Factors influencing green purchasing behaviour: Empirical evidence from the Lebanese consumers

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ABSTRACT

Our current environmental situation requires serious attention. We can see the problems that our environment is facing everywhere, including air pollution, ozone depletion, global warming, hazardous waste disposal and water pollution. Today, consumers are aware that their individual consumption behaviour affects the environment and these consumers are more conscious of the seriousness of environmental degradation. Thus, consumers are increasingly engaging in environmentally friendly behaviour and are interested in supporting businesses that are engaging in green strategies. Green purchasing behaviour can help achieve a sustainable environment. Four factors that may influence green purchasing behaviour were examined in this study: perceived seriousness of environmental problems, perceived environmental responsibility, perceived effectiveness of environmental behaviour and concern for self-image in environmental protection. Data were collected from Lebanon, and three factors were found to have positive effects on green purchasing behaviour. The results also indicated that the perceived seriousness of environmental problems was the main contributor to green purchasing behaviour. Copyright © 2014 John Wiley & Sons, Ltd.

INTRODUCTION

Environmental degradation and sustainability are considered to be among the most serious issues we face in today’s world, and there is a growing consciousness regarding all matters related to the environment. A recent study reveals that individuals rank environmental problems as today’s top challenge, followed by the economy, healthcare, unemployment and crime (Paetz et al., 2012). In the modern era, green marketing is connected to sustainability and biodiversity. A variety of studies indicates that concern for the environment has become a major consideration in individuals’ consumption decisions (Weigel and Weigel, 1978; Berger and Corbin, 1992; Bansal, 2003; Haytko and Matulich, 2008; Kotler, 2011). Dunlap (1994) found that environmental deterioration is considered very serious by people worldwide, and concerns about the degradation of the environment are increasing. Today, consumers are aware that their individual consumption behaviour affects the environment (Abdul Wahid et al., 2011) and of the seriousness of environmental problems; thus, people are becoming more environmentally conscious (Han et al., 2009). Consumers are more aware of the severity of environmental problems, which has led to an increase in their desire to buy environmentally friendly products and products from businesses that engage in environmentally friendly practices (Roberts, 1996; Kalafatis et al., 1999; Laroche et al., 2001). Paetz et al. (2012) have suggested that there is little doubt that it is possible to change some of the consumption activities of consumers, as long as such a shift is convenient. As a result, the need for and value of green or environmental marketing has been recognized by marketers and scholars (Yam-Tang and Chan, 1997). In addition, as a consequence of increasing environmental consciousness, consumers have become more aware of the impact of their habits on the environment and that natural resources are limited (Krause, 1993). More studies are interested in finding the factors that may contribute to promoting green purchasing behaviour, and the findings of such studies may help green marketers in their work.

The Mediterranean Region is unique in that it comprises three different continents—Southern Europe, North Africa and Western Asia—and includes more than 20 nations with shorelines along the Mediterranean Sea. This region is known for its cultural, social, economic, trade, security and political exchanges among its different countries. The unique attributes of this region provide an interesting context for marketers’ studies. The ideology of ‘Mediterraneanism’ claims that Mediterranean cultures share common, distinctive characteristics (Harris, 2005). Recognition of the importance of the Mediterranean School of Marketing was initiated by several published studies (Cova and Cova, 2002; Caru and Cova, 2007; Dalli and Romani, 2012). More research conducted in the Mediterranean context is imperative to build the basis for further advancement of the Mediterranean marketing theory. One of the countries in the Mediterranean Region is Lebanon. Lebanon is considered to be unique in the Mediterranean Region because it boasts remarkable interaction between the Middle East and the West (Tlaiss and Kauser, 2011).

The purpose of this study is to examine the possible factors that may contribute to the boost in green purchasing behaviour of Lebanese consumers. Our results will add value to the purchasing behaviour and green marketing literature, in addition to providing scholars and practitioners with insight into better marketing in Arab countries. Arab countries play an important role in the global economy (Abuznайд, 2006). However, most marketing studies have been conducted in non-Middle Eastern countries, and this study is the first to our knowledge that examines green purchasing behaviour in a Middle Eastern country. Lebanon is considered to be uniquely important in this respect because of its interaction between Western and Middle Eastern countries (Tlaiss and Kauser, 2011).
LITERATURE REVIEW

Different studies have examined environmental issues using the theory of planned behaviour (TPB) (Kalafatis et al., 1999; Brewer and Stern, 2005; Oreg and Katz-Gerro, 2006; Koger and Winter, 2010), which posits that individuals’ intentions and behaviours are shaped by a combination of the individuals’ perceived behavioural controls, subjective norms, and attitudes towards the behaviour (Ajzen, 1991). Kalafatis et al. (1999) studied the TPB in identifying probable influences on consumers’ intentions to buy environmentally friendly products because the theory encourages the analysis of attitudes, cultural and personal elements and conscious behaviour control. Predictable influences that may affect green purchasing behaviour may be derived from the social sciences, such as psychology or sociology and include religion, education, culture and personal habits, for example. Other factors are related to marketing or the environment, such as pollution and the economy, among others. Mostafa (2009) suggests that environmental attitude, environmental concern, altruism, environmental knowledge and skepticism towards environmental claims are the major factors that influence the green purchasing behaviour of consumers. Dagher and Itani (2012) tested whether environmental attitude, environmental concern and social influence are factors that affect green purchasing behaviour. In his study, Stern (2000) tested four causal variables that might influence environmentally significant behaviour. These causal variables were attitudinal, personal capabilities, contextual factors, and habits and routines. Stern also identified the causes of the predilection for pro-environmental behaviour on the basis of the value–belief–norm theory (2000). The value–belief–norm theory argues that when individuals accept the values of a certain movement, they believe that their actions will reduce the threats faced by that movement and that such actions will help establish the individuals’ values as personal norms (Stern et al., 1999). In other words when individuals apply the values in their lives, such values will make the individuals believe that their actions are effective. In their study, Kim and Choi (2005) investigated the effects of and interrelationships among perceived consumer effectiveness, environmental concern and collectivism on ecological consumption. Kalafatis et al. (1999) suggested that the TPB, which examines factors such as attitudes towards behaviour, subjective norms and perceived behavioural controls, provides a reliable analytical model for the intention to buy environmental products. The structure of value–attitude–behaviour is valuable for understanding the predictors of consumers’ environmentally conscious behaviours (Kim and Choi, 2005). In our literature review for this study, we found different influences on purchasing behaviour. Three of these influences are related to perception, whereas the fourth influence is related to self-image. Environmental consciousness at the consumer level is driven by factors that include more media exposure, better attentiveness to environmental problems, social group pressure, strict policies and legislation. ‘Perceived seriousness of environmental problems’, ‘perceived environmental responsibility’ and ‘perceived effectiveness of environmental behaviour’ factors were tested because they are all related to consumer perception, which is the general cognition a consumer has towards a certain issue. The fourth influence is the concern for self-image in environmental behaviour. The term self-identity varies among disciplines as self-concept or self-image, which are all similar in meaning. Epstein (1973) suggested that a person’s self-identity has substantial influences on behaviour. The perception of effectiveness is theoretically different than the perception of responsibility (Ellen et al., 1991). The perceived seriousness of an environmental problem is related to the level of risk that such a problem holds. Dunlap and Scarse (1991) state that a majority of people perceive the seriousness of environmental problems and that this proportion has increased substantially in recent years. This majority sees environmental problems not only as becoming more serious but also as a threat to humanity. Sparks and Shepherd (1992) suggest that the theory of reasoned action and the TPB account for the crucial role that self-identity plays in affecting behaviour intentions and behaviour. Next, we will discuss the factors examined in this study.

Green purchasing behaviour

The large number of environmental problems that consumers face is the key reason behind the shift from traditional—or non-green—purchasing behaviour to greener purchasing patterns. Mostafa (2007) defined green/environmentally friendly buying behaviour as the consumption of environmentally friendly products that are ‘sensitive/responsive’, ‘recyclable/conservable’ and ‘benevolent/beneficial’ to the environment. Dagher and Itani (2012) posited that consumers are trying to help improve the environment with green purchasing. Being environmentally friendly is not the only aim of consumers who engage in green purchasing behaviour; they also purchase green products when they know that such a purchase will bring them immediate benefits (Vermillion and Peart, 2010). Kotler (2011) found that consumers are using a new dimension, the degree of social corporate responsibility towards the environment, when they want to choose among brands available in the market. In recent years, the proportion of consumers who had never bought a green product decreased to less than one-half (Manget et al., 2009). “The product market for healthy and sustainable lifestyle is valued to be worth approximately $209 billion and covers approximately 17% to 19% of all consumers’ (Kotler, 2011: 134). This market includes energy-efficient products, eco-tourism and solar panels, among many other items (Kotler, 2011). Green consumers are changing marketplaces in many significant ways (Vermillion and Peart, 2010), and consumers are recognizing the enormous impact that their buying behaviours have on the environment (Abdul Wahid et al., 2011), which reinforces the position of the environment as a top world concern and brings us to empirically examine the factors that may increase green purchasing behaviour because of the importance such behaviour has on the environment and consumers.

Perceived seriousness of environmental problems

Individuals are more influenced by their ‘perceived seriousness of environmental problems’ than the actual severity of those problems (Ghimire and Mohai, 2005). In developing countries, people see their local and national environment
in poor conditions because of serious issues such as the greenhouse effect, air pollution, water pollution and solid waste management (Dunlap, 1994). The most dominant local serious environmental problems were sewage treatment, and water and air quality (Lee, 2009). Asian residents perceive their local environmental problems as more severe than the Western residents (Lee, 2009). Moreover, perceived seriousness is also used to describe crimes and other types of moral violations. Because we are connecting this notion to any environmental problems, we can conclude, using the logic, that contributing to or causing environmental harm is somehow considered a crime. Lee (2008) found a negative relationship between the ‘perceived seriousness of environmental problems’ and ‘green purchasing decisions’. Few studies have examined how gender differences affect the seriousness of the perception of environmental problems. Lee (2009) claimed that adolescent girls in Hong Kong have a higher level of ‘perceived seriousness of environmental problems’ than boys, which is supported by the findings from Bord and O’Connor (1997) that women have a higher perceived vulnerability to hazardous waste and global warming risk than men.

Perceived environmental responsibility
When assuming environmental responsibility, a person aims to behave in a way that can help remedy environmental damage through individual sacrifices (Stone et al., 1995). Environmental responsibility may also describe a person’s way of living or lifestyle (Fraj and Martínez, 2006). Environmentally responsible consumers are those who are willing to support and remain responsible for a better sustainable future for the environment. The more consumers are willing to purchase green alternatives, the more they are perceived to be environmentally responsible consumers and social actors (Nybórg et al., 2006). To intensify the perception of environment responsibility in Lebanon, it is important to provide residents with deep awareness, consciousness and knowledge concerning the environmental conditions in the country. Lee (2009) indicated that a sense of responsibility to protect the environment is typically weak at the individual level. Individuals frequently blame environmental organizations and governments for the absence of environmental protection. Moreover, studies examining the gender difference with respect to environmental responsibility indicate that women tend to be more environmentally responsible than men (Zelezný et al., 2000; Haytko and Matulich, 2008).

Perceived effectiveness of environmental behaviour
The perceived effectiveness of environmental behaviour is defined as a measure that is used by consumers to monitor the efficiency of their efforts with respect to the environment. Roberts (1996) found that the single best factor of ecologically conscious consumer behaviour is the consumer’s perceived effectiveness. Consumers will purchase green products if and only if they believe that their behaviour will have positive effect on their environment. Kim and Choi (2005) found that the probability that consumers really engage in green purchasing behaviour is greater when high perceived self-efficacy is directly influencing consumers. Perceived consumer effectiveness is also positively related with ecologically conscious behaviour (Straughan and Roberts, 1999). The increase in perceived effectiveness can predict an increase in the number of consumers exhibiting green behaviour. Ellen et al. (1991) recommended that businesses, marketers and environmentalists who are endorsing green behaviour should provide entities with positive comments and support for their environmental behaviour. Informing consumers about their purchasing behaviour influence will actually promote the act to increase the demand for green products (Ishaswini and Datta, 2011). Because governments have the main obligation for protecting the environment, individuals will doubt the efficiency of their behaviours in the absenteeism of governmental regulations (Dunlap and Scarse, 1991), green marketers must emphasize to consumers that their consumer behaviours are helpful for fighting environmental deterioration.

Concern for self-image with respect to environmental protection
Self-image is how a person thinks of himself or herself in different aspects of life. ‘The image of an environmentally friendly person could thus project a good image of oneself to others’ (Lee, 2008: 582). Sirgy (1982) developed a novel ‘self-image/product-image congruity theory’ that posits that consumer will consume definite products or brands that can further express his or her self-image. Green products’ manufacturers can support their customer foundations and sell their green products by simply connecting the self and the public (Todd, 2004). Baker and Ozaki (2008) found that green behaviours are influenced by the pro-environmental self-image. In addition, social responsibility does not vanish once the product is consumed because green purchasing behaviour includes a self-identity that is associated with the general well-being of the public (Todd, 2004). Environmental behaviour can provide consumers with a social and special self-image besides improving their image when purchasing green products (Nybórg et al., 2006). A very limited number of studies investigated gender differences and their effects on the relationship between self-image and green behaviour. Lee (2009) found that male adolescents are more concerned with identifying themselves as environmentally responsible persons as part of the symbol of their social status.

HYPOTHESES DEVELOPMENT

Perceived seriousness of environmental problems
In their research, Dunlap and Xaio (2007) examined the perceived threat posed by environmental problems as one of the elements used to study public opinion about environmental issues. Likewise, Guber’s model (1996) combines the ‘perceived seriousness of environmental problems’ with two other aspects of environmentalism to locate policy-relevant matters of environmental concern. The perception of the seriousness of pollution problems is also affected by the media (Moser and Uzzell, 2003). Such perception suggests that as the effectiveness of the media grows with the rapid development in communication and media technologies, the perception of the seriousness of environmental issues will also grow, which will also influence Lebanese consumers.
who will surely continue to perceive environmental problems as more serious over time.

**H1:** There is a positive relationship between the perceived seriousness of environmental problems and the green purchasing behaviour of Lebanese consumers.

**Perceived environmental responsibility**

Environmental responsibility is a lifestyle for individuals (Fraj and Martinez, 2006). Lee (2008) found that perceived environmental responsibility is a neutral predictor for green purchasing behaviour because it was the fourth predictor out of the seven factors tested in her study. Individual environmental responsibility is generally weak (Lee, 2009). However, Nyborg et al. (2006) found that the more environmentally responsible consumers are, the more willing they are to buy green substitutes. Rationally speaking, the majority of individuals who perceive themselves as environmentally responsible should act upon such responsibility and purchase green alternatives. Thus, we propose the following:

**H2:** There is a positive relationship between Lebanese consumers’ perception of environmental responsibility and their green purchasing behaviours.

**Perceived effectiveness of environmental behaviour**

Perceived consumer effectiveness affects the behaviours of individuals, whether such behaviour will lead to the preferred outcome or not (Ellen et al. 1991). Greater perceived effectiveness is associated with individuals’ greater willingness to purchase environmentally friendly products, to contribute to environmental groups and to recycle (Ellen et al. 1991). Individuals try to participate in behaviours that they believe they are able to realize (Conner and Armitage, 1998). An important factor in the theory of achievement motivation from Atkinson (1964) is the expectation of success (Ajzen, 1991). People engage in behaviour that they think will be successful (Wigfield, 1994; Wigfield and Eccles, 2000), which suggests that consumers will buy green products if they perceive that their behaviour will benefit environmental development and indicates that the higher the perception of consumers’ own behaviour, the more they are willing to ‘go green’. Thus, we propose the following relationship:

**H3:** There is a positive relationship between the perceived effectiveness of environmental behaviour and the green purchasing behaviour of Lebanese consumers.

**Concern for self-image in environmental protection**

Self-identity reflects the extent to which an individual sees himself or herself satisfying the standards for certain societal roles, such as concern for green issues (Conner and Armitage, 1998). Bailey (2003) found that, as a practical application, it is important to maintain the original denotative meanings of an image, concept and identity to build a common structure associated with self-image, self-concept and self-identity. Self-image is improved when individuals purchase green products (Nyborg et al. 2006). Lee (2008) found self-image to be the third predictor out of seven factors tested regarding the factors that affect adolescents’ green purchasing behaviour in Hong Kong. Self-identity, as well as self-concept, has been shown to influence individuals’ behaviour (Conner and Armitage, 1998). Thus, we propose the following hypothesis:

**H4:** There is a positive relationship between the concern for self-image in environmental protection and the green purchasing behaviour of Lebanese consumers.

Figure 1 identifies the four proposed hypotheses in a conceptual framework.

**RESEARCH METHODOLOGY**

**Sample and procedure**

In this study, we collected data from Lebanon. Lebanon is considered to encompass interaction between the West and the Middle East (Tlaiss and Kauser, 2011). The Lebanese culture has a combination of both Christian-European and Arab Non-Fundamentalist Muslim values (Neal et al., 2005). The data for this study were collected using an online questionnaire that was preceded by a brief introduction.
questionnaire used in this study was adopted from Lee (2008). The target sample for our research was any Lebanese consumer who has independent purchasing power. All respondents participated voluntarily. A special link was sent to all individuals in our sample via email. A total of 135 questionnaires were sent to potential respondents, and 101 completed questionnaires were received, resulting in a response rate of 75%.

Measures
The questionnaire was composed of six sections. The first four sections measured four independent variables—‘perceived seriousness of environmental problems’, ‘perceived environmental responsibility’, ‘perceived effectiveness of environmental problems’ and ‘concern for self-image in environmental protection’. The fifth section measured the dependent variable, green purchasing behaviour. In the last section of the questionnaire, we addressed demographic questions.

We used the 5-point Likert scale, which ranged from 1 (never) to 5 (always), 1 (strongly disagree) to 5 (strongly agree) and 1 (not at all) to 5 (to a great extent). The perceived seriousness of environmental problems factor was measured with five items, such as ‘How serious do you think environmental problems are?’ The next factor, perceived environmental responsibility, was measured by seven items, including ‘I should be responsible for protecting our environment’. The perceived effectiveness of environmental behaviour factor was measured with four items, such as ‘I think if I engage in some pro-environmental behaviours in my everyday life, I will contribute to helping our environment’. Three items were used to measure the concern for self-image in environmental protection factor, which includes ‘Supporting environmental protection makes me more socially attractive’. Finally, green purchasing behaviour was measured using four items, such as ‘When I want to buy a product, I look at the ingredients label to see if it contains components that are environmentally friendly’. The demographic variables collected in the last section of the questionnaire were gender, marital status, age and level of education.

RESULTS

The demographic characteristics of our sample
Of the 101 respondents, 58.4% were male, and the majority were between 20 and 30 years of age (60.4%). More than half the respondents were single (56.4%), and 62.4% of respondents held a bachelor’s degree. Table 1 shows the full detailed description of the demographic characteristics of the respondents.

Reliability of the measures
We calculated Cronbach’s alpha (α) to study the reliability of each factor in the questionnaire. The alpha (α) for each factor was as follows: ‘perceived seriousness of environmental problems’ (α = 0.716), ‘perceived environmental responsibility’ (α = 0.843), ‘perceived effectiveness of environmental behaviour’ (α = 0.802), ‘concern for self-image in environmental protection’ (α = 0.741) and ‘green purchasing behaviour’ (α = 0.862). The measures ensure satisfactory element structure reliability (Nunnally, 1978) (refer to Table 2). The Cronbach’s alpha results in our study provide empirical support for the results found in Lee (2008).

Correlation analysis results
To test the proposed relations for H1 through H4, we used a correlation and regression analysis. Hypothesis 1 (H1) was supported; a significant correlation of r = 0.478 indicated a significant positive relationship between the perception of the seriousness of environmental problems and green purchasing behaviour. This relationship contradicts the negative relationship found in Lee’s study between the perceived seriousness of environmental problems and green purchasing behaviour (2008). This contradiction might result from the difference in the nature of the two samples. Furthermore, Lee (2008) suggested that the negative relationship she found may have resulted from the desensitization that affects adolescents.

Hypothesis 2 (H2) was also supported, with a significant correlation of r = 0.439. Lee (2008) found that perceived environmental responsibility was the fourth predictor of green purchasing behaviour. Another study conducted by Nyborg et al. (2006) found that the more environmentally responsible consumers are, the more willing they are to buy green substitutes. However, no significant correlation was found between the perceived effectiveness of environmental behaviour and green purchasing behaviour; thus H3 was not supported. Hypothesis 4 (H4) was supported; the results indicated a
significant correlation of $r=0.387$, which suggests a positive correlation between ‘concern for self-image in environmental protection’ and ‘green purchasing behaviour’. Lee (2008) also supports the same correlation, with ‘self-image’ being the third top predictor of green purchasing behaviour of adolescents in Hong Kong. According to Nyborg et al. (2006), people improve their self-image by purchasing green products. Table 2 contains a complete description of the correlation of all the factors that were measured.

### Table 2. Correlation and Cronbach’s alpha

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived seriousness of environmental problems</td>
<td>1</td>
<td>0.547**</td>
<td>0.070</td>
<td>0.259**</td>
<td>0.478**</td>
</tr>
<tr>
<td>2. Perceived environmental responsibility</td>
<td>0.547**</td>
<td>1</td>
<td>0.178*</td>
<td>0.399**</td>
<td>0.439**</td>
</tr>
<tr>
<td>3. Perceived effectiveness of environmental behaviour</td>
<td>0.070</td>
<td>0.178*</td>
<td>1</td>
<td>0.113</td>
<td>0.057</td>
</tr>
<tr>
<td>4. Concern for self-image in environmental protection</td>
<td>0.259**</td>
<td>0.399**</td>
<td>0.113</td>
<td>1</td>
<td>0.387**</td>
</tr>
<tr>
<td>5. Green purchasing behaviour</td>
<td>0.478**</td>
<td>0.439**</td>
<td>0.057</td>
<td>0.387**</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note: Cronbach’s alpha figures are in brackets.
*Correlation is significant at the 0.05 level.
**Correlation is significant at the 0.01 level.

### Regression analysis results

To further examine the hypothetical relations, regression analysis was conducted. Hypothesis 1 (H1) predicted a positive relationship between ‘perceived seriousness of environmental problems’ and ‘green purchasing behaviour’. The results of the analysis of variance (ANOVA) test reveal an $F$-value of 29.323 and a significance of 0.000 (at a 0.05 significance level), which, when added to the coefficients of determination $R^2$ for the regression analysis (equal to 0.229), indicates that 22.9% of the variation in the measure of green purchasing behaviour is explained by the perceived seriousness of environmental problem factor and provides empirical support for the first hypothesis (H1). ‘Green purchasing behaviour’ is positively related to the ‘perceived seriousness of environmental problems’.

Hypothesis 2 (H2) predicted a positive relationship between perceived environmental responsibility and green purchasing behaviour. The results of the ANOVA test reveal an $F$-value of 23.654 and significance of 0.000 (at a 0.05 significance level), which, when added to the coefficient of determination $R^2$ for the regression analysis (equal to 0.193), indicates that 19.3% of the variation in the measure of green purchasing behaviour is explained by the perceived environmental responsibility factor. The positive significant relationship offers empirical support for the second hypothesis (H2). ‘Green purchasing behaviour’ is positively affected by ‘perceived environmental responsibility’. As for the third proposed relationship between perceived effectiveness of environmental behaviour and green purchasing behaviour, there was no significant relationship. Thus, Hypothesis 3 (H3) was not supported.

Hypothesis 4 (H4) predicted a positive relationship between concern for self-image and green purchasing behaviour in environmental protection. The results of the ANOVA test reveal an $F$-value of 17.491 and a significance of 0.000 (at the 0.05 significance level), which, when added to the coefficient of determination $R^2$ for the regression analysis (equal to 0.150), indicates that 15% of the variation in the measure of the green purchasing behaviour is explained by self-image in environmental protection and provides empirical support for the fourth hypothesis (H4). ‘Green purchasing behaviour’ is positively affected by ‘concern for self-image in environmental protection’.

### DISCUSSION

This study is based on previous studies and provides empirical support for such studies, and our results add to the green purchasing behaviour literature. A significant positive relationship was found between green purchasing behaviour and three factors: ‘perception of the seriousness of environmental problems’, ‘perception of environmental responsibility’ and ‘concern for self-image in environmental behaviour’. These three factors can be used to increase consumers’ green purchasing behaviour. The more environmentally responsible consumers are, the more willing they will be to buy green substitutes, and consumers’ self-image is improved when they purchase green products (Nyborg et al. 2006). A consumer will also seek to project a good image of herself or himself as an environmentally responsible person to others (Lee, 2008). According to our results, we note that a consumer will engage in more green purchasing behaviour when his or her perception of the seriousness of environmental problems increases, when his or her perception of environmental responsibility increases and/or when his or her concern for self-image in environmental behaviour increases. Additional research should be conducted to find the best tools and channels through which each of these factors can be positively enhanced. The findings of this study thus reveal a significant concern for choosing the most effective strategies of communication, which should include those communication tools and marketing techniques developed over the most recent decade, such as social media, viral marketing and word of mouth. For those who promote green programs and behaviours as public policy-makers and marketers, this study offers insights that will help their efforts. Importantly, these insights do not reduce the need for more governmental rules and regulations regarding the environment. Public policy-makers are responsible for creating policies that increase consumers’ green behaviour by offering rewards and helpful information as well as by helping the manufacturers of green products to supply more green alternatives (Ellen et al., 1991).
Prominently, the positive relationship between the perception of the effectiveness of environmental behaviour and green purchasing behaviour was not supported. Ajzen (1991) suggested that the expectation of success is an important factor in the theory of achievement motivation. Nonetheless, the perceived effectiveness of environmental behaviour and green purchasing behaviour were not correlated. We note that Lebanese consumers do not expect their individual green purchasing behaviour to help improve the environmental situation in the country. The ineffectiveness of green purchasing behaviour in helping to improve environmental conditions is a possible reason for such a neutral relationship in our study. The individual effectiveness of green purchasing behaviour in sustaining the environment should be stressed more, which might be undertaken through print media, new media, education and other resources. If consumers perceive that their green purchasing behaviour will influence the environment positively, they will substitute their purchases for green products. Ellen et al. (1991) recommended that marketers, businesses and environmentalists who promote green behaviour should provide individuals with positive feedback and reinforcement of their individual environmental behaviours, noting the efficacy of their individual efforts toward the environment. The more a consumer understands how his or her individual behaviour affects the environment, the more he or she will buy green products. In our results, the main factor related to green purchasing behaviour is the perception of the seriousness of environmental problems with $r = 0.478$, followed by the perception of environmental responsibility with $r = 0.439$ and finally the concern for self-image in environmental protection with $r = 0.387$. Taking these results into consideration, government officials must take action, such as educating citizens from high school and at the university level about serious environmental problems in general and in their nation specifically. The educational process will require modification to the curriculum to include the issues and problems that our environment faces and alternatives for protecting our environment, beginning with green behaviour.

LIMITATIONS AND FUTURE STUDIES

Although our research was prudently prepared and met its goals, we are still aware of its limitations. Furthermore, although the online, self-reporting questionnaire for collecting data is an adequate estimate of actual behaviour, future studies should attempt to collect data during actual purchases. Consumers try to understate past behaviours that are communally undesirable and try to overstate behaviours that are communally desirable. Thus, we suggest collecting data at the entrance of a mall or supermarket when consumers are making their purchases. Another limitation was the sample; targeting only Lebanese consumers might be an obstacle for generalizing such findings. Additional data should be collected from other Middle Eastern countries.

In this study, we examined only four factors affecting green purchasing behaviour, but we are certain that many other factors may affect such behaviour, and they should be examined. Future research should explore additional, direct and mediating factors such as culture, personality and the type of product. Future studies must include more qualitative approach (e.g. Rettie et al. 2014). Further research concerning the Mediterranean marketing theory is recommended for the contributions it can make to the general marketing theory.

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BIOGRAPHICAL NOTES

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