and level of ecoconcern, individuals may exhibit different degrees of systematic processing regarding informational and transformational appeals. Therefore, the study suggests the following research question.

RQ2. Do informational and transformational approaches in environmental advertising render different levels of systematic processing among individuals with different levels of environmental concern?

The multi-motive HSM model implies that cognitive thinking can be prompted by different motivations (Chaiken, Liberman, & Eagly, 1989; Chaiken, Giner-Sorolla, & Chen, 1996). An informational appeal that provides explicit and factual information can be of particular interest to individuals with pronounced concern for ecological issues, while the informational appeal can be deemed less relevant for individuals with limited concern for ecological issues. A transformational appeal that evokes the need for impression management can be of particular interest to individuals with limited concern for ecological issues, while the transformational appeal can be considered as inadequate for individuals with pronounced concern for ecological issues. As a result, an informational green appeal is likely to encourage systematic processing of information among individuals with higher (vs. lower) level of environmental concern. Conversely, a transformational green appeal is likely to encourage systematic processing of information

among individuals with lower (vs. higher) level of environmental concern. Therefore, the following hypotheses are proposed.

H2a. Informational green advertising generates more systematic processing among individuals who score higher on the environmental concern scale than transformational green advertising.

H2b. Transformational green advertising generates more systematic processing among individuals who score lower on the environmental concern scale than informational green advertising.

Since cognitive thinking is based on the meticulous evaluation and comprehensive analysis of evidence imbedded in the message, cognitive thinking is believed to contribute to an informed decision (Chaiken, 1980, Eagly & Chaiken, 1984, Chaiken, 1987). Systematic processing driven by either accuracy or impression motivation elicited from the informational appeal or the transformational appeal may result in effective persuasion. Therefore, the study is interested in the following research questions.

RQ3. Does individuals' environmental concern affect the effectiveness of the green appeal when combined with informational and transformational approaches, as measured by attitude toward the advertising, attitude toward the brand, and purchase intention?

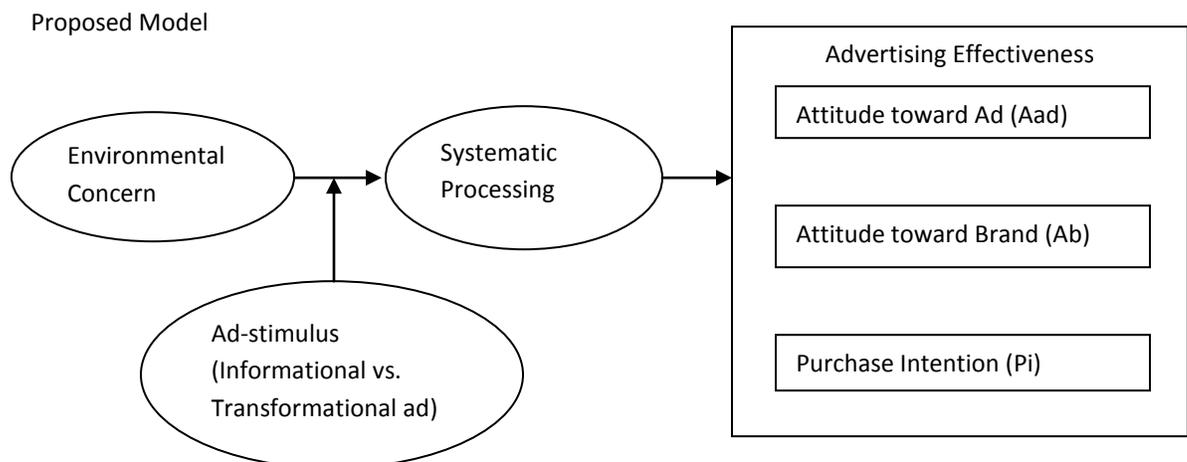
Since systematic processing of ad information can be facilitated by priming different motivations through different types of green appeals, and systematic processing of ad information are also paramount to achieving maximum persuasion, individuals with higher level of ecoconcern (vs. individuals with lower level of ecoconcern) may form a more favorable response to an informational green appeal as a result of cognitive thinking,

because a strong quest for information accuracy is primed in the informational green appeal. Individuals with lower level of ecoconcern (vs. individuals with higher level of ecoconcern) may devote more time for cognitive thinking when presented with a transformational green appeal, and in turn consider transformational ads to be more appealing due to an activated need for impression management. Based on the analyses, hypotheses are developed as follows:

H3a. The level of systematic processing moderates the effectiveness of communication as measured by (H3a1) attitude toward the ad, (H3a2) attitude toward the brand, and (H3a3) purchase intention.

H3b. As compared to the transformational green ad, the informational green ad is more persuasive among individuals who hold a higher level of environmental concern, as measured by (H3b1) attitude toward the ad, (H3b2) attitude toward the brand, and (H3b3) purchase intention.

H3c. As compared to the informational green ad, the transformational green ad is more persuasive among individuals who hold a lower level of environmental concern, as measured by (H3c1) attitude toward the ad, (H3c2) attitude toward the brand, and (H3c3) purchase intention.



III. RESEARCH METHOD

A. Mixed-model Design as Research Method

The purpose of this study is to understand how individuals' environmental concern and ad-primed motivation may affect information processing and effectiveness of persuasion. Specifically, this study intends to test whether individuals with different levels of environmental concern will respond differently to different advertising claims. A 2x2, post-test only, between-subjects mixed-model design was conducted to examine the association between the independent and the dependent variables (the main effects) (i.e., the impact of environmental concern on individuals' perception toward the ad, brand and purchase intention). The experiment also investigated whether different green advertising strategies (informational appeal versus transformational appeal) would serve to engage individuals with high and low level of ecoconcern in environmentally friendly purchase (the interaction). Also, the design tested the mediating effects of systematic processing of information on the aforementioned variables.

B. Sampling

The sample of this study was drawn from students enrolled in an entry-level communication course at Marquette University. Prior to the study, approval was granted from Office of Research Compliance at Marquette University. Among the 174 students who participated, 7 were excluded from the study because these respondents somehow failed to complete a large portion of the instrument (questionnaire). Therefore, 167 students were included in the final sample. Of the 167 respondents included in the data analysis, almost two-thirds were female (65.7%), while slightly more than a third of the respondents were male (35.3%). All respondents were undergraduate students enrolled as

freshman, sophomore, junior or senior and between the ages of 18 and 23, with an average age of 19.

Students were contacted in classes with the instructor's permission. Students were assured that their participation was completely anonymous and voluntary and the instructor would not know whether or not they had chosen to participate. Students were asked to assist with a study on advertising by completing a questionnaire regarding an ad for a laundry detergent. Students were randomly assigned a questionnaire with an informational green appeal or a transformational green appeal. Students were assured that their responses could not be retraced or matched to individual participants. Students were provided with the contact information of the researcher and Office of Research Compliance at Marquette University for any further questions and concerns. Appropriate human subjects protocols were followed throughout the study, and confidentiality was maintained in all stages of the research.

The selection of college students as participants in this study has certain merits other than their availability. First, the population of interest was the potential green buyers who have some knowledge about the environmental issues and who were aware of the potential ecological crisis to some extent. Previous findings suggested that the green consumer segment shared some demographic characteristics that coincided with those of the college students: young, educated, and urban (Tognacci, Weigel, Wilden, & Vernon, 1972; McEvoy III, 1972; Dillman & Christensen, 1972; Buttel & Flinn, 1974; Buttel & Flinn, 1978; Mayer, 1976). Second, college students have been frequently used in a large number of advertising effectiveness related studies. For example, Goodwin and Etgar (1980) claimed that a student sample was appropriate for research on the effectiveness of

advertising and demonstrated good external validity if the purchase decision was considered important for the group. Also, understanding the beliefs and behaviors of college students can be of particular interest and value to both marketers and policy makers in the process of promoting a sustainable society among the young generation. Stafford, Stafford, and Chowdhury (1996) suggested that college students can be especially responsive to appeals that were deemed salient to them, since they were still in the stage of forming their long term buying habits. Apart from being considered to be a more viable target, college students match the profile of ecoconscious consumers in that they are more knowledgeable about environmental issues, higher on social ladder, and receive relatively bigger paychecks than the majority of the society (Iyer & Banerjee, 1993).

In addition, the adoption of convenience sampling method was justified as an appropriate measure to tap into the effectiveness of green advertising and build on knowledge about the theoretical framework for green marketing practices (Banerjee, Gulas, & Iyer, 1995). In the same manner, the randomly drawn convenience sample of this study allowed for a comparison of the amount of cognitive thinking and communication effectiveness in respect to different levels of environmental concern and different ad-primed motivations. The number of participants in the sample was also reasonably acceptable. Previous studies have successfully had trials with fewer than 100 participants (Obermiller, 1995; Schuhwerk & Lefkoff-Hagius, 1995).

C. Experimental Stimuli

The subject of the print ads for this study was laundry detergent. Detergents have been widely and frequently adopted as an object of association with environmental

concerns (Schuhwerk & Lefkoff-Hagius, 1995; Montoro-Rios, Luque-Martinez, & Rodriguez-Molina, 2008; Henion, Russell, & Clee, 1980). As an inexpensive, nondurable product, laundry detergent allows for the minimization of subjects' involvement with the product, since involvement tends to increase as the cost of the product increases (Schuhwerk & Lefkoff-Hagius, 1995). Also, laundry detergents belong to household nondurables that people are familiar with and purchase on a regular basis. Besides, fast moving consumer goods are often advertised with green appeals, which in turn lend realism to the task (Iyer, Banerjee, & Gulas, 1993).

Two ads for a hypothetical green laundry detergent have been developed for the study (see Appendix A and B). The primary investigator and her supervisor, a professor of advertising, were involved in the design of the ad copy, including brand name, choice of color, visual image, logo, slogan, and claim. A fictitious brand name - EcoRite Laundry Wash - was created for the laundry detergent to be used in the ad in order to minimize the influence of a prior brand familiarity and preference. To mimic the succinct design style frequently adopted for green advertising, simple objects and limited color were employed in the design for the ads in the study. Green, white, and black were chosen to be the colors used in the ad. The ad portrayed the image of a growing tree symbolizing balance and vitality of nature. The same tree image was also imprinted on a laundry detergent bottle that comprised the logo. The slogan was developed to include the concepts of health, quality, and sustainability, thereby fitting both ad types in the study. Manipulation of the ads was achieved by varying the type of green claim in the body copy. Either one of the two claims was presented in the ad. The layout and image were constant across the ads. Font size, boldness, lower and upper case, and percentage of used

and empty space were adjusted to proportionately control information prominence across the ads (Schuhwerk & Lefkoff-Hagius, 1995).

The informational green claim was modeled after the Marshallian Economic Model (Taylor R. E., 1999). The operational definition of an informational advertisement is an ad that concentrates on providing factual and presumably verifiable information that is relevant to a consumer's judgments on the product and the brand (Puto & Wells, 1984). The appeal is designed with an intention to inform and persuade those who enjoy a high demand for product information and have an acute need for deliberation and evaluation (Taylor R. E., 1999). Therefore, the informational green appeal in this study was operationalized as an ad that addressed the ecofriendly feature of the laundry detergent based on the product composition (e.g., soy-based, free of chemicals, dermatologist tested, and biodegradable formula), and the production process (e.g., recyclable bottle). The message consisted of substantive information about the quality and performance of the detergent regarding its impact on the environment, in turn serving as a potential solution for individuals with an acute need for evidence that the brand supports the environment.

The transformational green claim was developed based on the Veblenian Social-Psychological Model (Taylor R. E., 1999). The operational definition of a transformational advertisement is an ad that focuses on engendering a particular emotion, feeling, or mood that will be associated with the experience of consuming the product and the brand (Puto & Wells, 1984; Aaker & Stayman, 1992). The appeal is directed to address needs for "social approval, engaging in the socially correct behavior, and recalling and reliving social experience through product consumption" (Taylor R. E., 1999). Thus, the transformational green appeal in this study was operationalized as an ad

that linked a socially desirable and responsible image with using the brand of ecofriendly laundry detergent. The message utilized social norm-related information (e.g., made for people who truly care about the environment, environmentally conscious people all over the world are switching to brands that protect the planet, the number one choice of a new generation that wants to make a difference), and implied that using the brand EcoRite would consequently make a good impression on one's social image.

D. Instrumentation

The major focus of this study was a quantitative analysis of individuals' environmental concern and ad-stimulated accuracy or impression motivation with respect to systematic information processing and communication effectiveness. Accuracy motivation and impression motivation were primed by manipulating the contents of the ad copy. The instrument (questionnaire) consisted of six pages (see Appendix A and B). The first page contained an informational sheet, which provided the purpose of the study, estimated duration of completion, rights of confidentiality, and study participation consent. Instructions for completing the questionnaire and general information about the study were also listed on the first page. The second page was printed with one of the two ads. The third page consisted of three sections: measures of attitude toward the ad, systematic processing of information in the ad, and attitude toward the brand. The fourth page included three sections: purchase intention measure, subjective norm measure, and other product purchase-related questions (e.g., usage, actual purchase pattern, and decision-related factors). The fifth page assessed a general pattern of systematic processing toward environmental information presented in mass media and participants' environmental concern. Systematic processing toward information in mass media is

included as control variable because of its proximity to information processing measure on systematic processing of information from the ad. The sixth page dealt with the remaining environmental concern items and demographic information (e.g., gender, education, and age).

Two sets of three semantic differential scales were adopted to acquire measures on participants' attitude toward the ad and the brand, ranging from 1 to 5 (i.e., pleasant – unpleasant, unconvincing – convincing, appealing – unappealing, beneficial – harmful, worthless – valuable, good – bad) (Wells, 1964). The measure of purchase intention included two items assessing the likelihood to convert to the advertised brand, on the 5-point Likert scales (1=strongly disagree, 2=disagree, 3=feel neutral, 4=agree, 5=strongly agree), and a choice from five descriptive statements assessing the amount the respondent is willing to pay for the advertised brand.

Two sets of four 5-point Likert scales (1=strongly disagree, 2=disagree, 3=feel neutral, 4=agree, 5=strongly agree) were used to assess systematic processing toward the ad and environmental information in mass media respectively. Four 5-point Likert scales were developed to measure perceived level of subjective norms. Three additional 5-point Likert scales were designed to measure other product usage and purchase related information. Similarly, a single 5-point Likert scale was used to control the familiarity with the advertised brand. The measure of environmental concern consisted of 27 items adopted from previous research, and were also assessed on 5-point Likert scales (Dunlap, Liere, Mertig, & Jones, 2000; Schuhwerk & Lefkoff-Hagius, 1995). In the end, demographic information was collected through two close-ended, single-choice questions and one open-ended question.

Only questionnaires with complete responses were included in the data analysis. As a result, seven questionnaires were removed from the study due to missing data.

E. Dependent Variables

Communication effectiveness is assessed through attitude toward the ad (Aad), attitude toward the brand (Ab), and purchase intention (Pi). Studies frequently employ Aad, Ab, and Pi as core constructs to tap into individuals' global evaluations of the product, brand and the likelihood they plan to buy the particular product (brand) (Mitchell & Olson, 1981; Schuhwerk & Lefkoff-Hagius, 1995; Shrum, McCarty, & Lowrey, 1995). While other factors may affect behavior for any given consumption, focusing on these specific outcome variables allows for examining the process at a reasonable level of model complexity.

1. Attitude toward the Advertisement Measure

Attitude toward the advertisement was measured with a 3-item scale through the question "How would you describe your reactions in general to the advertisement you just read?" Respondents were asked to rate the following factors: pleasant – unpleasant, unconvincing – convincing, and appealing – unappealing with a number from 1 to 5 (Wells, 1964; Davis, 1994; Seven, Belch, & Belch, 1990; Chan R. Y., 2000).

2. Attitude toward the Brand Measure

Attitude toward the brand was measured with a 3-item scale in response to the question, "How would you describe your reactions to EcoRite Laundry Wash in general?", with the following response alternatives recorded: beneficial – harmful; worthless – valuable; and good – bad (Bruner, Hensel, & James, 1992; Droge & Darmon,

1987; Montoro-Rios, Luque-Martinez, & Rodriguez-Molina, 2008). Respondents indicated their evaluation regarding the brand with a number ranging from 1 to 5.

3. Purchase Intention Measure

Respondents' purchase intention was assessed through their likelihood to convert to the advertised brand and their willingness to pay for the advertised product. Two items, each related to respondents' desire to use the EcoRite Laundry Wash, were used as measures: "I would be likely to switch to EcoRite Laundry Wash," and "I would likely to try EcoRite Laundry Wash at least once." These two items tapped somewhat different aspects of purchase intention. While the first item assessed whether or not the respondents were keen on switching to an environmentally friendly brand as the advertised EcoRite Laundry Wash, the second determined whether or not the respondents had any interest in conducting a trial of a new product and experiencing a new green brand, such as the EcoRite Laundry Wash. Respondents' willingness to pay for the advertised EcoRite Laundry Wash was measured through the question: "If EcoRite Laundry Wash were available at your local store, how much would you be willing to pay in order to try it?" This last measure was a more stringent test of the individual's intention to make an ecologically responsible purchase of laundry detergent because the respondents were asked to choose what they would like to pay, if anything, for EcoRite Laundry Wash.

The former two items asked respondents to rate on 5-point Likert scales their agreement with statements concerning their buying intention, anchored by "strongly disagree" and "strongly agree." The latter item asked respondents to indicate their willingness to pay for the product in the ad through answers from "I wouldn't buy it,"

“I’d buy it only if it costs at least 10% less than my current laundry detergent,” “I’d buy it only if it costs about the same as my current laundry detergent,” “I’d buy it even if it costs 10% more than my current laundry detergent,” and “I’d buy it even if it costs 20% more than my current laundry detergent.”

F. Intervening Variable

1. Systematic Processing toward the Ad

Systematic processing strategy toward the ad was assessed using a similar set of items developed by Griffin, Dunwoody and Neuwirth to measure information processing toward environmental messages imbedded in magazine articles (Kahlor, Dunwoody, Griffin, Neuwirth, & Giese, 2003). The scale required the respondents to indicate their agreement with four statements on 5-point Likert scales anchored by “strongly disagree” and “strongly agree.” Examples of the items on the systematic processing toward the ad measure included: “I thought about actions I myself might take based on what I read” and “I found myself making connections between the ad copy and what I’ve read or heard about elsewhere.”

G. Independent Variable

1. Environmental Concern Measure

The literature on the measurement of environmental concern suggests that the concept is not unidimensional, but instead reflects multiple facets that include perception of environmental problems and engagement in ecological behaviors. The environmental concern measure consisted of eight items obtained from the environment involvement scales that were developed by Schuhwerk & Lefkoff-Hagius (1995) and the environmental responsibility scales used by Kashyap et al. (2009). Specifically, scores

were obtained from four items addressing each one of the two dimensions: a proactive environmental orientation (16, 18, 19, 20), and awareness of ecological consequence (17, 21, 22, 23). In comparison, the 15-item New Ecological Paradigm Scale developed by Dunlap et al. (Dunlap, Liere, Mertig, & Jones, 2000; Dunlap & Liere, 1978) and further tested by Stern et al. (Stern, Dietz, & Guagnano, 1995) were also included as a measure of fundamental environmental beliefs. Four additional items gathered from the environmental responsibility scales used by Kashyap et al. (2009) were adopted as a measure for ecoconscious behavior. The New Ecological Paradigm Scale targeted a primitive ecological world view about the nature and its relationship to humans with three items addressing each of the five aspects: the reality of limits to growth, antianthropocentrism, the fragility of nature's balance, rejection of exemptionalism, and the possibility of an ecocrisis (Dunlap, Liere, Mertig, & Jones, 2000). The environment involvement scale and environmental responsibility scales aimed at specific beliefs that directed operations and guided behaviors.

Respondents were asked to provide their response to the statements by choosing one of the following: "1=strongly disagree," "2=disagree," "3=feel neutral," "4=agree," and "5=strongly agree." Examples of the statements on the environmental concerns scale include: "We are approaching the limit of the number of people the earth can support," "When humans interfere with nature it often produces disastrous consequences," "I am willing to make sacrifices to protect the environment," and "My actions impact on the environment."

H. Control Variables

1. Subjective Norms Measure

Subjective norms were indicated by reactions to the following statements: “Most people who are important to me would want me to buy EcoRite Laundry Wash,” “Most students at Marquette who believe as I do about the environment would buy EcoRite Laundry Wash,” “Most students at Marquette who are concerned about the environment would buy EcoRite Laundry Wash,” and “Most students at Marquette would consider buying EcoRite Laundry Wash,” with the following response alternatives: “strongly disagree,” “disagree,” “feel neutral,” “agree,” and “strongly agree.” The measures on subjective norms were modeled after similar measures used in previous studies (Griffin, Neuwirth, Giese, & Dunwoody, 2002; Kahlor, Dunwoody, Griffin, Neuwirth, & Giese, 2003; Ajzen, 1991).

2. Systematic Processing of Environmental Information in Mass Media

A general pattern of systematic processing regarding environmental information appearing in mass media and elsewhere was measured with items that achieved high reliability in Griffin, Neuwirth, Giese, and Dunwoody’s (2002) study on risk information processing. Respondents were asked to indicate on 5-point Likert scales their agreement with the following statements: “After I get information about an environmental problem, I am likely to stop and think about it”, “It is important for me to interpret information about the environment in a way that applies directly to my life,” “When I read or hear about an environmental problem, the more viewpoints I get the better,” and “When I encounter information about the environment, I read and listen to most of it, even though I may not agree with its perspective.”

3. Issues Related to Purchase Process

Respondents' brand familiarity, habitual purchase pattern of laundry products, attitude toward green products in general, and brand loyalty were assessed by indicating their agreement with the statements on 5-point Likert scales. Respondents were instructed to state whether they strongly disagree, disagree, feel neutral, agree, or strongly agree with statements like "I was already familiar with EcoRite Laundry Wash before reading this ad," "I purchase laundry detergents on a regular basis," "When I buy environmentally-friendly products, I feel good about myself," and "It is important to me what brand of laundry detergent I buy."

4. Demographic Information

Demographic variables (e.g., gender, education, age) were straightforward variables represented by one question item each. Along with choosing between male and female for the gender, respondents were asked to indicate their grade level, whether they were freshmen, sophomores, juniors, seniors, graduate students, or other. Also, respondents were instructed to write their age in the last question.

1. Experimental Procedures

Eight experimental sessions were conducted on May 7, 2010, during regular class sessions on campus. The in-classroom setting helped eliminate potential external factors that may affect internal validity. The participants were 176 undergraduate students recruited from introductory communication courses. Participation was completely voluntary and the only condition for qualification was that they needed to be aged 18 years or older. Before conducting the experiment, approval from the class instructor was gained and time and place of each session were determined. Students were first informed verbally of the purpose of the study, estimated duration, the confidentiality of their

response, and the contact methods of the primary investigator and Marquette IRB for any questions concerning the study. The experimental material was administered as a study on the evaluation of a green print advertisement prototype. In each session, participants were randomly assigned to one of the two treatment groups that varied in terms of ad-stimulus preceding the questions. Participants were told that they were completing a questionnaire regarding an ad for a laundry detergent and were not informed that they were receiving only one of the two alternative advertising appeals. Participants were given a copy of the information sheet and a copy of the questionnaire that contained an informational ad or a transformational ad. Both print ads contained the same visual illustrations, layout, content subject, and a general product-related description, but differed in the type of green claim. Since the study was concerned with participants' reactions to the advertisement along with other environmentally related attitudes, they were asked to read the ad in a way they normally would if they came across it while reading a newspaper or magazine before they proceeded to the questionnaire. Participants were instructed to complete the questionnaire without referring back to the ad. The instructions also emphasized that subjects would not be tested on whether they could recall any specific facts from the ad. Also, participants were assured that their instructor would not know whether or not they participated and they were free to withdraw from the study at any point. After reading the ad, participants were assessed on their attitude toward the product, systematic processing toward the ad, attitude toward the brand, other product related reactions, purchase intention, an overall pattern of systematic processing toward information in mass media, environmental concerns, and demographic

information. Upon completion of the post-stimulus questionnaire, participants were debriefed and thanked for their cooperation.

J. Reliability and Validity

The internal consistency of the attitude toward the ad measure was examined (Table 1). Reliability analysis showed that the corrected item-total correlations were .53, .44, and .52 for the three items on the scale. The Cronbach's alpha of the three items was .68; deletion of any of the items would not improve the coefficient alpha value.

Principal component analysis with varimax rotation was conducted for attitude toward the ad. The procedure extracted one component, with all three items loading heavily on this factor. The items received a factor loading of .81, .73, and .80 respectively. The total variance explained by the three items was 61.1%. Thus, all three items were retained for the attitude toward the ad measure.

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
Unpleasant/Pleasant	.81	.53	.68
Unconvincing/Convincing	.73	.44	
Unappealing/Appealing	.80	.52	

The internal consistency of the attitude toward the brand measure was tested first with reliability analysis and then by factor analysis (Table 2). The three items regarding attitude toward the brand measure yielded a coefficient alpha of .80, with the corrected item-total correlation varying from .58 to .70. Deletion of any of the three items would significantly lower the value of alpha. The principal component analysis with varimax rotation suggested that all three items loaded heavily on one single component. The factor loadings for the three items were .86, .80, and .88, and together they explained 71.8% of

the total variance among the items. Therefore, all three items were accepted for the attitude toward the brand measure.

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
Harmful/Beneficial	.86	.66	.80
Worthless/Valuable	.80	.58	
Bad/Good	.88	.70	

A procedure to determine the internal consistency of the purchase intention measure was employed (Table 3). Results from the reliability analysis showed that the item-total correlation for the three items were .66, .63, and .64, with a Cronbach's alpha of .80. The value of coefficient alpha would be lowered if any of the items were excluded from the measure. Results from the principal component analysis with varimax rotation showed that all three items loaded heavily on one single component. The factor loadings on the three items were .86, .84, and .84, which counted for 71.4% of the total variance. Therefore, all three items were included in the summated purchase intention scale.

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
I would be likely to switch to EcoRite Laundry Wash.	.81	.53	.68
I would be likely to try EcoRite Laundry Wash at least once.	.73	.44	
If EcoRite Laundry Wash were available at your local store, how much would you be willing to pay in order to try it?	.80	.52	

To assess the internal consistency of the measure of systematic processing toward the ad, both reliability analysis and factor analysis were employed (Table 4). The coefficient alpha for the four items on the systematic processing toward the ad measure was .80. The item-total correlations for the four items were .65, .54, .62, and .64 respectively, and deletion of any of the four items would result the lowering of the overall

alpha value. The factor analysis suggested that all four items loaded heavily on one component, which explained 62.3% of the total variance among the items. The factor loadings for the four items ranged from a low of .74 to a high of .81. Thus, all four items were grouped together into one systematic processing of information toward the ad measure.

Table 4. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Systematic Processing toward the Ad

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
I thought about actions I myself might take based on what I read.	.81	.65	.80
I found myself making connections between the statements in the ad and what I've read or heard about elsewhere.	.74	.54	
I thought about how what I read related to other things I know.	.79	.62	
I tried to relate the ideas in the ad to my own life.	.81	.64	

The measure of systematic processing toward environmental information in mass media was assessed through the same procedure (Table 5). The reliability analysis yielded a Cronbach's alpha of .75. The item-total correlations for the four items were .60, .55, .54, and .50, and removing any of the items would lower the overall coefficient alpha value. Principal component analysis with varimax rotation extracted one component, with all four items heavily loaded on the factor. The four items together counted for 57.3% of the total variance, and the respective factor loadings were: .80, .77, .75, and .72. Therefore, the four items were summed into one measure of systematic processing of information toward environmental information in mass media.

Table 5. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Systematic Processing toward Environmental Information in Mass Media

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
After I get information about an environmental problem, I am likely to stop and think about it.	.80	.60	.75
It is important for me to interpret information about the environment in a way that applies directly to my life.	.77	.55	
When I read or hear about an environmental problem, the more viewpoints I get the better.	.75	.54	
When I encounter information about the environment, I read and listen to most of it, even though I may not agree with its perspective.	.72	.50	

The internal consistency of the subjective norms measure was examined (Table 6). The reliability analysis showed that the item-total correlation for the four items ranged from .40 to .58, with a Cronbach's alpha of .68. Deletion of any of the items would lower the overall coefficient alpha. Principal component analysis with varimax rotation showed all four items were heavily loaded on one component, with the factor loadings of .65, .81, .70, and .70. The total variance explained by the four items was 51.4%. Therefore, all four items were treated to be one summated scale to measure subjective norms.

Table 6. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Subjective Norms

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
Most people who are important to me would want me to buy EcoRite Laundry Wash.	.65	.40	.68
Most students at Marquette who believes as I do about the environment would buy EcoRite Laundry Wash.	.81	.58	
Most students at Marquette who are concerned about the environment would buy EcoRite Laundry Wash.	.70	.44	
Most students at Marquette would consider buying EcoRite Laundry Wash.	.70	.44	

The internal consistency of the 8-item environmental concern scale was examined (Table 7). A high degree of internal consistency has been considered a necessary condition for grouping a set of items into a summated scale (Dunlap, Liere, Mertig, & Jones, 2000). Result of reliability analysis shows that the corrected item-total correlations

for all these eight items are stably strong, ranging from a low of .60 to a high of .76. The Cronbach's alpha achieved .90, and the deletion of any of the eight items lowers the overall alpha value. Also, factor analysis with principal component analysis and varimax rotation was employed to assess the internal consistency of the eight-item environmental concern measure. The factor analysis resulted in one single component, and all eight-items loaded heavily (from .69 to .83) on this factor, which explained 59.1% of the total variance. Therefore, it is appropriate to treat the 8 items as an internally consistent scale (Mueller, 1986; Zeller & Carmines, 1980; Dunlap, Liere, Mertig, & Jones, 2000).

Table 7. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Environmental Concern

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
I often think about the harm we are doing to the environment.	.76	.67	.90
I am concerned about the environment.	.81	.73	
The condition of the environment affects the quality of my life.	.69	.60	
I am willing to make sacrifices to protect the environment.	.83	.76	
My actions impact on the environment.	.70	.61	
I feel a sense of connectedness to the environment.	.79	.71	
I think myself as an environmentalist.	.73	.65	
I am a person who cares about the environment.	.83	.75	

A similar procedure was used to examine the internal consistency of the fifteen-item NEP Scale (Table 8 and Table 9). The seven even-numbered items were reverse coded before proceed to the reliability analysis, because the disagreement of these items connoted a pro-environmental belief (Dunlap, Liere, Mertig, & Jones, 2000). The overall Cronbach's alpha of the fifteen items was .80, close to .83 reported by Dunlap et al. for the full scale in the original study, and to the .78 reported by Stern et al. for a partial scale of seven items in measuring ecological orientation in the social-psychological context (Dunlap, Liere, Mertig, & Jones, 2000; Stern, Dietz, & Guagnano, 1995). The corrected item-total correlations ranged from .26 to .61, except for one item that represented limits

to growth (11). This was the only item that, if deleted, would boost the alpha value by .01. The principal axis factoring procedure with oblimin rotation was also performed on the NEP measure, using the original coding in the study. The rotated four-factor solution was reported in table.

Four factors were extracted with eigenvalues greater than 1.0. An item was considered to be representative of a factor if it had a loading of .30 or higher. By that criterion, the first factor was most heavily loaded, with the three ecocrisis items (5, 10, 15), two balance-of-nature items (3, 8), one anti-exempt item (4), and one anti-anthropocentrism item (2), as compared to three ecocrisis items (5, 10, 15), two balance-of-nature items (3, 13), and one anti-exempt item (8) which resulted from Dunlap et al's study (Dunlap, Liere, Mertig, & Jones, 2000). Meanwhile, one limits-to-growth item (6), which loads most heavily on the third factor, shows a cross-loading on the first factor. Also, the first extracted factor explained 28.3% of the total variance among the items, compared to 9.4% for the second factor. The coefficient alpha for the six most heavily loaded items is .75. The results indicate that the major factor not only comprises the balance and ecocrisis facets of environmental worldview, but also addresses the rest of the facets to some extent (Dunlap, Liere, Mertig, & Jones, 2000).

Table 8. Principal Axis Factoring with Oblimin Rotation: New Ecological Paradigm

	Item	Factor 1	Factor 2	Factor 3	Factor 4
Eco-Crisis	5. Humans are severely abusing the environment.	.75			
Eco-Crisis	15. If things continue on their present course, we will soon experience a major ecological catastrophe.	.74			
Eco-Crisis	10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	-.66			
Anti-Anthro	2. Humans have the right to modify the natural environment to suit their needs.	-.57			
Balance	8. The balance of nature is strong enough to cope with the impact of a modern industrial nation.	-.55			
Balance	3. When humans interfere with nature it often produces disastrous consequences.	.44			
Anti-Exempt	4. Human ingenuity will insure that we do NOT make the earth unlivable.	-.25			
Balance	13. The balance of nature is very delicate and easily upset.		.73		
Limits	11. The earth is like a spaceship with very limited room and resources.		.41		
Limits	1. We are approaching the limit of the number of people the earth can support.		.36		
Limits	6. The earth has plenty of natural resources if we just learn how to develop them.			.47	
Anti-Anthro	12. Humans were meant to rule over the rest of nature.				-.67
Anti-Anthro	7. Plants and animals have as much right as humans to exist.				.63
Anti-Exempt	14. Humans will eventually learn enough about how nature works to be able to control it.				-.58
Anti-Exempt	9. Despite our special abilities, humans are still subject to the laws of nature.				.42
Eigenvalue		4.2	1.4	1.3	1.1
Percentage of Variance		28.3	9.4	8.8	7.6

Factor	Item	Item-Total Correlation	Cronbach's Alpha
Factor 1	Eco-Crisis	5. Humans are severely abusing the environment.	.31
	Eco-Crisis	15. If things continue on their present course, we will soon experience a major ecological catastrophe.	.48
	Eco-Crisis	10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	.26
	Anti-Anthro	2. Humans have the right to modify the natural environment to suit their needs.	.38
	Balance	8. The balance of nature is strong enough to cope with the impact of a modern industrial nation.	.61
	Balance	3. When humans interfere with nature it often produces disastrous consequences.	.58
	Anti-Exempt	4. Human ingenuity will insure that we do NOT make the earth unlivable.	.41
Factor 2	Balance	13. The balance of nature is very delicate and easily upset.	.51
	Limits	11. The earth is like a spaceship with very limited room and resources.	.10
	Limits	1. We are approaching the limit of the number of people the earth can support.	.33
Factor 3	Limits	6. The earth has plenty of natural resources if we just learn how to develop them.	.34
Factor 4	Anti-Anthro	12. Humans were meant to rule over the rest of nature.	.49
	Anti-Anthro	7. Plants and animals have as much right as humans to exist.	.45
	Anti-Exempt	14. Humans will eventually learn enough about how nature works to be able to control it.	.46
	Anti-Exempt	9. Despite our special abilities, humans are still subject to the laws of nature.	.49

Both a reliability analysis and a factor analysis were conducted to confirm the internal consistency of the eco-conscious behavior measure (Table 10). The reliability analysis showed that the Cronbach's alpha for the four items was .89, with the item-total correlation ranged from .67 to .83. Deletion of any of the items would lower the overall coefficient alpha value, except for item 24. Factor analysis using principal component procedure and varimax rotation extracted one component. All four items loaded heavily on this component, and their respective factor loadings were: .80, .90, .91, and .87. All four items together accounted for 75.7% of the total variance. Since the difference in the alpha value created by including item 24 was only .01, and considering this item

connoted an indispensable perspective on pro-environmental behavior regarding actively seeking information, this item was retained on the ecoconscious behavior scale.

Table 10. Principal Component Analysis with Varimax Rotation and Reliability Coefficients: Eco-conscious Behavior

	Factor Loading	Item-Total Correlation	Cronbach's Alpha
I read environmental magazines/blogs to keep in touch with environmental issues.	.80	.67	.89
I look for and buy products made from or packaged in recycled materials.	.90	.81	
I read labels of products to see if they are environmentally safe.	.91	.83	
I avoid buying products from companies that are not environmentally responsible.	.87	.76	

To determine the predictive validity of the environmental concern scale, correlations between the eight-item scale and the NEP scale, the ecoconscious behavior measure, and the measure of systematic processing toward environmental information in mass media were examined (Table 11). This step allowed for the evaluation of the nature of the interrelationships among the environmental concern measure adopted for this study and other indicators of pro-environmental attitudes, values, beliefs, and behaviors; therefore, the analysis would provide data on the predictive validity of the environmental concern measure (Dunlap, Liere, Mertig, & Jones, 2000).

Scores on the eight-item environmental concern measure correlated significantly ($r=.59$, $p<.01$) with scores on the 15-item revised NEP measure. Also, the majority of the individual items on the NEP scale correlated significantly with the environmental concern measure. The strongest associations were between the environmental concern scale and ecological catastrophe ($r=.57$, $p<.01$), and anti-anthropocentrism ($r=.55$, $p<.01$), followed by the fragility of nature's balance ($r=.35$, $p<.01$) and rejection of exemptionalism ($r=.39$, $p<.01$).

Table 11. Correlation and Reliability Coefficients: Environmental Concern and NEP			
15-item New Ecological Paradigm		8-item Environmental Concern	
		Correlation (r)	Reliability (α)
		.59**	.80
The reality of limits to growth	1. We are approaching the limit of the number of people the earth can support.	.18*	.20*
	6. The earth has plenty of natural resources if we just learn how to develop them.	.03	
	11. The earth is like a spaceship with very limited room and resources.	.25**	
Anti-anthropocentrism	2. Humans have the right to modify the natural environment to suit their needs.	-.35**	.55**
	7. Plants and animals have as much right as humans to exist.	.44**	
	12. Humans were meant to rule over the rest of nature.	-.44**	
The fragility of nature's balance	3. When humans interfere with nature it often produces disastrous consequences.	.21**	.35**
	8. The balance of nature is strong enough to cope with the impact of a modern industrial nation.	-.25**	
	13. The balance of nature is very delicate and easily upset.	.29**	
Rejection of exemptionalism	4. Human ingenuity will insure that we do NOT make the earth unlivable.	-.14	.39**
	9. Despite our special abilities, humans are still subject to the laws of nature.	.31**	
	14. Humans will eventually learn enough about how nature works to be able to control it.	-.33**	
The possibility of an ecocrisis	5. Humans are severely abusing the environment.	.44**	.57**
	10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	-.53**	
	15. If things continue on their present course, we will soon experience a major ecological catastrophe.	.43**	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Also, the environmental concern measure correlated significantly with systematic processing toward environmental information in mass media measure ($r = .62, p < .01$), and all of its individual items (the higher the degree of environmental concern individuals demonstrate, the more attention they pay to environmentally related information in mass media and the more effort they expend to scrutinize information) (Table 12).

Table 12. Correlation between Environmental Concern and Systematic Processing toward Environmental Information in Mass Media

	Environmental Concern
Systematic Processing toward Environmental Information in Mass Media	.62**
After I get information about an environmental problem, I am likely to stop and think about it.	.59**
It is important for me to interpret information about the environment in a way that applies directly to my life.	.52**
When I read or hear about an environmental problem, the more viewpoints I get the better.	.30**
When I encounter information about the environment, I read and listen to most of it, even though I may not agree with its perspective.	.45**

**. Correlation is significant at the 0.01 level (2-tailed).

The environmental concern measure correlated significantly with the eco-conscious behavior measure ($r=.68$, $p<.01$), and all of its individual items (the higher level of environmental concern individuals exhibit, the more pro-environmental behavior reported) (Table 13).

Table 13. Correlation between Environmental Concern and Eco-conscious Behavior

	Environmental Concern
Eco-conscious Behavior	.68**
I read environmental magazines/blogs to keep in touch with environmental issues.	.50**
I look for and buy products made from or packaged in recycled materials.	.63**
I read labels of products to see if they are environmentally safe.	.63**
I avoid buying products from companies that are not environmentally responsible.	.61**

**. Correlation is significant at the 0.01 level (2-tailed).

These results demonstrated that the eight-item environmental concern scale was related to a broad spectrum of pro-environmental attitudes and behaviors, as expected theoretically. A high degree of correlation between the environmental concern scale and related but conceptually distinct measures provide some evidence for its discriminant validity. Thus, the concurrent validity of the measure was supported (Dunlap, Liere, Mertig, & Jones, 2000).

K. Descriptive Statistics

Table 14 shows the means and standard deviations for the items measuring attitude toward the ad. Respondents' reactions to the EcoRite ad tended to be positive (M=3.46, SD=.78). In general, respondents considered the ad as pleasant (M=3.71, SD=.92), less so yet still appealing (M=3.41, SD=1.05), and even less so yet still convincing (M=3.26, SD=1.01).

Table 14. Descriptive Information: Attitude toward the Ad (Rank from 1 to 5)		
	Mean	Std. Deviation
I would consider the ad as pleasant.	3.71	.92
I would consider the ad as convincing.	3.26	1.01
I would consider the ad as appealing	3.41	1.05

Table 15 shows the means and standard deviations for the items related to consumers' attitude toward the brand measure. Overall, the brand EcoRite was positively received (M=3.79, SD=.77). Respondents would consider the brand as beneficial (M=3.99, SD=.89), valuable (M=3.58, SD=.98), and good (M=3.79, SD=.86).

Table 15. Descriptive Information: Attitude toward the Brand (Rank from 1 to 5)		
	Mean	Std. Deviation
I would describe the brand as beneficial.	3.99	.89
I would describe the brand as valuable.	3.58	.98
I would describe the brand as good.	3.79	.86

Table 16 shows the means and standard deviations for the items on the purchase intention measure. Respondents in general were not enthusiastic about making green purchases (M=2.77, SD=.90). Although they expressed an interest in trying EcoRite Laundry Wash (M=3.48, SD=1.23), they tended to be reluctant to switch to the brand (M=2.32, SD=1.04), or willing to pay more for the product (M=2.5, SD=.92).

	Mean	Std. Deviation
I would be likely to switch to EcoRite Laundry Wash.	2.32	1.04
I would be likely to try EcoRite Laundry Wash at least once.	3.48	1.23
If EcoRite Laundry Wash were available at your local store, how much would you be willing to pay in order to try it?	2.50	.92

Table 17 shows the results for the systematic processing toward ad information measure. Overall, respondents tend to systematically process the ad message (M=3.11, SD=.88). Their reactions were divided to the following statements:

“I thought about actions I myself might take based on what I read” (M=2.92, SD=1.14),

“I found myself making connections between the statements in the ad and what I’ve read or heard about elsewhere” (M=3.27, SD=1.09),

“I thought about how what I read related to other things I know” (M=3.35, SD=1.09),

“I tried to relate the ideas in the ad to my own life” (M=2.90, SD=1.19).

	Mean	Std. Deviation
I thought about actions I myself might take based on what I read.	2.92	1.14
I found myself making connections between the statements in the ad and what I’ve read or heard about elsewhere.	3.27	1.09
I thought about how what I read related to other things I know.	3.35	1.09
I tried to relate the ideas in the ad to my own life.	2.90	1.19

Table 18 shows the results offer the subjective norm measure. Respondents were on the average neutral in general considering their perceived social norms (M=2.91, SD=.69). While they tended to agree on the idea that “most students at Marquette who are concerned about the environment would buy EcoRite Laundry Wash” (M=3.56, SD=.98), they tended to be neutral about the notions that “most students at Marquette

who believe as I do about the environment would buy EcoRite Laundry Wash” (M=2.94, SD=.99) and “Most students at Marquette would consider buying EcoRite Laundry Wash” (M=2.70, SD=.97). Even fewer respondents agreed with the statement that “Most people who are important to me would want me to buy EcoRite Laundry Wash” (M=2.44, SD=.90).

	Mean	Std. Deviation
Most people who are important to me would want me to buy EcoRite Laundry Wash.	2.44	.90
Most students at Marquette who believes as I do about the environment would buy EcoRite Laundry Wash.	2.94	.99
Most students at Marquette who are concerned about the environment would buy EcoRite Laundry Wash.	3.56	.98
Most students at Marquette would consider buying EcoRite Laundry Wash.	2.70	.97

Table 19 shows the results for the measure of consumer purchase. Particularly, respondents were balanced in their regular laundry detergent purchase pattern (M=2.72, SD=1.18) and their brand preference (M=2.84, SD=1.20). Nevertheless, respondents tended to feel good about their ecoconscious purchases (M=3.51, SD=.98).

	Mean	Std. Deviation
I purchase laundry detergents on a regular basis.	2.72	1.18
When I buy environmentally-friendly products, I feel good about myself.	3.51	.98
It is important to me what brand of laundry detergent I buy.	2.84	1.20

Table 20 shows the results for the measure of systematic processing toward environmental information in mass media. Upon encountering environmental information in mass media, respondents tended to scrutinize this information (M=3.54, SD=.66). Specifically, respondents were likely to stop and think about information about an environmental problem (M=3.53, SD=.88). They considered it important to interpret information about the environment in a way that applied directly to their lives (M=3.45,

SD=.91). Also, respondents agreed with the statement that “when I read or hear about an environmental problem, the more viewpoints I get the better” (M=3.71, SD=.85).

Respondents also indicated a tendency to read and listen to information about the environment when encountering it, even though they may not always agree (M=3.49, SD=.87).

Table 20. Descriptive Information: Systematic Processing of Environmental Information in Mass Media (Rank from 1 to 5)

	Mean	Std. Deviation
After I get information about an environmental problem, I am likely to stop and think about it.	3.53	.88
It is important for me to interpret information about the environment in a way that applies directly to my life.	3.45	.91
When I read or hear about an environmental problem, the more viewpoints I get the better.	3.71	.85
When I encounter information about the environment, I read and listen to most of it, even though I may not agree with its perspective.	3.49	.87

Table 21 shows the results for the NEP, environmental concern, and eco-conscious purchase measures. Respondents’ endorsement of an ecoconscious ideology and behavior varied. There was a general trend for the respondents to exhibit a pro-environmental attitude, yet they tended to report less ecoconscious behavior. For instance, there is a general tendency for respondents to believe in the equality of plants and animals and humans (M=3.96, SD=.93) and that humans were still subject to the laws of nature (M=3.90, SD=.75). At the same time, respondents tended not to follow magazines and blogs to keep in touch with environmental issues (M=2.08, SD=1.01), nor did most consider themselves to be environmentalists (M=2.45, SD=1.08).

Table 21. Descriptive Information: NEP, Environmental Concern, Eco-Conscious Purchase

	Mean	Std. Deviation
We are approaching the limit of the number of people the earth can support.	3.05	1.02
Humans have the right to modify the natural environment to suit their needs.	3.57	.87
When humans interfere with nature it often produces disastrous consequences.	3.72	.88
Human ingenuity will insure that we do NOT make the earth unlivable.	3.96	.93
Humans are severely abusing the environment.	3.90	.75
The earth has plenty of natural resources if we just learn how to develop them.	3.14	1.08
Plants and animals have as much right as humans to exist.	3.53	.92
The balance of nature is strong enough to cope with the impact of a modern industrial nation.	3.45	.95
Despite our special abilities, humans are still subject to the laws of nature.	3.10	1.05
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	2.95	.79
The earth is like a spaceship with very limited room and resources.	2.46	1.02
Humans were meant to rule over the rest of nature.	3.40	.89
The balance of nature is very delicate and easily upset.	3.35	1.06
Humans will eventually learn enough about how nature works to be able to control it.	3.32	1.20
If things continue on their present course, we will soon experience a major ecological catastrophe.	3.16	1.03
I often think about the harm we are doing to the environment.	3.39	1.05
I am concerned about the environment.	3.87	.88
The condition of the environment affects the quality of my life.	3.52	1.02
I am willing to make sacrifices to protect the environment.	3.54	.96
My actions impact on the environment.	3.87	.87
I feel a sense of connectedness to the environment.	3.31	1.03
I think myself as an environmentalist.	2.45	1.08
I am a person who cares about the environment.	3.71	.84
I read environmental magazines/blogs to keep in touch with environmental issues.	2.08	1.01
I look for and buy products made from or packaged in recycled materials.	2.86	1.19
I read labels of products to see if they are environmentally safe.	2.63	1.20
I avoid buying products from companies that are not environmentally responsible.	2.63	1.16

IV. FINDINGS

The study employed a mixed-model design to investigate: 1) whether individuals' environmental concern impacted systematic information processing; 2) whether individuals with different levels of environmental concern, exhibited different levels of systematic processing when presented with an ad used an informational appeal versus a transformational appeal; and 3) whether an informational green appeal and a transformational green appeal demonstrated varied persuasive power between individuals who were more ecoconscious and those who were less so.

Table 22. Multiple Regression: Environmental Concern, Systematic Processing, and Communication Effectiveness

	Dependent variables				
	Sys processing toward the ad	Social norms	Attitude toward the Ad	Attitude toward the Brand	Purchase Intention
Control variables					
Gender	.10	-.13	.06	.03	-.03
Year in school	.04	-.04	.08	.07	.07
R² Change	.05a	.00	.04a	.03	.06b
Social norm	.19a		.11	.25c	.35c
R² Change	.10c		.06c	.14c	.33c
General sys processing	.01	.07	-.21a	-.06	.09
R² Change	.02a	.08c	.00	.01	.07c
Ad type	.03	.09	.01	.03	.03
Z-Eco concern	.30b	.32b	.35c	.30b	.35c
R² Change	.04a	.10c	.09c	.04a	.08
Adtp x ZEco	-.07	-.03	-.01	-.15	-.02
R² Change	.00	.00	.000	.02a	.00
Sys processing toward the ad		.19a	.21b	.09	.21c
R² Change		.03a	.04b	.01	.04c
Multiple R	.47c	.46c	.48c	.50c	.76c
Adjusted R²	.18	.18	.19	.21	.55
Overall ANOVA	F(7,159)=6.26	F(7,159)=6.15	F(8,158)=5.75	F(8,158)=6.44	F(8,158)=26.43
N	167	167	167	167	167

Significance key: (a) p≤.05 (b)p≤.01 (c) p≤.001

Because the hypothesis addressed causal relationships between the independents variables and dependent variables, multiple regressions were employed to analyze the

potential relationships between the independent variables and dependent variables. First of all, contrast coding was adopted for the ad type variable: for respondents who received the informational ad, their ad type was coded as -1, conversely, for respondents who received the transformational ad, their ad type was coded as +1. A new ad type x ecoconcern variable was created to mimic the proposed interaction between ad type and environmental concern, by multiplying the contrasted coded ad type variable with the standardized environmental concern scale. Then multiple regression analyses were performed to test the relationship between environmental concern, ad type, and communication effectiveness within the sample.

A. Relationship between Environmental Concern and Systematic Processing toward the Ad

Hypothesis 1 predicted that individuals highly involved with environmental problems would be more likely to systematically process information from the ad, regardless of the type of appeal to which they were exposed. Therefore, the influence of environmental concern on systematic processing of the ad was assessed by regressing the dependent variable on the predictor. Control variables and independent variables were entered block by block in the following order: gender and year in school, social norms, systematic processing toward environmental information in mass media, ad type and standardized environmental concerns (the main effects), as well as ad type x standardized environmental concerns (the interaction). The regression results were summarized in table 22. Environmental concern was related significantly with systematic processing of the ad ($\beta=.30$, $p<.01$), supporting hypothesis 1 that, regardless of the type of ad presented, individuals with higher ecological concern tended to exhibit more systematic

processing toward information they encountered in the ad, as compared to those with lower ecological concern.

B. Influence of Informational Appeal versus Transformational Appeal, Environmental Concern on Systematic Processing toward the Ad

Hypothesis 2a predicted that the informational ad, rather than the transformational ad, would generate more systematic processing among individuals who were more ecocomminded. Conversely, hypothesis 2b predicted that the transformational ad, rather than the informational ad, would generate more systematic processing among individuals who were less ecocomminded. The regression results showed that the interaction (ad type x standardized environmental concern) on systematic processing of the ad was not statistically significant. Thus, the type of appeal seemed not to affect systematic processing toward ad information. Both hypothesis 2a and hypothesis 2b were not supported.

C. Relationship among Environmental Concern, Systematic Processing, and Communication Effectiveness

Hypothesis 3a predicted that the level of systematic processing moderated the effectiveness of communication as measured by (H3a1) attitude toward the ad, (H3a2) attitude toward the brand, and (H3a3) purchase intention. For systematic processing of the ad to mediate the relationship between environmental concern and attitude toward the ad, attitude toward the brand, and purchase intention, systematic processing toward the ad must first correlate significantly with the independent variable and the dependent variables. Then, when systematic processing of the ad is controlled in the analysis, the correlation between the environmental concern measure and the three communication

effectiveness measures should reduce significantly or disappear. (This pattern can also be produced by spuriousness, so no truly causal relationship can be determined through these measures, all of which are assessed simultaneously.) In order to determine the potential causal relations with an intervening variable, zero-order correlations and partial correlations were conducted to determine the eligibility of the potential intervening variable. The results were summarized in table 23. Environmental concern was correlated to systematic processing of the ad ($r=.41, p<.01$), attitude toward the ad ($r=.38, p<.01$), attitude toward the brand ($r=.38, p<.01$), and purchase intention ($r=.62, p<.01$). Systematic processing was also correlated to attitude toward the ad ($r=.35, p<.01$), attitude toward the brand ($r=.29, p<.01$), and purchase intention ($r=.52, p<.01$). When systematic processing of ad information was controlled in the partial correlation analysis, the association between environmental concern and the three advertising effectiveness measures persisted at a statistically significant level. Thus, it was unlikely that the influence of environmental concern on cultivating positive response toward the ad, brand, and willingness to buy were translated through systematic processing of ad information. Hypothesis 3a was not supported.

Table 23. Partial Correlation: Environmental Concern, Systematic Processing toward the Ad, and Advertising Effectiveness

Control Variable		Systematic Processing toward the Ad	Attitude toward the Ad	Attitude toward the Brand	Purchase Intention
None	Environmental Concern	.41**	.38**	.38**	.62**
	Systematic Processing toward the Ad		.35**	.29**	.49**
Systematic Processing toward the Ad	Environmental Concern		.27**	.30**	.52**

Correlation is significant at the 0.01 level (2-tailed)

D. Influence of Informational Appeal versus Transformational Appeal, Environmental Concern on Communication Effectiveness

Hypothesis 3b and 3c postulated that the informational appeal would be more persuasive among individuals who held a higher level of environmental concern, as opposed to transformational appeal. Transformational appeal would be more effective among individuals who held a lower level of environmental concern, as compared to the informational appeal. Multiple regression analyses were adopted in order to assess the potential interaction effects of the two types of ads and the two levels of environmental concern on communication effectiveness. Demographic variables, such as gender and year in school, were entered in the first step of a hierarchical regression, followed by perceived social norms in the second block, general systematic processing toward environmental information in mass media in the third block, ad type and environmental concern in the fourth block, the interaction variable (ad type x environmental concern) in the fifth block, and systematic processing toward the ad in the sixth block. The interaction variable, created by multiplying contrast-coded ad type and standardized environmental concern, showed no statistically significant association with attitude toward the ad ($\beta = -.01$, ns), attitude toward the brand ($\beta = -.15$, ns), or purchase intention ($\beta = -.02$, ns). These results indicate that the variance explained by exposing individuals with a high level of environmental concern to the informational ad did not differ significantly from that explained by exposing individuals with low level of environmental concern. A MANOVA test performed based on a split mean of low and high environmental concern groups and ad type confirmed the results. The multivariate test yielded a significant F-value for attitude toward the ad [$F(3,161) = 6.00$, $p < .001$], for

attitude toward the brand [$F(3, 161) = 10.51, p < .001$], and for purchase intention [$F(3, 161) = 19.66, p < .001$]. However, the between-subjects test showed that the effects were due to environmental concern alone. In other words, the MANOVA on the sample did not reveal any significant differences in either attitude toward the ad, attitude toward the brand, or purchase intention scores with regard to environmental concern, suggesting that individuals who varied in their ecological consciousness perceived the informational appeal and the transformational appeal similarly. Therefore, the interaction proposed in hypothesis 3b and 3c did not happen.

E. Other Findings with Demographics, Social Norms, Systematic Processing of Information and Environmental Concern on Communication Effectiveness

Neither gender nor education (as represented by respondents' year in school) were found to have any direct influence on respondents' perceptions and evaluations of ad, brand, and buying decision. Gender and education together explained 5% of the variance in systematic processing of the ad, 4% of the variance in attitude toward the ad, and 6% of purchase intention. The results supported a previous research finding that claimed that sociodemographic characteristics were generally inadequate in explaining the variance in green purchase.

Since the transformational appeal intended to enhance the communication through priming an impression control motivation, the perceived social norms were expected to be higher among those who were exposed to the transformational ad as opposed to those who were exposed to the informational ad. A multiple regression analysis was conducted to test whether there was a difference in perceived social norms among respondents who received informational ad and respondents who received the transformational ad.

Evidence from the regression analysis showed no statistically significant difference between the two groups in respect to perceived social norms. Nevertheless, the social norms variable was found to be correlated to systematic processing of ad information (beta=.19, $p < .05$), to attitude toward the brand (beta=.25, $p < .001$), and to purchase intention (beta=.35, $p < .001$). Specifically, social norms seem to be a strong predictor of respondents' willingness to make the purchase, explaining 35% of the change in variance accounted for (R^2 change=.35, $p < .001$). Also, 10% of the change in systematic processing of ad information and 14% of the change in attitude toward the brand were explained by respondents' perceived social norms (R^2 change=.10, $p < .001$; R^2 change=.14, $p < .001$). In addition, systematic processing of information in the ad was correlated to perceived social norms (beta=.19, $p < .05$), explaining 3% of the difference in variance (R^2 change=.03, $p < .05$).

Environmental concern was positively correlated with perceived social norm (beta=.32, $p < .01$), attitude toward the ad (beta=.35, $p < .001$), attitude toward the brand (beta=.30, $p < .01$), and purchase intention (beta=.35, $p < .001$). Specifically, environmental concern explained 10% of the variance in subjective norm (R^2 change=.10, $p < .001$), 9% of the variance in attitude toward the ad (R^2 change=.09, $p < .001$), 4% of the variance in attitude toward the brand (R^2 change=.04, $p < .05$), and 8% of the variance in purchase intention (R^2 change=.08, $p < .001$).

V. DISCUSSION

The findings of this study did not yield evidence to support the hypotheses that priming a certain motivation (informational/transformational) among individuals with different levels of environmental concern increased the likelihood that this motivation would guide cognitive processing of ad information, subsequently influencing perception of the ad, the assessment of the brand performance, and purchase decision. In short, no interaction effects were detected by the regression analyses that led to the preference of employing differential strategies on individuals with higher versus lower levels of environmental concern. Also, the analysis did not support that the informational appeal and the transformational appeal resulted in different levels of systematic processing of ad information regardless of the variations in environmental concern.

Nevertheless, the results of this study upheld findings from previous research on the importance of environmental concern as a determinant of pro-environmental behavior. In particular, individuals' ecological consciousness was reflected in their awareness of living green as a social norm, and mobilized them to actively seek and evaluate information. Generally, to the greater extent that living green was considered to be a social norm, the more appealing the brand would be perceived, and the more likely the product would be purchased. Similarly, the more individuals cared about environmental issues and were concerned about the consequence of their behaviors, the more likely they would generate favorable reactions to the ad, brand and the greater interest they would show in buying the ecofriendly products. In addition, systematic processing of ad information also contributed to the cultivation of a positive attitude toward the ad, and the willingness to purchase the advertised product. Individuals who were willing to devote

time and effort to examining the information from the ad would enjoy a greater chance to form a favorable attitude toward the ad and exhibit a greater tendency to make the ecofriendly purchase. Neither gender nor education showed any direct impact on systematic processing of ad information or the three communication effectiveness measures. Systematic processing of environmental messages in mass media was negatively associated to individual's reaction toward the ad, suggesting a tendency to be skeptical of green advertising claims in general among individuals who were attentive to environmental information.

In explicitly addressing and testing the proposed model of systematic processing motivated green purchasing, this study has raised as many questions as it has answered. Other than the influence of cognitive processing of information as a determinant of product perception, brand evaluation and purchase intention, research could also incorporate other factors in the model. For example, although the manipulation of a product-based informational appeal versus a social norm-based transformational appeal did not lead to any difference in the persuasion outcome, assessing individuals' perceived social norms had provided some insights on how to channel pro-environmental orientation to positive response toward green advertising and eventually ecoconscious purchase decisions. Individuals may be aware that going green is desirable, when they need to make a product choice; however, the process of decision-making may not exclusively employ cognitive thinking. When individuals are restricted in their capacity to judge the information or when the decision is less pertinent, their ability and motivation to make a fully informed and well-thought conclusion are inhibited. In that case, individuals may resort to simple inferential cues (e.g., social norms), to make the

decision. It is therefore important for future studies to investigate how heuristic processing of ad information may contribute to the assessment of the ad, the brand, and consumers' willingness to buy green products. With respect to the ad stimuli, the transformational appeal was designed with an aim to establish an ecoconscious referent group that viewers should identify with. Yet the students who participated may have not resonated with the social normative pressure conveyed in the ad. A subjective norms measure on participants' identification with the ecoconscious group may provide further evidence on whether a social normative approach would be effective to encourage green purchase among individuals with lower level of environmental concern.

Regarding this experimental study, it is apparent that there is no simple segmentation variable other than the environmental concern construct itself. It can be acknowledged that other factors that influence ecofriendly buying, such as emotion, should be engaged in future investigations. When respondents' purchase habits were assessed, one item that specifically addressed the perceived emotional rewards ("When I buy environmentally-friendly products, I feel good about myself") was significantly correlated to environmental concern ($r=.62, p<.01$), perceived social norm ($r=.45, p<.01$), systematic processing toward the ad ($r=.43, p<.01$), attitude toward the ad ($r=.33, p<.01$), attitude toward the brand ($r=.41, p<.01$), and purchase intention ($r=.57, p<.01$). These associations may indicate a potential feeling factor that can complement the model if added. In fact, evidence indicates that emotion may also moderate the relationship between the ad message and communication effectiveness. For example, Lutz (1985) proposed that advertising context affected attitude toward advertisements through a moderating influence of situational affect. Edell and Burke (1987) discovered that

attitude toward the ad and brand can be successfully predicted by the feelings evoked by advertisement. Goldberg and Gorn (1987) found that cultivating a happy mood can facilitate achieving of positive responses toward commercials. Therefore, it would be worthwhile to examine whether a cognitive factor and an affective factor serve together to foster behavior change.

VI. CONCLUSION

A. Summary of Key Findings

This study attempts to examine the effectiveness of two types of advertising appeals in encouraging green purchasing among individuals with varied levels of ecological concern. The purpose of this study is to explore whether priming two different types of motivation would promote systematic processing of information with regard to individuals with high and low level of environmental consciousness, and whether the effort devoted to critically securitizing ad information would in turn contribute to product perception, brand evaluation, and purchase intention.

In order to test the hypothesis in this exploratory investigation, a posttest-only, between subjects mix-model design was employed. A fictitious brand of ecofriendly laundry detergent was developed as a stimulus to assess participants' attitude toward the ad, attitude toward the brand, and purchase intention. The accuracy motivation was primed through a product-oriented informational ad, and the impression motivation was primed through a social norm-based transformational ad. Data about the individuals' environmental concern, systematic processing of ad information and other variables were assessed through a questionnaire and the causal relationships between independent variables and dependent variables were examined through multiple regression analyses.

The findings show no interaction effects between environmental concern and ad type either on systematic processing of the ad, attitude toward the ad, attitude toward the brand, or purchase intention. Nevertheless, evidence supports environmental concern as a predictor of communication effectiveness. Thus, irrespective of the type of ads shown, highly ecominded individuals are likely to exert greater efforts to scrutinize ad

information, demonstrate a positive attitude toward the ad, generate a favorable evaluation toward the brand, and show greater willingness to buy the product as compared to their less eco-minded counterparts.

B. Theoretical Contributions

This research extends understandings of green advertising in several ways. First, this study increases knowledge of the comparative effectiveness of two motivational strategies in green advertising: an informational approach that emphasizes product attributes, and a transformational approach that targets a socially acceptable image. Also, the study explores the potential of cognitive thinking as a mediating factor between environmental concern and advertising effectiveness, and sheds light on a new perspective in the cognitive and motivational processes in persuasion.

Second, this study encapsulates consumer characteristics and ad components in an effort to further understand the effectiveness of environmental advertising. This study investigates the ways in which ad content interacts with environmental orientation and awareness of consequence in encouraging ecofriendly consumption. It is desirable for researchers and marketers to consider both the consumer end and the agency end. The search for compatible strategy and tactic with particular target group that is distinctive in personal factors (e.g. education, knowledge structure, skill, political ideology, income, etc.) could help improve the efficacy of green advertising. In particular, with the pressing environment deterioration, it is an imperative to explore and develop appeals that could potentially attract those less ecoconscious consumers to act in more ecologically responsible ways, including purchasing green products.

Third, this study also provides new information regarding environmentally conscious behavior. The results of this study have some implications with regard to the relationships among environmental concern, systematic information processing, and product evaluation. Advancing knowledge on the transferability of environmental concern to ecoconscious behavior can be particularly useful when the high stakes of environmental issues among consumers may still fail to translate into actual purchase (Schlossberg, 1991). Empirical evidence shows that general environmental attitudes are unlikely to predict particular environmental behaviors (Shrum, Lowrey, & McCarty, 1994; Stern & Oskamp, 1987). Nevertheless, the findings from this study provide evidence that appropriately measured environmental concern may serve as a predictor of behavioral intention. The results are also in line with the emphasis on the specification of measures of environmental concern (Samdahl & Robertson, 1989). Revisiting environmental concern related measures in a systematic manner would help improve the applicability and predictability of frameworks that tap into pro-environmental attitudes, beliefs, and behaviors.

Last but not least, the main focus of the study is on how environmental concern relates to green purchasing. The findings with regard to this relationship also have certain marketing and policy implications as to target segmentation and advertising design. In terms of segmentation, the results of this study suggest that the green segment is still the best target. The distinguishing of individuals with high and low level of environmental concern would serve not only as ends unto themselves but as vehicles for interpreting the functional underpinnings of attitudes and behaviors. In terms of advertisement design, the

results of this study also imply that different advertising strategies and tactics may be developed to facilitate the process of persuasion and social change.

C. Limitations

While the current study identifies some issues related to the efficacy of green advertising, there are certain limitations. Therefore, the present study should be inferred and generalized with caution.

A major shortcoming with the design is that only one-time exposure to the ads was administered. Both types of appeal may require multiple exposures for the participants to fully utilize the information and cultivate attitude change. Neither the informational nor the transformational appeal has, as predicted, induced the interaction effect among those with higher and lower level of environmental concern. The transformational appeal may not be effective in eliciting the desired social normative pressure among individuals with lower level of ecoconsciousness. Compared with the product-oriented informational appeal, the social norm-based transformational appeal may need more repeated exposure to allow digestion and assimilation, since the acceptance of a social norm can be a slow process, especially among those consumers for whom going green is not previously a priority.

In respect to the message design, this study relies solely on the variation of the textual component of an informational and transformational ad, and held visual image constant in both conditions for the purpose of experimental control. Since the visual component could provide a distinctive influence on the level of persuasion, this emphasis on a textual message may bias the results by excluding the effects offered by the visual

component. This conditioning, particularly, may have diluted the effectiveness of transformational appeal.

The study is geographically limited to one university and is confined to a particular age group: college students. In addition, the sample acquired for this study is composed of undergraduate students who are mostly communication students. The representativeness of the sample is limited in respect to race, income, education, and political ideology. For instance, the possibly low income of the average college student could have affected their willingness to pay for ecofriendly products which usually cost more than regular products, considering they may have other spending priorities. Therefore, the results cannot be generalized and applied to the general population.

In addition, findings from the classroom-laboratory setting are limited in realism and generalizability because the responses are acquired through forced exposure in a controlled setting (Schuhwerk & Lefkoff-Hagius, 1995). Although measures have been taken to offset potential impacts resulted from an unnatural setting (e.g., respondents are told to read the ad they normally would when encountering an ad in a magazine or a newspaper, and are assured that they would not be tested on the specific facts from the ad), the findings may still need to be applied with caution. Apart from the realistic concerns, the self-report measure may also affect the results. Because of the general tendency for individuals to provide socially desirable answers in virtually all types of self-reported measures (Fisher, 1993), respondents may lean toward responses that are socially correct and socially expected in a society in which the green movement is on the rise.

Another limitation of this study is its narrow focus. One primary interest lies in examining the influence of environmental concern on persuasion effectiveness. Because of this interest, the study focuses on a limited set of antecedents to the behaviors. Several known predictors to purchase are not explicated in the study (e.g., knowledge). Meanwhile, only the effects of systematic processing of information are examined while the effects of heuristic processing of information could also channel environmental concern to positive assessment of the ad, the brand, and likelihood to purchase. Although the study has advanced the understanding of individuals' pro-environmental attitude and beliefs on motivating ecofriendly purchases, it does not specifically attend to purchase in the broader context of the full range of antecedents to the behavior, nor does it specifically address the relationship of these variables to other pro-environmental consumptions and behaviors.

D. Future Research Directions

Expanding the study to include repeated exposures to ads would be an excellent next step (Sawyer, 1973). Future studies should direct toward exploring the longitudinal effects of informational versus transformational green appeals over a period of time. Researchers should monitor the reactions from individuals exposed to multiple sessions of the stimulus. The manipulation on the social norms with the transformational appeal can also distinguish different reference groups other than the eco-minded group that may pertain more influence on the targeted less ecoconscious group. Apart from attitude toward the ad, attitude toward the brand, and purchase intention, research can incorporate a full spectrum of communication effectiveness measures, such as ad comprehension, ad recognition, and recall.

In future research, both textual and visual components should be included in the analysis. It would be interesting to test for the motivation-cognition model to persuasion employed in this study on the effectiveness of the visual component of green appeal.

In addition, future investigation should explore individuals' reactions to other low involvement product categories other than laundry detergents (e.g., compact fluorescent bulbs), as well as high involvement categories, to gain a broader understanding on how individuals' environmental concern is translated into behavior.

Future research could test the adaptability of the model to other populations. Research has reported that individuals with varied cultural background varied in their selection of information cues pertinent to their purchase choice (Aaker & Maheswaran, 1997). It would be appealing to expand the understanding on the behaviors of other target groups, such as individuals from other geographical areas, and individuals with high incomes. It would also be useful to include individual differences across consumers. For example, internal locus of control, individualism, collectivism can also contribute to environmentally responsible purchase, directly and indirectly (Hines, Hungerford, & Tomera, 1987; Schwepker & Cornwall, 1991; McCarty & Shrum, 2001)

More reality should be introduced to gain external validity. Future studies could develop ads for real brands and conduct the experiment in a natural setting (e.g. outside the mall) to get more precise and realistic attitudinal reactions (Schuhwerk & Lefkoff-Hagius, 1995). Besides a print ad, other forms of advertising should be examined and compared. For example, rather than asking participants to complete an after-stimulus questionnaire on paper, using an Internet ad accompanied with web pages for product purchase options can add reality to the study.

Furthermore, future research should target to identify other potential antecedents of pro-environmental behaviors. Meanwhile, it would be important to delve into the role of heuristic processing of information on fostering attitude and behavior change. Also, research could be directed toward green advertising made by non-profit organizations, to determine whether the informational or the transformational approach would spur most attitude and behavior change.

E. Practical Implications

One final element to which this paper draws attention is the study's practical implications. This study further builds on knowledge about the potential of utilizing differentiated green appeals to reach not only the green consumers but also those yet-to-be. Also, this study explores the determinants of ecoconscious purchasing and consumption habits, which can be applied to market segmentation. Marketers and policy makers should continue to address the increasing environmental concern by exploring new models and strategies that can help the transformation of the use-and-toss lifestyle into a less resource intense lifestyle. Only when the molecular component of society is mobilized to alleviate the pressure on the environment, can human maintain the balance of nature and enjoy a sustainable living. As such, studies that contribute to the improvement of green advertising are in urgent need.

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Appendix A
Questionnaire with Informational Ad

Dear student,

Let me introduce myself. My name is Jingyu Bao and I am a second year Master's student in the College of Communication. I'm doing my research thesis on advertising. I need your help to complete a questionnaire regarding an ad for a laundry detergent. Your response to this questionnaire will help me make this study a success. By completing the survey, you are giving your permission to me to use your anonymous responses in my Master's thesis.

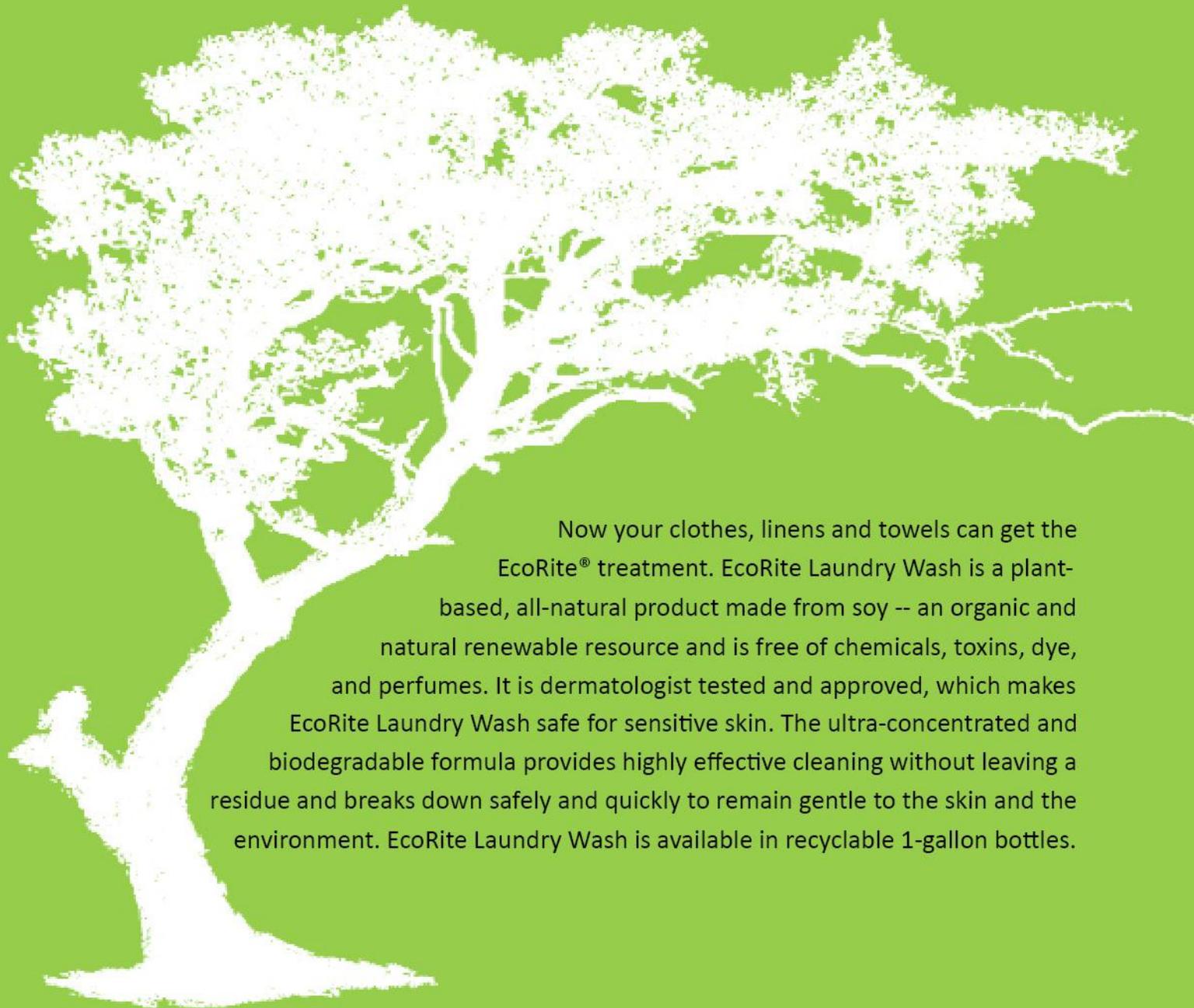
It will take approximately 20 minutes of your time to complete the questions, and all information obtained in the questionnaire will remain anonymous. Your participation is voluntary, and you can stop at any point. If you have any questions about the study, please feel free to ask me or contact me at jingyu.bao@mu.edu.

The project has received Marquette University Institutional Review Board approval. If you have any concerns regarding your rights as research participant, please contact Marquette's Office of Research Compliance at (414) 288-7570 or orc@mu.edu.

I hope you will agree to participate in my study, and I am offering my thanks in advance. Your input is essential to my success and will be greatly appreciated!

Please check the box if you're 18 or above

On the next page, you will find an advertisement. Please read the ad in the way you normally would if you came across it while reading a newspaper or magazine. You will not be tested on whether you recall any specific facts from the ad. I just want your impression of the ad based on how you normally would read the ad. Please read the ad in that way. When you are satisfied that you have gotten whatever you want from the ad, move on to the questions that follow. You will be asked not to return to the ad once you turn to the questions.



Now your clothes, linens and towels can get the EcoRite® treatment. EcoRite Laundry Wash is a plant-based, all-natural product made from soy -- an organic and natural renewable resource and is free of chemicals, toxins, dye, and perfumes. It is dermatologist tested and approved, which makes EcoRite Laundry Wash safe for sensitive skin. The ultra-concentrated and biodegradable formula provides highly effective cleaning without leaving a residue and breaks down safely and quickly to remain gentle to the skin and the environment. EcoRite Laundry Wash is available in recyclable 1-gallon bottles.

Health. Quality. Sustainability.



EcoRite®
Laundry Wash

Visit www.ecorite.com for a 20% off coupon and to find a store near you.

Please do not return to the ad you just saw. Instead, please answer the following questions based on your reactions to the ad. There are no right or wrong answers.

1. How would you describe your reactions in general to the advertisement you just read? Circle the one number in each row, 1-5, that best represents your answer.

For me, reading the ad was....

Pleasant	1	2	3	4	5	Unpleasant
Unconvincing	1	2	3	4	5	Convincing
Appealing	1	2	3	4	5	Unappealing

2. The following are statements that people have made about various advertisements they have seen. Please respond to each statement according to the ad you just read. Indicate, by circling one number to the right of each statement, whether you 1=strongly disagree, 2=disagree, 3=feel neutral, 4=agree, 5=strongly agree with the statement as it applies to you.

	S D	D	N	A	S A
I thought about actions I myself might take based on what I read.	1	2	3	4	5
I found myself making connections between the statements in the ad and what I've read or heard about elsewhere.	1	2	3	4	5
I thought about how what I read related to other things I know.	1	2	3	4	5
I tried to relate the ideas in the ad to my own life.	1	2	3	4	5

3. How would you describe your reactions to EcoRite Laundry Wash in general? Circle the one number in each row that best represents your answers.

To me, EcoRite Laundry Wash seems....

Beneficial	1	2	3	4	5	Harmful
Worthless	1	2	3	4	5	Valuable
Good	1	2	3	4	5	Bad

4. The following are statements that people have made about various products they see advertised. Please respond to the following statements based on your reaction to EcoRite Laundry Wash. For each statement, please indicate whether you 1=strongly disagree, 2=disagree, 3=feel neutral, 4=agree, 5=strongly agree, by circling one number to the right of each statement.

	S D	D	N	A	S A
Most people who are important to me would want me to buy EcoRite Laundry Wash.	1	2	3	4	5
Most students at Marquette who believe as I do about the environment would buy EcoRite Laundry Wash.	1	2	3	4	5
Most students at Marquette who are concerned about the environment would buy EcoRite Laundry Wash.	1	2	3	4	5
I would be likely to switch to EcoRite Laundry Wash.	1	2	3	4	5
I would be likely to try EcoRite Laundry Wash at least once.	1	2	3	4	5
Most students at Marquette would consider buying EcoRite Laundry Wash.	1	2	3	4	5
I was already familiar with EcoRite Laundry Wash before reading this ad.	1	2	3	4	5

5. If EcoRite Laundry Wash were available at your local store, how much would you be willing to pay in order to try it? Please circle the one response that best represents your view:

- (a) I wouldn't buy it.
- (b) I'd buy it only if it costs at least 10% less than my current laundry detergent.
- (c) I'd buy it only if it costs about the same as my current laundry detergent.
- (d) I'd buy it even if it costs 10% more than my current laundry detergent.
- (e) I'd buy it even if it costs 20% more than my current laundry detergent.

6. The following are statements that people have made about various products they see advertised. For each statement, please indicate whether you 1=strongly disagree, 2=disagree, 3= feel neutral, 4=agree, 5=strongly agree, by circling one number to the right of each statement.

	S D	D	N	A	S A
I purchase laundry detergents on a regular basis.	1	2	3	4	5
When I buy environmentally-friendly products, I feel good about myself.	1	2	3	4	5
It is important to me what brand of laundry detergent I buy.	1	2	3	4	5

7. The following statements represent different ways that people personally deal with information that they run across in the mass media and other places about environmental issues. Please indicate by circle the number on the right side whether you 1=strongly disagree, 2=disagree, 3=feel neutral, 4=agree, 5=strongly agree with the listed statements.

	S D	D	N	A	S A
After I get information about an environmental problem, I am likely to stop and think about it.	1	2	3	4	5
It is important for me to interpret information about the environment in a way that applies directly to my life.	1	2	3	4	5
When I read or hear about an environmental problem, the more viewpoints I get the better.	1	2	3	4	5
When I encounter information about the environment, I read and listen to most of it, even though I may not agree with its perspective.	1	2	3	4	5

8. The following are statements that some people have made about the natural environment and the ecosystem. For each one, please indicate whether you 1=strongly disagree, 2=disagree, 3=feel neutral, 4= agree, 5=strongly agree, by circling one number to the right of each statement.

	S D	D	N	A	S A
1. We are approaching the limit of the number of people the earth can support.	1	2	3	4	5
2. Humans have the right to modify the natural environment to suit their needs.	1	2	3	4	5
3. When humans interfere with nature it often produces disastrous consequences.	1	2	3	4	5
4. Human ingenuity will insure that we do NOT make the earth unlivable.	1	2	3	4	5
5. Humans are severely abusing the environment.	1	2	3	4	5
6. The earth has plenty of natural resources if we just learn how to develop them.	1	2	3	4	5
7. Plants and animals have as much right as humans to exist.	1	2	3	4	5
8. The balance of nature is strong enough to cope with the impact of a modern industrial nation.	1	2	3	4	5
9. Despite our special abilities, humans are still subject to the laws of nature.	1	2	3	4	5

10. The so-called “ecological crisis” facing humankind has been greatly exaggerated.	1	2	3	4	5
11. The earth is like a spaceship with very limited room and resources.	1	2	3	4	5
12. Humans were meant to rule over the rest of nature.	1	2	3	4	5
13. The balance of nature is very delicate and easily upset.	1	2	3	4	5
14. Humans will eventually learn enough about how nature works to be able to control it.	1	2	3	4	5
15. If things continue on their present course, we will soon experience a major ecological catastrophe.	1	2	3	4	5
16. I often think about the harm we are doing to the environment.	1	2	3	4	5
17. I am concerned about the environment.	1	2	3	4	5
18. The condition of the environment affects the quality of my life.	1	2	3	4	5
19. I am willing to make sacrifices to protect the environment.	1	2	3	4	5
20. My actions impact on the environment.	1	2	3	4	5
21. I feel a sense of connectedness to the environment.	1	2	3	4	5
22. I think myself as an environmentalist.	1	2	3	4	5
23. I am a person who cares about the environment.	1	2	3	4	5
24. I read environmental magazines/blogs to keep in touch with environmental issues.	1	2	3	4	5
25. I look for and buy products made from or packaged in recycled materials.	1	2	3	4	5
26. I read labels of products to see if they are environmentally safe.	1	2	3	4	5
27. I avoid buying products from companies that are not environmentally responsible.	1	2	3	4	5

9. Please tell a little about yourself. Once again, all responses are anonymous.

1. Gender:	<input type="checkbox"/> Male	<input type="checkbox"/> Female	
2. Year in School	<input type="checkbox"/> Freshman	<input type="checkbox"/> Sophomore	<input type="checkbox"/> Junior
	<input type="checkbox"/> Senior	<input type="checkbox"/> Graduate	<input type="checkbox"/> Other
3. Age: (fill-in):			

Appendix B
Questionnaire with Transformational Ad

Dear student,

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Now your clothes, linens and towels can get the EcoRite® treatment with a laundry wash made for people who truly care about the environment. EcoRite Laundry Wash is made from soy and is for environmentally-conscious people all over the world who are switching to brands that protect the planet. It is quickly becoming the number one choice of a new generation who want to make a difference. You can lead the way by making EcoRite Laundry Wash your brand. EcoRite Laundry Wash is available in recyclable 1-gallon bottles.

Health. Quality. Sustainability.



EcoRite®
Laundry Wash

Visit www.ecorite.com for a 20% off coupon and to find a store near you.

Please do not return to the ad you just saw. Instead, please answer the following questions based on your reactions to the ad. There are no right or wrong answers.

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	S D	D	N	A	S A
I thought about actions I myself might take based on what I read.	1	2	3	4	5
I found myself making connections between the statements in the ad and what I've read or heard about elsewhere.	1	2	3	4	5
I thought about how what I read related to other things I know.	1	2	3	4	5
I tried to relate the ideas in the ad to my own life.	1	2	3	4	5

3. How would you describe your reactions to EcoRite Laundry Wash in general? Circle the one number in each row that best represents your answers.

To me, EcoRite Laundry Wash seems....

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Most students at Marquette who believe as I do about the environment would buy EcoRite Laundry Wash.	1	2	3	4	5
Most students at Marquette who are concerned about the environment would buy EcoRite Laundry Wash.	1	2	3	4	5
I would be likely to switch to EcoRite Laundry Wash.	1	2	3	4	5
I would be likely to try EcoRite Laundry Wash at least once.	1	2	3	4	5
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I was already familiar with EcoRite Laundry Wash before reading this ad.	1	2	3	4	5

5. If EcoRite Laundry Wash were available at your local store, how much would you be willing to pay in order to try it? Please circle the one response that best represents your view:

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	<input type="checkbox"/> Senior	<input type="checkbox"/> Graduate	<input type="checkbox"/> Other
3. Age: (fill-in):			