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ENVIRONMENTAL CONCERN, ATTITUDE TOWARDS GREEN PRODUCTS AND GREEN PURCHASE INTENTIONS OF CONSUMERS IN LESOTHO

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Abstract
Even though many people show high concern for the environment, the existing literature suggests a disjuncture between peoples' environmental concern and their shopping behaviours. Based on a survey of 200 shoppers around the precincts of two shopping malls in Lesotho, the objective of this paper is to examine the relationships among consumers' environmental concern, attitude towards green products, and green purchase intentions. Factor and regression analyses are mainly used to analyse data. The results show that environmental concern is strongly related to attitude towards green products and weakly related to green purchase intentions respectively. When environmental concern and attitude towards green products are entered simultaneously to predict green purchase intentions, the influence of environmental concern becomes insignificant. The mediated relationship suggests that environmental concern affects green purchase intentions indirectly through attitude towards green products, which in turn directly affects green purchase intentions. Based on the results of the study, we provide policy implications and prospects for future research.

Key Words: *Environment; attitudes, intentions; green products; pro-environmental behaviour.*

Introduction

It is a well established fact that certain human activities negatively affect the environment. These include the depletion of natural resources, pollution of the environment, deforestation, carbon emissions, and destruction of the ozone layer. The global concern on these destructive changes has been reflected in studies focusing on among other things, people's knowledge and attitude towards environmental consciousness; importance of preserving the environment; and buying of environmentally-friendly products. Many of these studies show that there is a growing global awareness of harmful human effects on the environment (Kim and Choi, 2005; Knight and Messer, 2012; Mainieri *et al.*, 1997; Mostafa, 2007; White and Hunter, 2009; Zhou, 2013).

Despite the fact that environmental concerns, values, beliefs and attitude towards 'green products' should conceptually influence consumer 'green purchase intentions', only a few 'green products' have been successful (Kim and Choi, 2005). 'Green products' are generally described as non-toxic, organic, environmentally-friendly, and minimally packaged products made from recycled material (Mostafa, 2007). We refer to 'attitude towards green products' and 'green purchase intention' respectively as one's general feeling towards green products, and one's likelihood of buying green products.

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According to Mainieri *et al*. (1997), despite the fact that research reports indicate support for environmental protection, uncertainty remains about what the public is willing to do (or pay) to improve the environment. This implies that pro-environmental consumers do not always act on the values they espouse, making it difficult to predict consumption of green products. Thus the relationships among pro-environmental values, beliefs, attitudes and behaviours remain an area of research that needs further investigation. It is also conjectured that compared to developed countries, many developing countries are just at the stage of 'green awakening' (Mostafa, 2007).

The aim of the current study is to elucidate the relationships among environmental concern, attitude towards green products, and green purchase intentions of shoppers in Lesotho. We use the value-attitude-behaviour framework to explain why the environmental concern has traditionally accounted for low variance in green purchase intentions or behaviour. We further contribute to existing knowledge in green purchase intentions/behaviour by examining the extent to which consumers in a non-Western country have environmental concern, attitudes and intentions to buy green products. To our knowledge, this is the first study on environmental consciousness and shoppers' attitude towards green products to be conducted within the context of Lesotho.

Environmental Concern and Green Purchase Intentions/Behaviour

According to Franzen and Meyer (2010), environmental concern can be defined as the awareness or insight that the natural state of the environment is threatened through resource overuse and pollution by humans (cited in Zhou, 2013). It is sometimes expressed in terms of new environmental (or ecological) paradigm (NEP), which also expresses people's pro-environmental orientation (Sánchez and Lafuente, 2010). At the low end of environmental concern, people may not be concerned at all about the environment, and at the high end, people may be totally concerned about the environment (Mostafa, 2007).

From a theoretical standpoint, consumers with a stronger concern for the environment should plausibly buy green products than those who express less concern; but this is not always the case (Kim and Choi, 2005; Mainieri *et al*., 1997). A large body of research suggests only a weak relationship between environmental concern and pro-environmental behaviours (Bamberg, 2003; Mainieri *et al*., 1997; Mostafa, 2007). Bamberg (2003) asserts that the disappointment about the assumed relationship between the environmental concern and environmentally- related behaviours derives from the incorrect assumption that general attitudes like environmental concern are direct determinants of specific behaviours.

Mainieri *et al*. (1997) found that buyers do not always translate their pro-environmental concern (beliefs) into their purchasing behaviour. The study by Bamberg (2003) established that environmental concern explained only about 8% of variance in the decision of students to request green electricity products, and that after controlling for the effects of situation-specific attitudes, environmental concern did not have any significant effect on either behavioural intention or behaviour itself. Kim and Choi (2005) found a direct influence of environmental concern on green purchase behaviour. In this paper we use purchase intention as a proxy for purchase behaviour because according to the Theory of Planned Behaviour, intentions are the most proximal and best predictors of actual behaviour (Ajzen, 1991).

Hypothesis 1: Environmental concern is positively related to green purchase intentions.

Based on value-attitude-behaviour hierarchy however, it is improbable that general attitudes like environmental concern could directly influence green purchase intentions. This is because general attitudes, like values, guide the selection of domain-specific attitudes (Bamberg, 2003). The most probable relationship is that environmental concern directly influences the situation-specific attitudes, which in turn directly influence green purchase intentions.

Environmental Concern and Attitude towards Green Products

Most researchers consider environmental concern as a general attitude, and as such, according to Bamberg (2003), it guides the formation of situation-specific attitudes. Sánchez and Lafuente (2010) conceptualises environmental consciousness (concern) as a multi-dimensional construct which has an affective dimension (general beliefs/values), dispositional dimension (personal attitudes), and active dimension (pro-environmental behaviour).

The affective dimension influences the dispositional dimension, which in turn influences the active dimension. As a general attitude, environmental concern arguably influences domain-specific attitudes (e.g. attitude towards green products), and more or less assumes a role of a value in a value-attitude-behaviour hierarchy. Bamberg (2003) suggests that in this new framework, environmental concern only affects specific environmental behaviours (e.g. green purchase behaviour) through the situation-specific attitudes (e.g. attitude towards green products).

Hypothesis 2: Environmental concern is positively and directly related to attitude towards green products.

Attitude towards Green Products and Green Purchase Intentions

The social psychology literature establishes strong relationships between domain-specific attitudes and behavioural intentions or actual behaviour (Ajzen, 1991; Mostafa, 2007). This is the core proposition of the value-attitude-behaviour framework which conceptualises attitudes as the proximal determinants of behaviour (Homer and Kahle, 1988; Sánchez and Lafuente, 2010; Shim and Eastlick, 1998; Thøgersen and Grunert-Beckmann, 1997). It is also one of the guiding propositions of the Theory of Planned Behaviour because an attitude toward behaviour directly influences intentions to perform the behaviour (Ajzen, 1991).

The impact of specific attitudes on behaviour is established in a number of environmentally-relevant situations. As early as 1988, Homer and Kahle (1988) found that attitudes were better determinants of natural food shopping than values. Bamberg (2003) found that the situation-specific attitudes were strong determinants of both intentions and actually requesting the offered brochure about green electricity products. Mainieri *et al*. (1997) concurred that specific beliefs were direct determinants of green purchase decisions and behaviour. The study by Thøgersen and Grunert-Beckmann (1997) reached similar conclusions in the sense that specific beliefs and attitudes concerning recycling and waste prevention were directly related to relevant behaviours.

Hypothesis 3: Attitude towards green products is directly related to green purchase intentions.

Following Bamberg (2003), we propose that environmental concern impacts indirectly on green purchase intention via the activation of specific attitude towards green products. Thus we predict attitude towards green products as a mediator between

environmental concern and green purchase intentions.

Hypothesis 4: Attitude towards green products mediates the relationship between environmental concern and green purchase intentions.

Research Methodology

Sample and Procedures

To test the hypotheses advanced in this paper, a quantitative (survey) research method was adopted. A convenient sample of 200 shoppers around the precincts of the two shopping malls in Maseru-Lesotho, namely, the Pioneer and Maseru Malls were approached individually and asked to participate in the study. The rationale of the study, together with the assurance of the confidential and voluntary nature of the study was explained to participants. Whenever necessary, the respondents were assisted to fill the questionnaires.

Measures

The items measuring environmental concern, attitude towards green products and green purchase intentions were adapted from existing scales in the literature. First, literature was reviewed on these constructs, and some items were developed to construct a questionnaire for the purposes of this study. Second, the pilot study was conducted among 20 Bachelor of Marketing students at the National University of Lesotho. This resulted in few changes in the structure of items before the questionnaires were distributed among the participants. Factor analysis (principal components, varimax rotation) solution resulted into two factors (Table 2), namely environmental concern (factor 2) and attitude (feelings) towards green products (factor 1).

Environmental Concern: This construct was measured using five items. Respondents were asked to assess the importance of certain actions that may be taken by food stores in Lesotho to preserve the environment. These were assessed on 5 point Likert scale ranging from 1 (not important at all) to 5 (very important). Sample items were 'encouraging the use of energy-saving devices in food production' and 'displaying information about the impact of environmentally irresponsible behaviour.' The Cronbach's alpha (internal reliability) of the items was 0.67.

Attitude towards green products: Five items were used to measure this construct. Participants were asked to rate their feelings towards organic food on a 5 point Likert scale ranging from 1(strongly disagree) to 5 (Strongly agree). Sample items were 'I find it pleasant', and 'I like it.' They were further asked to indicate on the same Likert scale the extent to which the following statements guide their lives: 'buy organic food' and 'protect nature'. These latter items were originally included to assess general attitudes, but they loaded on one factor with items assessing specific attitudes (Table 2). The Cronbach's alpha (internal reliability) of the items was 0.81.

Green purchase intentions: A single item, 'I intend to buy organic food' was used to assess this construct on a 5 point Likert scale ranging from 1(strongly disagree) to 5 (Strongly agree).

Analyses

Statistical Package for Social Sciences (SPSS) version 16 was used to analyse data. Both descriptive and inferential statistics were computed. Since prior research has demonstrated that environmental concern and pro-environmental attitudes and behaviours can be influenced by demographic characteristics (Mostafa, 2007), we included gender, age, nationality, level of education, and income as control variables to reduce the possibility of spurious relationships based on these personal differences.

Results

Factor Analysis

Table 1 shows factor analysis (principal components, varimax rotation) to examine the factor structure of items measuring environmental concern and attitude towards green products. Factor loadings below 0.4 were suppressed.

Table 1: Factor analysis solution

	Factors	
	1	**2**
I find it pleasant	0.801844942	
I appreciate it	0.774334844	
Buy organic food	0.740266961	
I like it	0.716614964	
Protect nature	0.670395457	
Displaying information about the impact of environmentally irresponsible behaviour		0.752908347
Recycling of waste		0.633630319
Raising awareness about pro-environmentalism		0.620117972
Using organic food products bought from local producers		0.616895107
Encouraging the use of energy-saving devices in food production.		0.482271433
Percentage (%) of variance explained	31	21

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 3 iterations.

As shown in Table 1, two factors emerged, namely attitude towards green food (factor 1) and environmental concern (factor 2). The two factors explained about 52% of variance. As explained before, the internal reliability of attitude towards organic food was 0.81, and that of environmental concern was moderate at 0.67. The items under each factor were added together and averaged to get the score of each variable.

Descriptive Findings

Of the 200 distributed questionnaires, only 171 (86%) were returned. 61% of the returned questionnaires were filled by females, and only 39% were filled by males. In terms of age, 16% were above 35 years old, and 42% each were respectively between 25-35 years and 15-24 years. The majority of the respondents were educated since 54% had some tertiary education; 5% postgraduate education; 39% high school education; and only 2% had primary education. In terms of monthly basic salary, 36% reported that, in South African Rand (ZAR), they earned less than R1 000; 46% earned between R1 000 and R5 000; and 18% earned above R5 000. About 95% of the respondents were Basotho (nationals of Lesotho), and only 5% were expatriate shoppers.

On a scale ranging from 1 to 5, the shoppers scored an average of 4.18 (SD=0.72) on environmental concern, suggesting that many shoppers reported high concern for the environment. Similarly, scores for attitude towards green products and green purchase intentions were 4.17 (SD=0.84) and 4.36 (SD=1.01) respectively.

This suggests that on average shoppers had high attitude towards green products and purchase intentions respectively.

Interestingly, despite the fact that many shoppers reported high concern for the environment, when asked to indicate the factors that often influence them when they make their purchases, the majority selected health benefits (59%), followed by quality (22%) and price (15%) respectively; and only a few (4%) considered environmental hazards (Table 2).

Table 2: Factors shoppers consider when buying food

Factor	Price	Health Benefits	Quality	Environmental hazards
Frequency (%)	15	59	22	4

Relationships among Environmental Concern, Attitude toward Green Products and Green Purchase Intentions

We ran three simple regression equations to test all hypotheses (Table 3). In all equations, the control variables (gender, age, nationality, highest qualification, estimated basic monthly income) were entered first as independent variables. In model 1, attitude towards green products was entered as a dependent variable, and environmental concern and controls were entered as independent variables. In model 2, green purchase intentions were entered as a dependent variable while controls and environmental concern were entered again as independent variables. In model 3 green purchase intensions were entered again as a dependent variable while controls, attitude toward green products and environmental concern were entered as independent variables.

Table 3: Results of simple regression models

	Model 1	Model 2	Model 3
Variable	Attitudes towards green products	Green purchase intentions	Green purchase intentions
Gender	-0.02	0.05	0.06
Age	0.24**	0.16	0.02
Nationality	0.09	0.07	0.00
Qualification	-0.04	-0.04	0.01
Income	-0.22**	0.05	0.17
Environmental concern	0.42**	0.18*	-0.08
Attitudes towards green products			0.58**
R^2	0.27	0.08	0.32

*significant at 0.05 (2-tailed);**significant at 0.01 (2-tailed)
Figures represent standardized betas (β)

Hypothesis 1 predicted that environmental concern would be positively related to green purchase intentions. As shown under model 2 in Table 3, there was a weak but significant relationship between environmental concern and green purchase intentions ($\beta=0.18$, $p\leq0.05$). This suggests that the higher the environmental concern, the higher the green purchase intentions and vice versa. The variance explained by control

variables and environmental concern in green purchase intentions was about 8%. Note however that when environmental concern and attitude towards green products were entered simultaneously into the equation (model 3), the relationship between environmental concern and green purchase intensions became insignificant. We return to this point when we discuss the mediated relationship below.

Hypothesis 2 predicted that the environmental concern would be positively related to attitude towards green products. As shown under model 1 in Table 3, there was a strong and positive relationship between the two variables (β=0.42, $p \leq 0.01$). This suggests that the higher the environmental concern, the higher the attitude towards green products and vice versa. The environmental concern and control variables explained about 27% of variance in attitude towards green products. Thus hypothesis 2 was fully supported.

Hypothesis 3 predicted the positive relationship between attitude towards green products and green purchase intentions. As shown under model 3 in Table 3, this hypothesis was supported because there was a strong and positive relationship between the two variables (β=0.58, $p \leq 0.01$). Model 3 explained about 32% of variance in green purchase intentions.

Hypothesis 4 predicted that shoppers' attitude towards green products would mediate the relationship between environmental concern and green purchase intentions. We used the procedures recommended by Baron and Kenny (1986) to test for mediation. First, the mediator (attitude towards green products) was regressed on the independent variable (environmental concern). Second, the dependent variable (green purchase intentions) was regressed on the independent variable (environmental concern). Third, the dependent variable was simultaneously regressed on the independent variable (environmental concern) and the mediator variable (attitude towards green products). Mediation is present if a) the independent variable affects the mediator in the first equation; b) the independent variable affects the dependent variable in the second equation; and c) the mediator affects the dependent variable in the third equation; and d) the effect of the independent variable is less in the third equation than in the second equation. Full mediation is present if the independent variable has no effect when entered with the mediator variable, and partial mediation occurs if the effect of the independent variable is smaller but still significant when the mediator is in the equation.

As has already been shown in Table 3, all three conditions were met because (a) environmental concern predicted attitude towards green products (β=0.42, $p \leq 0.01$); (b) environmental concern predicted green purchase intentions (β=0.18, $p \leq 0.05$); and (c) when environmental concern and attitude towards green products were entered simultaneously, attitude towards green products predicted green purchase intentions (β=0.58, $p \leq 0.01$) while the effect of environmental concern was reduced/eliminated. Attitude towards green products fully mediated the relationship between environmental concern and green purchase intentions because the effect of environmental concern became insignificant when entered simultaneously with attitude towards green products (β=-0.08, $p \geq 0.05$). Thus hypothesis 4 was also fully supported.

Discussion

The central thesis of this paper was that environmental concern (beliefs) affects green purchase intentions indirectly through specific attitude towards green products. We also explored the levels of environmental

concern, attitude towards green products, and green purchase intentions of shoppers in Lesotho.

Our descriptive results show that the participants had high environmental concern and attitude towards green products. Even though different scales were used in other studies, in absolute terms the results of this study are comparable with environmental attitudes recorded in both developing and developed countries (Knight and Messer, 2012; White and Hunter, 2009; Zhou, 2013). This militates against either the post-materialist or affluence arguments. According to these theories, people in affluent (developed) countries hold more post-materialist values such as individual rights, quality of life and environmental concern than people in less affluent (less developed) countries because the former have fewer worries about economic issues and therefore can focus on the preservation of the environment (Knight and Messer, 2012; White and Hunter, 2009; Zhou, 2013). It may be that local environmental problems such as soil erosion, droughts and shortage of clean water experienced by participants in Lesotho increased their pro-environmental concern (beliefs). Though this 'challenge-response' proposition was not directly tested in this study, it has been supported in a number of recent studies involving both developed and developing countries (Knight and Messer, 2012; Zhou, 2013).

Environmental concern was weakly related to green purchase intentions, but when controlled for attitude towards green products, the influence of environmental concern became insignificant. This is consistent with the findings of Bamberg (2003) and Thøgersen and Grunert-Beckmann (1997). The variance explained by control variables and environmental concern in green purchase intentions was about 8 percent. This is also not surprising because according to Bamberg (2003), the literature suggests that environmental concern explains 'not more than 10 percent variance of specific environmental behaviours.'

The weak relationship between the environmental concern and pro-environmental behaviours can be explained based on at least two reasons. First, as suggested by Bamberg (2003), it is possible that general attitudes like environmental concern affect specific behaviours via the activation of situation-specific attitudes. In this framework, general attitudes like (affective) environmental concern are distal predictors of pro-environmental behaviours (Sánchez and Lafuente, 2010). The second reason is suggested by Kim and Choi (2005). They noted that pro-environmental behaviours differ from the general purchase-related behaviours in the sense that, while the latter are often driven by assessment of the costs and benefits that accrue to the individual; the former are future and group-oriented behaviours unlikely to deliver instant personal gain or gratification. In other words, buying or using green products often produces benefits that accrue to the society in the long run (Kim and Choi, 2005). It is possible that even when people have genuine concern about the environment, they free-ride on behaving pro-environmentally, and rather externalise the responsibility for improving the environment and adopt a passive pro-environmental role (Sánchez and Lafuente, 2010).

Environmental concern was a strong determinant of attitude towards green products, which in turn influenced green purchase intentions. Because of its specific nature in this study, attitude towards green products fully mediated the relationship between environmental concern and green purchase intentions. In other words, as a general attitude or belief, environmental concern only had an indirect influence on

green purchase intentions through domain-specific attitudes. This lends credence to the findings of Bamberg (2003), but in a different context and environment.

Limitations and Prospects for Future Research

As is the case with many studies of this nature, certain limitations have to be considered before generalisations can be made. First, even though the hypothesised relationships were based on sound theories; the cross-sectional approach adopted precludes causal inferences. For instance, as assumed in this study, it is possible that attitude towards green products influences green purchase intentions. This however would not preclude the possibility that people who have intentions to buy green products would more likely form positive attitude towards green products than those who do not have such intentions. Longitudinal and/or experimental studies are required to draw the causal relationships between the variables of this study.

Second, the data used in this study was collected from one source (self-reported) using one instrument, and this approach lends itself to common method variance. While measurement of perceptions and attitudes can meaningfully be explored through self-reported data, future studies can reduce the possibility of common method variance by collecting data from different sources. For instance, one person can be asked to provide information about their environmental concern, and their close friends be asked to provide information about their likelihood of buying green products.

Third, the sample consisted of people around malls, and the malls are likely to be frequented by the young, educated, or people with means to buy (Shim and Eastlick, 1998). This reduces the generalisability of the current results. Future studies can focus on a random sample of shoppers in Lesotho.

Policy Implications/Recommendations

Policy implications to increase pro-environmental intentions and behaviour can be identified. First, policymakers should increase pro-environmental consciousness (concern) through educational awareness programmes using a variety of media outlets (e.g. radio, newspapers, television, etc.). As argued in this study, pro-environmental concern (beliefs) may help shoppers form specific attitudes, which in turn may affect specific consumption of green products. Second, green marketers can further influence the formation of specific attitudes by revealing the value for money of green products to consumers. It has been shown that many consumers are not ready to pay higher prices for green products, and do not necessarily assume that a product is of higher quality merely because it is a green product (Borin *et al.*, 2013).Third, since pro-environmental behaviours are future and group-oriented in nature (Kim and Choi, 2005), and social influences such as social norms or pressure that originate from 'consumption communities' have been found useful in encouraging consumption of organic products (Moraes *et al.*, 2012), we encourage the formation of strong consumer associations. The formation of consumer associations in Lesotho and elsewhere can go a long way towards reducing the carbon footprint and increasing the consumption of green or organic products.

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