LIFESTYLES CONCEPTS AND ECOLOGICAL BEHAVIOR: AN EMPIRICAL STUDY IN INDIA

Asad Ahmad\textsuperscript{a}* , Arham Adnan\textsuperscript{b} and Mohammed Naved Khan\textsuperscript{b}

\textsuperscript{a}Department of Management, School of Management and Business Studies, Jamia Hamdard, New Delhi - 110062, India

\textsuperscript{b}Aligarh Muslim University, Aligarh, Faculty of Management Studies & Research, Department of Business Administration, 202002 (UP), India

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Abstract

The constant issues related to the environment degradation faced by the world are thought to be reflected in the buying and consumption behavior of the consumers. The study of green consumer behavior is one of the vital present-day researches. The purpose of the present study is to explore the lifestyles of Indian consumers and their influence on the ecologically conscious behavior. For this purpose the researchers have employed the lifestyle scale along with the actual commitment subscale. The study results are based on researcher controlled student sample of 150 respondents. The data was analyzed using tools like SPSS 20.0 and AMOS 20.0. The results suggest that achievers and adventuresome are significant predictors of the ecological conscious behavior.

Keywords: lifestyles, green marketing, green consumer behavior, ecological behavior, India

1. INTRODUCTION

The increasing level of pollution has made the citizens of the country to give a hard and real thought to the environment around them and their day to day lifestyles. In this state of necessity, a study of the ecological lifestyles of a regular Indian consumer is plainly the need of the hour. Going green is becoming increasingly attractive as a business strategy. As scientists and politicians debate the truth of global warming and dwindling natural resources, green industry practices not only enjoy favorable public sentiment but also increased cost savings, supportive government policies, and ever increasing profitability as well. Trends in consumption, government

\* Corresponding author: asad7babar@gmail.com

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policy, and costs all point towards even more green industry business opportunities in the years ahead (Franchise Help, 2016). Sixty four percent of consumers across the world claim that they try to have a positive impact on the environment on an everyday basis. A survey conducted in India revealed that, 96 percent of Indian respondents aged between 30 and 39 years agree that brands and companies have to be environmentally responsible (Statista, 2016).

The environmental concerns have had a great influence on the marketing strategies of leading firms across multiple industries over the globe, which include oil and gas, automobile, fast-moving consumer goods, cosmetics and personal care, food and health, aviation, utilities, etc. The past decade has also seen a number of green products and services gaining huge acceptance by consumers (Seuring & Muller, 2008; Chan et al., 2012). The consumer behavior study has always been a complex task since there are many perspectives from which consumer behavior can be analysed (Fraj & Martinez, 2006b; Ahmad & Khan, 2015; Ahmad et al., 2017). Likewise, if we investigate the ecological consumer behavior we realise that it is also difficult to establish some limits that clearly define the consumer who is worried about the environment.

Lifestyles are psychographic variables that give firms a perfect orientation to identify the ecological consumer segment. In this sense, we find researches where psychographic variables have been used in defining the ecological consumer profile and has also revealed a significant relationship between psychographic variables and the ecological behavior (Ramanaiah et al., 1997; Fraj & Martinez, 2006a; Adnan et al., 2017). Researchers claim that the green vision is a reality and needs to be more functionally understood to allow marketers to develop strategies aimed to meet the green consumers’ needs (Adnan et al., 2017). In an increasingly globalized marketplace, there is evidence that knowledge of environmental issues, attitudes towards ecological problems, and environmentally friendly behavior varies across cultures (Laroche et al., 2002; Johnson et al., 2004). There is ample empirical evidence that environmental concern is a major factor in consumer decision making and has also been found to influence the lifestyles in one way or another (Zimmer et al., 1994; Kilbourne & Beckmann, 1998; Adnan et al., 2017). In the present study we have attempted to analyse, which lifestyle variable best explains the ecological behavior pattern. In this context, we have considered a Lifestyle Scale, initially developed by He et al. (2010) and Ecological Behavior i.e. Actual Commitment subscale developed by Maloney et al. (1975).

2. LITERATURE REVIEW

Lifestyles are shaped by means of people’s experiences and learning process (Kahle, 1996). Thus, people who behave in an environmental way, express their value of respect towards nature by having a positive attitude towards buying ecological products, recycling and taking part in activities that seek environmental protection (Fraj & Martinez, 2006a). Lifestyles refer to distinctive patterns of living in its aggregate and broadest sense. They involve the economic level at which people live, spending patterns of their time and money, interests, and priorities in their lives (Anderson & Golden, 1984). The concept of lifestyles is more comprehensive than that of demographic and socioeconomic
characteristics (Blackwell et al., 2001), and individuals’ lifestyle appears to be stronger predictors of consumer behavior, such as the ecological consumer behavior (Fraj & Martinez, 2006a; Adnan et al., 2017).

The researches on green marketing and ecological consumer behavior started in the 1990s (Zimmer et al., 1994). Researchers have attempted to identify the factors that influence environmentally friendly behavior, including demographics (Diamantopoulos et al., 2003), environmental knowledge, attitudes (Chan, 2001), values (Ramayah et al., 2010), and internal and external moderators (Rylander & Allen, 2001). The research on green consumption has also involved applying established theories and models, most commonly those based on the theory of reasoned action (Ajzen & Fishbein, 1980) and the related theory of planned behavior (Ajzen, 1991). Numerous models attempt to incorporate both internal and external elements, including the model of environmental behavior (Hines et al., 1987), the attitude-behavior-context model (Stern, 2000), the models introduced by Rylander and Allen (2001) and Bagozzi et al. (2002). Likewise, if we investigate the ecological consumer behavior we realise that it is also difficult to establish the limits that clearly define the profile of the consumer who behaves in an environmentally friendly manner. Consequently, the measurement, the conceptual delimitation of this behavior and the identification of the ecological segment in the market are the key aspects that results in the assessment of a crucial aspect of a consumer’s identity (Fraj & Martinez, 2006b).

Studies have identified characteristics of people who are likely to exhibit Ecological Concerned Consumer Behavior (Passey & Watt, 2002). These characteristics focus on (a) demographics including age, sex, income, education and place of residence, and (b) psychographics including political orientation, altruism, perceived customer effectiveness, and environmental concern. For the identification of the ecological consumers segment, there are several studies where researchers have tried to find the profile of these consumers. Diamantopoulos et al. (2003) comprehensively reviewed six socio-demographic variables (age, marital status, gender, number of children, education, and social class) and suggested that older and higher educated people are more likely to exhibit recycling behavior. Income is another positive predictor of green purchasing behavior (Kinnear et al., 1974). However, green behavior is almost independent of the influence of age and income (Gilg et al., 2005). A few studies even found a negative relationship between income and environmental concern/green behavior (Samdahl & Robertson, 1989; Roberts, 1996).

Lifestyles have been used for explaining and predicting environmentally friendly behavior. And these studies have established a significant relationship among the lifestyles and ecological behavior (Haanpaa, 2007; Adnan et al., 2017). Lifestyles can play an important role in the consumer decision process, with regard to product choice and brand choice (Blackwell et al., 2012). They provide a powerful basis for understanding consumer behavior within and across cultures (Burgess & Steenkamp, 1999), and are inextricably linked to consumer attitudes and influence their purchase behavior (Li & Cai, 2012).

Ecologically conscious and environment friendly behavior has been extensively researched in western countries (Chan, 2001; Hartmann et al., 2005; Yeung, 2005; Fraj &
Martinez, 2006a, b; Rios et al., 2006; Chan et al., 2006; D’Souza et al., 2006; Pickett-Baker & Ozaki, 2008) but research on environmental issues in India is still in the nascent stage (Adnan et al., 2017). Siringi (2012) examined green consumer behavior among highly educated consumers in India. Studies on preference for green products suggest that Indian consumers’ involvement and environmental concern are important in predicting their intention to buy green products (Ishawini & Datta, 2011). Existing literature recognizes relevance of factors like lifestyle, consumers’ knowledge about green products, peer influence, and environmental concerns on purchase of environment friendly products. Infotech are increasingly investing in green initiatives. People are becoming conscious about environment and ecological products (Khare, 2014), however, there is very little research on Indian consumers’ ecologically conscious behavior. Fraj and Martínez (2006a) posit that environmental concerns and self-fulfillment values characterise an ecological consumer who is environmentally conscious and has an ecological lifestyle. In similar vein, understanding Indian consumers’ ecological concerns would provide useful insights for marketing green products. Exploring Indian consumers’ ecological behavior and their lifestyles can provide valuable insights both to the marketers and the practitioners.

The researchers in the present study aim to study the lifestyle factors and their influence on the ecological behavior of the young consumers in India. For this purpose, a proposed research model with five different lifestyles (Figure 1), has been used to better explain the ecological behavior.

On the basis of this research framework, the following hypotheses were formulated:

**H01:** Need for uniqueness has a significant positive relationship with the ecological behavior.

**H02:** Price consciousness has a significant positive relationship with the ecological behavior.

**H03:** Public-interest orientation has a significant positive relationship with the ecological behavior.

![Figure 1. Research Framework](image_url)
H04: Need for achievement has a significant positive relationship with the ecological behavior.

H05: Need for respect has a significant positive relationship with the ecological behavior.

3. RESEARCH METHODOLOGY

Instrument Design: The scale used in the present study includes items explaining the lifestyle and the ecological concern (Table 1). It has actually been adapted from two scales viz. Lifestyle scale comprising 19 items (Fraj & Martinez, 2006a) and Actual Commitment subscale comprising 9 items (He at al., 2010). The applicability of both the scales has been widely accepted. The responses of the consumers were engaged using an online questionnaire employing a 5-point Likert scale (where 1= strongly disagree and 5=strongly agree).

The Sample: The sample of the present study comprised students from government funded premier institutions located in Delhi and National Capital Region (NCR) of India offering Under Graduate to Post-Doctoral Programs in higher education. Students in Delhi and NCR come from different parts of the country with different cultures (Khan et al., 2010).

Table 1. Scale Used

| ITEM                                                                 | Code |
|----------------------------------------------------------------------|------|
| I have never actually bought a product while keeping in mind its polluting effect. | VR1  |
| I keep track of my government’s initiatives on environment issues.     | VR2  |
| I have contacted a local NGO/agency to find out what I can do about pollution. | VR3  |
| I make a special effort to buy products in recyclable packaging.       | VR4  |
| I have attended a seminar/conference on improving the environment.     | VR5  |
| I have switched products for ecological/environmental reasons.        | VR6  |
| I have never joined a clean-up drive (eg, Swachh Bharat Abhiyan).     | VR7  |
| I have never attended an environmental/ecological summit.              | VR8  |
| I buy/subscribe environment related publications.                     | VR9  |
| I like to experiment with new ways of doing things.                   | VR10 |
| I always try to follow rules. ©                                      | VR11 |
| I like leading edge and adventurous things.                           | VR12 |
| I like to take chances.                                               | VR13 |
| I like to take adventures.                                            | VR14 |
| I enjoy breaking out of the daily routine.                            | VR15 |
| I compare prices of at least a few brands before I choose one.        | VR16 |
| If you can re-use an item you already have, there’s no sense in buying something new. | VR17 |
| It is important for me to get the best prices for the products I buy. | VR18 |
| I find myself checking the prices even for small items.               | VR19 |
| Economic growth should take preference over environmental considerations. | VR20 |
| If asked, I would contribute time, money or both to improve the quality of the environment. | VR21 |
| Humans must live in harmony/co-ordination with nature in order to survive. | VR22 |
| I need to feel a sense of accomplishment/achievement.                 | VR23 |
| I tend to set and strive to reach my goals.                           | VR24 |
| Getting things done is always on my to do list.                      | VR25 |
| I attempt to maintain a high status among my friends.                 | VR26 |
| I value a warm/sincere relationship with my family and friends.       | VR27 |

Adapted from Fraj and Martinez (2006a) and He at al. (2010).
The students in these institutions and regions belong to middle class strata of the society and reveals cosmopolitan outlook (Heslop, 2014; Kirmani & Khan, 2016; Ahmad & Khan, 2017). Further middle class strata of the society is considered to be the representative of the population (Shabnam, 2012; Ahmad et al., 2017). Hence, sample from the students of Delhi and NCR may be considered as surrogate for the whole population.

Data Collection: A researcher controlled sampling was employed to collect the data for this study. The respondents were first of all informed about the purpose of the study and interestingly many of them declined to respond. Out of the 200 filled questionnaires received, only 150 of them were deemed useful for further analysis, giving a response rate of 75%. The sample comprised of 54 percent of males and 46 percent of females. The demographic profiles of the respondents are mentioned in Table 2.

Table 2. Demographic Profile of Respondents

| QUALIFICATION | FREQUENCY |
|---------------|-----------|
| Graduates     | 81        |
| Post graduate | 69        |
| AGE           |           |
| Less than 25 Years | 72    |
| Above 25 Years | 78      |
| GENDER        |           |
| Male          | 82        |
| Female        | 68        |

Source: Prepared by Researchers

4. ANALYSIS AND RESULTS

4.1. Exploratory Factor Analysis (EFA)

EFA was performed using SPSS 20.0. The extraction for the data analysis was based on the principal component analysis with varimax rotation and Kaiser Normalization. The process of scale and item refinement was possible over repetitive iterations and as per the suggestions of Büyüköztürk et al., (2004) and Khan and Adil (2013) items with factor loadings less than 0.4 (< 0.4) were removed, resulting in a refined scale of 14 items. The analysis (rotated component matrix) yielded 4 factors namely Achievers (Need for Achievement), Ecoheads (Ecological Behavior), Adventuresome (Need for Uniqueness), and Economicals (Price Consciousness). The refining of the scale led to the deletion of two factors i.e. public interest orientation and need for respect which further led to the omission of two hypotheses (H03 and H05). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the scale items showed a practical level of common variance with the KMO (0.807) greater than the suggested value of 0.6. The resultant factors signified a suitable (66.59%) variance of the factors The EFA results are displayed in Table 3.

The Cronbach Alpha values for all the four variables were found to be above the minimum value of 0.6 (Hair et al., 1998; Kerlinger & Lee, 2000; Khan & Adil, 2013). The alpha value of the variable ‘achievers’, comprising 5 items was found to be 0.830. The second variable ‘Ecoheads’, third variable ‘Adventuresome’ and fourth variable ‘Economicals’ comprising 3 items each had alpha value of 0.764, 0.757 and 0.717, respectively. Thus, the scale was found to be reliable with the reliability of all the factors to be more than 0.7.

The results of the EFA have certain limitations like we cannot explain theoretically the loadings of items on more than one factor although there is a correlation between the variables (Ahire et al., 1996). To
overcome the limitations of EFA and to understand the inter-relationships between the four factors retained after EFA, the proposed research model (Figure 2) was tested using a two-step Structural Equation Modeling (SEM) (Lee, 2008; Adil et al., 2013).

Table 3. Results of EFA

| Statements | Factor Loadings | Construct Reliability |
|------------|----------------|-----------------------|
| **ACHIEVERS** |                 |                       |
| Humans must live in harmony with nature in order to survive. | .788 | |
| I value a warm/sincere relationship with my family. | .754 | |
| I need to feel a sense of achievement. | .736 | .830 |
| I tend to set and strive to reach my goals. | .732 | |
| Getting things done is always on my to do list. | .682 | |
| **ECOHEADS** |                 |                       |
| I have contacted a local NGO/agency to find out what I can do about. | .836 | |
| Pollution | | |
| I have attended a seminar/conference on improving the environment. | .806 | .764 |
| I make a special effort to buy products in recyclable packaging. | .800 | |
| **ADVENTURE SOME** |               |                       |
| I like to experiment with new ways of doing things. | .799 | |
| I like to take adventures. | .744 | .757 |
| I like to take chances. | .707 | |
| **ECONOMICALS** |                 |                       |
| I compare prices of at least a few brands before I choose one. | .766 | |
| I check the prices even for small items. | .758 | .717 |
| It is important for me to get the best prices for the products I buy. | .735 | |

KMO: 0.807      BTS= 785.883 Total Variance Explained: 66.59%

Source: Prepared by Researchers

(ACH= Achievers; ECO= Ecoheads; ADV= Adventurous; ECON= Economicals)

Figure 2. Proposed Research Model
4.2. Confirmatory Factor Analysis (CFA)

The methodology suggested by Gerbing and Anderson (1988) has been applied to evaluate the proposed research model. CFA was performed using AMOS 20 on the four factors viz. Achievers, Ecoheads, Adventuresome and Economicals with the items loading on each factor were specified and the proposed model was then tested for model fit.

All the items with acceptable range of factor loadings loaded significantly on their corresponding variables (Figure 2). The standardized regression weights (Table 4) for all the items were found to be above the minimum criterion of 0.40 (Ford et al., 1986; Ryu et al., 2010). The Chi-square value was found to be 99.265 with 70 degrees of freedom ($p<0.05$).

**Table 4. Standardized Regression Weights (CFA)**

| Estimate |  |
|----------|---|
| VR22 $\leftrightarrow$ ACH | .763 |
| VR27 $\leftrightarrow$ ACH | .695 |
| VR23 $\leftrightarrow$ ACH | .731 |
| VR24 $\leftrightarrow$ ACH | .714 |
| VR25 $\leftrightarrow$ ACH | .631 |
| VR3 $\leftrightarrow$ ECO | .824 |
| VR5 $\leftrightarrow$ ECO | .679 |
| VR4 $\leftrightarrow$ ECO | .664 |
| VR10 $\leftrightarrow$ ADV | .640 |
| VR14 $\leftrightarrow$ ADV | .819 |
| VR13 $\leftrightarrow$ ADV | .684 |
| VR16 $\leftrightarrow$ ECON | .695 |
| VR19 $\leftrightarrow$ ECON | .485 |
| VR18 $\leftrightarrow$ ECON | .916 |

The overall model fit was found to be satisfactory with the value of GFI to be 0.914, CFI to be 0.960 and the value of AGFI and NFI were found to be a bit less than that of 0.9 being 0.870 and 0.888, respectively. The values of CMIN/DF (1.418) and RMSEA (.053) were also found to be within acceptable range. The overall summary of the key fit statistics for the proposed model is demonstrated in Table 5.

**Table 5. Model Fit Indices (CFA)**

| Fit Index | Recommended Values* | Observed Values |
|----------|---------------------|-----------------|
| CMIN/DF  | <3.0                | 1.418           |
| GFI      | >0.90               | .914            |
| AGFI     | >0.80               | .870            |
| NFI      | >0.80               | .888            |
| CFI      | >0.90               | .960            |
| RMSEA    | <0.070              | .053            |

*Source: Hu and Bentler, 1999; Hooper et al., 2008; Hair et al., 2010; Malhotra and Dash, 2011

The scale was further verified for its validity and reliability all the four variables were evaluated using the composite reliability (CR) and average variance extracted (AVE) demonstrated in Table 6. All of the four variables had a desirable level of composite reliability ranging from (0.753-0.834) which was above the minimum required value of 0.7 (Fornell & Larcker 1981; Hair et al., 2010; Malhotra & Dash, 2011), indicating an adequate reliability of the factors.

The average variance extracted (AVE) for the factors, Achievers, Ecoheads, Adventuresome and Economicals were found to be well above the minimum value of 0.5 which signified an acceptable convergent validity of the variables (Fornell & Larcker 1981; O’Leary-Kelly & Vokurka, 1998; Hair et al., 2010; Ryu et al., 2010; Khan & Adil, 2013). The factors also showed an adequate discriminant validity (diagonal values highlighted in bold), as the square root of AVE for all the constructs is greater than the inter-construct correlation (Fornell
& Larcker 1981; O’Leary-Kelly & Vokurka, 1998; Hair et al., 2010; Malhotra & Dash, 2011; Khan & Adil, 2013). Thus, the four variables were found to have adequate validity and reliability.

4.3. Structural Model

With the adequate results of CFA the researchers further proceeded with analysis of the proposed model and the hypotheses. The model fit indices were found to be within the acceptable range with CMIN/DF (1.658), GFI (.898), AGFI (.847), NFI (.917), CFI (.936), and RMSEA (.066). With Chi-square value being 116.080 and degrees of freedom being 70 with other model fit indices the overall structural model was found to be satisfactory. Summary of the model fit indices is presented in Table 7.

The relationship between Ecoheads and two factors Achievers and Adventuresome was found to be significant with a significance level of $P>0.05$, but the relationship between Ecoheads and Economicals was found to be insignificant. Figure 3 and Table 8 demonstrate the results of the structural model.

5. DISCUSSION AND CONCLUSION

5.1. Summary of the Study

In developing countries like India, the general literacy level has been found to be quite low thus, there is a need to educate the people about the environmental concerns which will help in changing their behavior (Khan et al., 2012). The objectives of the present study were to understand the role of various lifestyle factors on the ecological behavior. The researchers in the present study have used a 27-item lifestyle (5 factors) and ecological concern scale adapted from the study of He et al. (2010) and Fraj and Martínez (2006a), respectively. The researchers started with analyzing 5 lifestyle variables and their relevance to ecological concern.

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Table 6. Reliability and Validity

| CR | AVE | ADV | ACH | ECO | ECON |
|----|-----|-----|-----|-----|------|
| ADV | 0.760 | 0.516 | 0.718 |
| ACH | 0.834 | 0.502 | 0.580 | 0.708 |
| ECO | 0.768 | 0.527 | 0.361 | 0.075 | 0.726 |
| ECON | 0.753 | 0.519 | 0.502 | 0.640 | 0.114 | 0.720 |

Source: Prepared by Researchers

Table 7. Model Fit Indices (SEM)

| Fit Index | Recommended Values* | Observed Values |
|-----------|---------------------|-----------------|
| CMIN/DF   | < 3.0               | 1.658           |
| GFI       | > 0.90              | .992            |
| AGFI      | > 0.80              | .884            |
| NFI       | > 0.80              | .860            |
| CFI       | > 0.90              | .989            |
| RMSEA     | < 0.070             | .054            |

*Source: Hu and Bentler, 1999; Hooper et al., 2008; Hair et al., 2010; Malhotra and Dash, 2011

Table 8. Standardized Regression Weights (SEM)

|                       | Estimates | p-value |
|-----------------------|-----------|---------|
| Ecoheads ← Achievers  | .556      | .009    |
| Ecoheads ← Adventuresome | .945     | .000    |
| Ecoheads ← Economicals | .282      | .283    |

Source: Prepared by Researchers
factors (Need for uniqueness, Price consciousness, Public-interest orientation, Need for achievement and Need for respect) and the Actual commitment sub-scale. EFA was applied on the two scales to identify the relevant lifestyle factors determining the green consumer behavior (Churchil et al., 2010). The results of the EFA yielded three lifestyle constructs viz. Achievers (comprising three items from the need for achievement and one item each from need for respect and public-interest orientation), Adventuresome (comprised 3 items of need for uniqueness) and Economicals (comprising 3 items of price consciousness). The Ecoheads was left with three items of the 9-item actual commitment subscale related to ecological behavior. Thus the study yielded a short and refined lifestyle scale measuring the ecological behavior. Further the refined scale items were checked for the reliability, validity, goodness of fit using CFA and SEM. All the factor loadings and model fit indices were found to be satisfactory leading to a model fit. Further the results SEM brought up the role of the 3 lifestyle factors on the ecological behavior. The results suggested that both Achievers and Adventuresome are important predictors of Ecoheads. Further, adventuresome was found to have a strong significance compared to achievers. And interestingly, economicals, those who care a lot about prices of products and services, had no significant relationship with the ecoheads. Thus, proving that the price of the products matters, even when the products are environment-friendly. This result was in line with the results in the study of Prakash (2002). Green consumption or sustainable consumption is actually a result of consumers moving towards sustainable lifestyles (Gilg et al., 2005).

5.2. Implications

A significant contribution of the study is that it suggests a lifestyle approach for
measuring the green consumer behavior. The results in the present study suggest that the achievers and the adventuresome emerged as predictors significant at 0.009 and 0.000 levels, respectively. Thus, there are two major academic contribution of this study. Firstly, the present study had tried to account the role of the lifestyle in the perception of ecological behavior. Secondly, this study demonstrates that Achievers and the Adventuresome are the ones who significantly predict the Ecoheads. The intricate role of factors like psychographic and demographics of the consumers makes it difficult for the marketers to measure the ecological behavior of the consumers. The results of this study are significantly important for both the academicians and the marketers. The green marketers and policy makers must understand the relationship of various lifestyles and the ecological friendliness. The marketers need to develop promotional strategies which can change the approach of people of different lifestyle group towards the sustainability of the environment by adopting products and services which are ecologically friendly.

6. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Like other researches, this study may have also suffered from certain limitations. The use of convenient sampling may have limited the generalizability of the results of the study. The study was based on graduate and postgraduate students of a particular region of India which may also have hampered the generalizability of the study results. The study has exclusively focused on the individual perceptions and dispositions rather than on situational factors. However, the above mentioned limitations of the study are likely indicators for various other new areas of research. The results of the study can be further validated on larger and different samples. The results may also be validated in other countries enabling cross-cultural comparison. Various other occupational and educational groups need to be worked upon in the context of green consumer behavior which might broaden the scope of the findings of the study.

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