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RESEARCH ARTICLE

A nexus between environmental literacy, environmental attitude and healthy living

Aindrila Biswas[1]

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Abstract

It has been widely acknowledged that environmental literacy can provide a strong foundation for future environmental responsiveness, as well as help in the transition towards more sustainable societies and healthy living. According to environmentalists and social scientists, behavioural intentions to sustainable consumption and lifestyle among citizens will help to nurture global environmental and economic sustainability and foster environment and human health development. The study tries to assess the adoption of sustainable lifestyle and healthy lifestyle practices through the designing and demonstration of quantitative method applying environmental literacy as a major predictor in the process which leverages environmental attitude towards such outcomes based on a literacy-sustainability-lifestyle-health modelling framework. The gap between learning and implementation should be addressed through integration of sustainability issues in awareness campaigns by government, NGOs, local bodies and educational institutions.

Keywords Environmental literacy · Sustainability · Health · Healthy lifestyle

Introduction

Knowledge influences individual attitude which in turn leads to responsible actions. In the context of environmental literacy, an increased knowledge about environmental issues shall leverage responsible actions through preservation of environment and prevention of environmental downturn (Ramdas and Mohamed, 2014). Education and literacy have always been seen as a key in improving quality of life collectively for mankind (Tilbury, 2012). Environmental literacy is primarily based on the concept of environmental protection through spreading of awareness (UNESCO, 2004; Velazquez et al., 2005; Debby et al., 2015). The hindrances in the path of propagation of environmental literacy are directly related to the educational system. Most of the time, the courses offered at educational institutions are limited in scope and do not reflect the interrelations between the various aspects of sustainable development. The subject of environmental literacy requires strong societal commitment.

A vast change has been observed in consumer behaviours with increasing number of consumers becoming conscious about the environmental issues that may have an impact in their lifestyles (Howard 2007; Sung and Hong, 2019). A sway has been observed towards consumption of products produced through the integration of environmental, social and ethically responsible practices in the product life cycle (Watson and Yan, 2013). Individuals are increasingly adopting conscious lifestyle practices characterized by enhanced value for quality of life, health and sustainability issues and more informed choice decisions about what they should use, consume or wear (Rudell, 2006; Picha, and Navratil, 2019).

The two behavioural outcomes discussed in the present study are the two dimensions of lifestyle practices. Lifestyle as a way of life transcends in all directions and determines the ways of consumption, production and behavioural disposition across a chain of activities (Earl, 1986). With time, several facets have been included in the initial concept of consumerism that was not sustainable in the long run. The need to study the ways that are devoid of adverse impacts on the environment

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✉ Aindrila Biswas
baindrila18@gmail.com

[1] Department of Commerce, Kabi Jagadram Roy Government General Degree College, Mejia 722143, India

(sustainable lifestyle) and that would enhance the quality of life and healthy living (healthy lifestyle) needs upmost attention. Sustainable lifestyle approach is more exogenous, while healthy lifestyle practice has a more endogenous perspective. Various empirical literature has highlighted the relationship between sustainable consumption and well-being as conceptually diverse. Health falls within the ambit of well-being where well-being apart from physical fitness includes hedonic and cognitive dimensions focusing on happiness and satisfaction (Andersson et al., 2014; Fifita et al., 2019). According to the World Health Organization (1986), health is a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities.

Sustainable lifestyle practice usually means purchase (such as energy-efficient appliances, organic products) or other activities (such as resource conserving). The measures to assess the gravity of such practice vary widely. Some studies base their analysis on households for the ecological footprint (Royo, 2019), but most of the studies have drawn measures from engagement in sustainable consumption practices through correlational or regression analysis of cross-sectional data (Andersson et al., 2014; Royo, 2019).

This study explores the environmental aspects of lifestyle practices from sustainable living and consumption and individual health perspectives. Social theories on lifestyle can provide insight into behavioural understanding of individual behaviours depicted through routinized behaviours in everyday practices (Axsen et al., 2012). The lifestyle theory can explain complex behavioural patterns where purchase decisions may be aligned with environment-oriented lifestyle practice or non-environment-oriented lifestyle practice. Such practices may encompass exploration and adaptation of new technology, value-for-money or brand value perceived by the consumers (Axsen and Kurani, 2012). Study of the two facets of lifestyle practices shall enable the understanding of adoption of various pro-environmental lifestyle practices and healthy living practices needed for a sustainable future for which individual health and environmental well-being are indispensable. Previous studies on consumer lifestyle practices have studied the sustainable lifestyle practices of specific consumer segments such as LOHAS and analysed pro-environmental buying behaviour, well-being and sustainability (Picha, and Navratil, 2019). Notions of concept of lifestyle and consumer attitudes and preferences are distinct which necessitates the inclusion of environmental attitude in the study (Picha, and Navratil, 2019). Recent researches have been found to encompass various facets of human environmental conscience and facets of attitudinal goals. Attitude has been defined as the amalgamation of cognition and behaviour which helps to make evaluative judgements along psychological dimensions (Ajzen, 2002). Environmental attitude has been evaluated as the effect of their cognition and willingness to act in reducing the environmental downturn. Environmental attitude has been identified as a strong antecedent for environmental behaviour and pro-environmental action (Fishbein and Ajzen, 1975; Paswan et al., 2017).

The present study does not apply lifestyle theory in the explanatory model framework. It tries to assess the adoption of sustainable lifestyle and healthy lifestyle practices through the designing and demonstration of quantitative method applying environmental literacy as a major predictor in the process which leverages environmental attitude towards such outcomes based on a proposed literacy-sustainability-lifestyle-health modelling framework. Studies on environmental behaviour and attitude have suggested that their relationships may not be validated just by linear relationship (Sung and Hong, 2019). Hence, to justify the analysis of relationship across the studied variables, a structural equation modelling framework has been adopted.

Substantial research on environmental sustainability, sustainable consumption and consumers' environmental attitude and behaviour have been conducted in the developed economies of the West, but such studies in the context of emerging economies of the east such as India are remarkably absent (Arkesteijn and Oerlemans, 2005; Saxena and Khandelwal, 2010; Boztepe, 2012; Biswas and Roy[a], 2015). Most of the prior studies in the context of the Indian economy have highlighted the adoption of green products, sustainable consumption values, behavioural gaps, consumer perceptions and sustainable business performance within the broader ambit of green marketing (Saxena and Khandelwal, 2010; Biswas and Roy, 2015a; Biswas and Roy, 2015b; Nath et al., 2013; Biswas, 2017; Jain et al., 2017; Biswas and Roy, 2018; Biswas, 2018). The need to analyse the leveraging impact of environmental literacy in shaping environmental attitude among respondents in adoption of sustainable and healthy lifestyle practices in the backdrop of an emerging economy such as India needs further deliberation.

This paper therefore is aimed at evaluating the impact of environmental literacy in shaping environmental attitude among respondents in adoption of sustainable and healthy lifestyle practices in the backdrop of an emerging economy. This paper is structured in the following way. It starts with unfolding the relationship between environmental literacy, environmental attitude and sustainable and healthy living practices, followed by hypotheses development and research methodology. In the following section, results and analysis have been discussed and conclusion at the final section.

Analysis framework

The study has tried to develop a modelling framework based on four intrinsic aspects – literacy, sustainability, lifestyle and health. The four aspects have been analysed for their

interdependence, ascendancy, impact and responsiveness to accomplish the desired objectives in the backdrop of an emerging economy. Specific variables have been studied for the need and objectivity of the study.

Environmental literacy

United Nations (UN) Decade of Education for Sustainable Development's (DESD) vision focuses on providing opportunities to individuals with quality education and makes them aware about the acceptable behaviours and lifestyles needed for a sustainable future. This thus necessitates the importance of education for sustainable development or environmental literacy (UNESCO, 2014).

Promotion of environmental literacy has been an integral part of environmental education with the objective to inculcate the values to behave in an environmentally responsible manner. Environmental literacy has been predominantly described as environmental knowledge, environmental concern and awareness with inclusion of sustainable use of natural resources in recent studies (Hares et al., 2006). The need of environmental literacy has gradually been necessitated to propagate the idea of sustainable life pertaining to the boom in modernization and revolution in technology in the past decade (Bissinger and Bogner, 2017). The concept of being literate about environmental issues encompassing a continuum of analytical and emotional competencies had been incorporated in the general literacy definition to condition the definition of environmental literacy (Hares et al., 2006). The quintessence of past studies on environmental literacy had been personality traits, assumption of personal responsibility, self-efficacy, values, attitudes, cognitive knowledge and observable behaviours towards environment (Brick and Lewis 2014). It is a personal learning process that is impacted by socio-economic, cultural, environmental and political antecedents. It is a subjective concept, and literacy here means information vibes and individual ability to analyse and process environmental information barring level of education. Not just adoption of a wholesome course on environmental education will confer whether an individual is environmentally literate. It includes elements of perceiving, decoding, analysing and application of environmental information, sustainable use, conservation and need to coexist with the environment and not at the cost of environmental deterioration. Insufficient and unsound knowledge, misleading environmental perceptions and erroneous decoding often lead to unsustainable outcomes which strengthens the need of environmental literacy further.

Environmental literacy is a prerequisite in shaping the attitude of younger generation towards adoption of environment-friendly practices and lifestyle. Improvement in the environmental quality strongly depends on knowledge, attitude, values and individual practices (Hens et al., 2010, Hamid et al., 2017). Higher education institutions play an active role in shaping the environmental attitude of the society and its students through creating environmental sustainability awareness, changes in education system and curriculum and practices and conducting campaigns on green vision and mission through active participation of the students who are considered to be the major stakeholders of environment, future potential buyers and decision-makers (Swaim et al., 2014; Hamid et al., 2017). Environmental literacy and knowledge are a direct antecedent for behavioural change (Hamid et al., 2017). It may impact behavioural change either through formal education or knowledge on environmental education on any issue, or sometimes individuals review decisions systematically and choose options best fitted for them despite having limited formal knowledge and education through community-based environmental awareness programmes (McKenzie-Mohr, 2000; Hamid et al., 2017). Dissemination of environmental literacy is not restricted to within the purview of educational institutions. It is a widespread concept and is related to spreading of environmental awareness across all segments of the society through all formal and informal medium of discourse. Education on any topic would enlighten individuals' mind, make them free of prejudices and broaden their outlook. Environmental literacy likewise would broaden their outlook towards environment and make individuals realize that environmental degradation is a genuine problem which would affect every single living being on earth. Hence, they would try to look for all possible solutions to combat the threat and may eventually change their lifestyle practice to more sustainable and greener ways of living (Biswas and Roy, 2015a; Biswas and Roy, 2015b). The present study focusses on two lifestyle dimensions or observable behaviours as developments or ramifications of environmental literacy through the mediating effect of environmental attitude from a pro-environmental perspective.

In this paper, environmental literacy has been used in a broader sense that refers to different types of environmental knowledge than just access to environmental education. The study aims to analyse how environmental literacy channelizes attitude in favour of two responsive outcomes – the more exogenous sustainable lifestyle encompassing environmental concern and incorporation of such concern in day to day practices through adoption of lifestyle changes and the more endogenous adoption of healthy lifestyle practices for improved and hearty living.

Environmental attitude

The theory of planned behaviour (Ajzen, 1991) has been widely applied for studying environmentally responsive behaviour as a function of subjective norms, attitude and perceived behavioural control (Bamberg and Schmidt, 2003; Wang et al., 2013). Attitude towards the adoption of

sustainable and healthy lifestyle practices is defined as the degree to which they expect positive or negative outcomes from the performance of such behaviour (Khare, 2015). A positive evaluation of outcome would lead to the exercising of a specific or desired behaviour, thus developing the attitude to perform such behaviour with the expectation of gaining a positive outcome (Han et al., 2010). Within the environmental education research, environmental attitude and other socio-economic variables have been examined (Kollmuss and Agyeman, 2002; Hens et al., 2010). Environmental attitudes are a complex function of psychological and social values, beliefs and behavioural intentions. Since the 1960s, several measures have developed for the measurement of environmental attitude. Studies show a significant discrepancy between individual's knowledge and actual behavioural disposition whereby the resultant complex relation between human activities and natural environment often results in adversarial environmental consequences. Environmental attitude of teachers plays a major part in leveraging students' attitude towards environment; thus, the role of environmental literacy gains prominence.

Some economic studies explicitly explored the effect of community, NGOs and educational institutions on environmental performance (Kollmus and Agyeman, 2002; Hens et al., 2010). Environmental literacy helps to develop positive environmental attitude and disposition of environmentally responsive behaviour (Kaiser et al., 1999).

Thus, from the above discussion, the following hypotheses can be deduced:

H1: Environmental literacy has a positive impact in arousing environmental attitude.

Sustainable and healthy lifestyle practices

There has been a recurrent application of lifestyle theory in sustainable consumption with a discipline-specific approach. Lifestyle has been continually defined in the light of income, other demographics, urbanization and technology use. Literatures in sustainable consumption had categorized consumption mostly along aspects of household energy use (Sanquist et al., 2012; Axsen et al., 2012). Previous studies have not explicitly considered the impact of lifestyle modification in the light of environmental literacy. The present study has tried to broaden the focus from just sustainable consumption to adoption of two proposed lifestyle outcomes. The field of sustainable consumption explores consumption and purchase decisions aligned towards environment-friendly alternatives. For a better review of sustainable lifestyle management, efficient energy use, recycling and waste management behaviour has been incorporated with an undeniable environment-first proclamation. Different studies have resorted to different explanatory variables and socio-psychological approaches to assess environment-friendly behaviour (Axsen et al., 2012). Lifestyle practice is a manifestation of consumer identity and expressions but is not all-encompassing (Spaargaren, 2003). Individuals usually engage themselves in multiple sectors of lifestyle management that depicts different aspects of self and with each practice encompassing related activities and skills. These depict routinized behaviour rather than one-time conspicuous purchase or consumption. The term sustainable means to meet the needs in a way such that the future generations would be able to sustain and meet their needs eventually with minimal detrimental impact on the environment. Sustainable consumption refers to the composite concept of buying and consumption of environment-friendly products barred of toxic substances with minimal harmful impact on the environment than traditional alternatives for the goal of long-term environmental preservation (Biswas and Roy, 2015a; Biswas and Roy, 2015b; Biswas, 2017). Sustainable living practices encompass household energy resource conservation, water conservation and resorting to environment-friendly habits in daily life (Gadenne et al., 2011). Sustainable lifestyle practice as applied in the present study is more towards change in lifestyle management than just consumption habits with the primary objective of protection of the environment and refraining from activities detrimental to the environment in daily life. It is an environment-centric approach. Sustainable lifestyle practice may constitute integration of environmental concern and subsequent adoption or change in lifestyle practice in the environmental trajectory. On the contrary, healthy lifestyle practice is more self-centric. Engaging in healthy lifestyle practice is about cognitive and affective beliefs about engaging in healthy lifestyle behaviours (Biggs et al., 2019; Dunn and Hazzard, 2019). The purview of the present study with respect to healthy lifestyle practice is only in the light of environmental literacy to substantiate the need for hypothesis development and model validation. Environmental literacy within its vast ambit highlights the hazardous impact of environmental degradation on human health. On the contrary, health literacy refers to the degree to which individuals need to have the ability to obtain, process and understand health-related information to make proper and conscious health decisions (Collen et al., 2018). Pertaining to the needs of the study, the focus has been on how environmental literacy can facilitate such decisions. Human health and environment are intertwined because depletion of environment would inevitably jeopardize healthy living and cause hazardous impact on human health through enhanced pollution (Keles, 2012; Jarron et al., 2017). Healthy lifestyle potentially refers to knowledge about what constitutes or what is presumed to be healthy, enjoyable and ecstatic living devoid of stress and unhealthy or physically detrimental habits (Jarron et al., 2017). Such lifestyle practices are influenced by individual choices, conscience, knowledge, awareness and external forces like socio-cultural or economic forces (Jarron et al., 2017). Since health and environment are

intertwined, maintaining a healthy living practice would also deploy owing some responsibilities in protection, conservation and optimization of resource use (Jarron et al., 2017). A healthy life can never be obtained at the cost of environmental downturn. The impact of environmental attitude in swaying the adoption of healthy lifestyle practice through lifestyle modification and consumption of environment-friendly alternatives has been studied as the indicators of healthy lifestyle practice. The purview of healthy lifestyle practices for this study has been restricted to maintenance of healthy diet, living in clean surrounding and patronizing clean and green environment and demonstration of role in maintaining a clean environment.

The study does not deal with all facets of lifestyle theory as this study is both exploratory and quantitative. All aspects of lifestyle may not be incorporated in a single model. Hence, we focus on two broad lifestyle sectors from two perspectives – sustainability and health.

Consumption and lifestyle practices are major antecedents of environmental protection or aftermath as households are significant consumers of natural resources (Streimikiene, 2015; Ahmed et al., 2017). Hence, the study of such lifestyle pattern and adoption of sustainable and healthy lifestyle practices has been necessitated. How such adoption may be propagated in the light of environmental literacy through mediation of environmental attitude needs understanding in the present scenario through development of a literacy-sustainability-lifestyle-health modelling framework.

Thus, from the above discussion, the following hypotheses can be deduced:

H2: Environmental attitude would positively influence adoption of healthy lifestyle practice.

H3: Environmental attitude would positively influence adoption of sustainable lifestyle practice.

H4: Adoption of sustainable lifestyle practice would positively influence adoption of healthy lifestyle practice.

A diagrammatic representation of the desired model has been presented in Fig. 1.

Methodology

Research sample

The sample frame consists of respondents from an Indian metro city and its suburban areas. Self-administered questionnaires have been used to collect data. Undergraduate students with knowledge of environmental education have been assigned to collect the data through survey method in their neighbouring areas. The results indicated that environmental literacy and apprehension to conserve the resources and adoption of healthy and sustainable lifestyle practices are more among urban dwellers than respondents residing in rural areas. These students had access to a variety of respondents in their neighbouring areas with diverse demographics. Respondents were randomly approached over a period of 3 months. While approaching the respondents, the objective of the study was to clearly communicate to them and solicit. Many respondents refused to participate in the survey owing to time constraints or lack of knowledge on the subject of survey. Over 400 people had been approached during the survey period of which only 247 completed the survey questionnaire which was used for final analysis. The study applied structural equation modelling for which a sample size above 200 would give proper results (Biswas, 2017).

Questionnaire design

The questionnaire used in the study comprised of items designed to assess environmental literacy, environmental attitude and sustainable and healthy living practices among the respondents. The items of all the constructs were measured using a 5-point Likert scale. For better understanding of the respondents, some pictorial representations were provided in the questionnaire such as plantation of trees and breathing of fresh air, consumption of organic food and saving of energy. The respondents completed five sections with items which elicited – (i) environmental literacy, (ii) environmental attitude, (iii) adoption of sustainable lifestyle practice, (iv) adoption of healthy lifestyle practice within the purview of environmental literacy and not health literacy to substantiate the needs of the present study and (v) demographics. The respondents were presented with a list of practices and elicited their response on a five-point response scale from strongly disagree to strongly agree. Although the term ‘practice’ has been predominantly used along the length of this paper, the survey instrument stated ‘I always try to reduce the amount of electricity and water I use’ as a measure of sustainable lifestyle practice and ‘I always keep a healthy diet’ as a measure of healthy lifestyle practice (as presented in the Appendix). The items of lifestyle practices presented in the questionnaire depict two dimensions: (i) the endeavour undertaken by an individual to protect the environment through effective energy and water conservation (sustainability), focus has been on long-term environmental sustainability, and (ii) the endeavour undertaken by an individual to protect the environment with the primary objective of personal health preservation and then to refrain from environmental damage as it would be detrimental to personal health. A part of the questionnaire has been presented in the Appendix. The list of items may not be exhaustive, and practices are not always mutually exclusive (Axsen et al. 2012). It may also be stated that the lifestyle practice items by necessity have been kept more general to widen its application. The items have been adapted, modified and altered from previous studies to suit the needs of the present study (Roberts and Bacon, 1997; Wang et al., 2013, Paswan

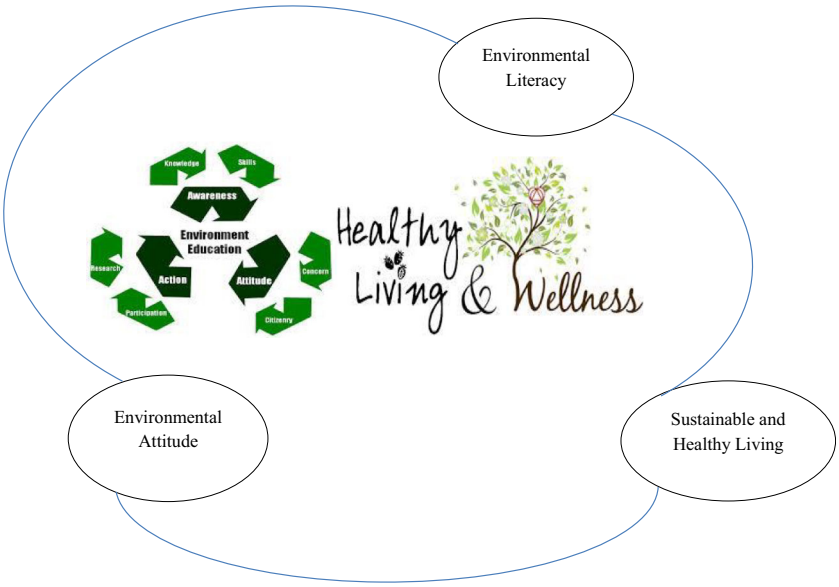

Fig. 1 Diagrammatic representation

et al., 2017; Fischer et al., 2017). AMOS 20.0 was used to analyse the collected data. After assessment of the adequacy, validity and psychometric properties of scale, the structural model with path analysis was applied to find the best-fitted model and to test causal relationships.

Results and analysis

Psychometric properties

Four of the measurement scales applied in the study have been adapted and modified from previous studies on consumption and lifestyle behaviour based on environmental knowledge and sustainable consumption and lifestyle practices. The detailed list of the items has been provided in Appendix I. Based on the results of factor analysis, four factors have been obtained which support the formulation of hypothesis made. The reliability of the scale was checked with the help of Cronbach's alpha ranging between 0.71 and 0.94 (Table I). The analysis demonstrated that all items have acceptable measurement properties. The psychometric properties of all the measurement items are reported in Table I with all the standardized factor loadings being ≥ 0.50, and significant p values at 0.01 level ensures convergent validity (Fornell and Larcker, 1981; Anderson and Gerbing, 1988). The composite reliability value of the three constructs exceeds 0.70, and one construct is close to 0.70 which supports convergent validity. The average variance extracted for all the constructs exceeds 0.50 which is well above the recommended value.

Path analysis

In the second phase, testing of the model was done through the application of structural equation model. Structural equation modelling has been applied to test all relationships between latent variables and observed variables and also to assess the relationships among multiple latent variables simultaneously. With the help of maximum likelihood estimation, the significance of all the four hypotheses has been supported. The goodness of fit indices was higher than the threshold values

Table I The constructs and their psychometric properties

Constructs	Loading	Cronbach's alpha	AVE	CR
Environment literacy		*0.71*	*0.59*	*0.67*
Environment literacy1	0.78			
Environment literacy2	0.73			
Environment literacy3	0.80			
Environmental attitude		*0.94*	*0.83*	*0.72*
Environmental attitude1	0.93			
Environmental attitude2	0.92			
Environmental attitude3	0.89			
Healthy living practice		*0.78*	*0.55*	*0.71*
Healthy living practice1	0.81			
Healthy living practice2	0.69			
Healthy living practice3	0.76			
Healthy living practice4	0.70			
Sustainable living practice		*0.92*	*0.88*	*0.73*
Sustainable living practice1	0.96			
Sustainable living practice2	0.95			
Sustainable living practice3	0.91			

which makes the model acceptance inevitable. The structural equation model with the standardized coefficients for each path has been presented in Fig. 2 and Table III. The statistical results lend support for all the hypotheses.

The figure shows how environmental literacy influences environmental attitude towards environmental conservation and which eventually plays a pivotal role in swaying consumers towards adoption of sustainable and healthy lifestyle practice.

Global statistics have been used to confirm the goodness and validity of the model, which verifies the capacity of the estimated model to reproduce master parameter matrix and signifies whether it represents the data properly. Robust statistical indices such as chi-square, the normed fit index (NFI), the incremental fit index (IFI), the comparative fit index (CFI), goodness of fit (GFI) and root mean square error of approximation (RMSEA) have been analysed. The model provided the following indices: $\chi 2$/d.f. 2.38, RMSEA 0.07, CFI 0.97, IFI 0.97, GFI 0.92 and NFI 0.96 (Table II) (Biswas, 2017). The findings suggest an adequate model fit for the data.

Discussion and conclusion

The obtained results are analysed in light of other relevant research works. The newly developed questionnaire was adopted to detect attitude of urban and rural consumers with regard to environmental protection and conservation. The findings of the framed literacy-sustainability-lifestyle-health model have been presented as follows. The findings suggest that development of environmental attitude is directly aligned with exposure to environmental awareness programmes or endeavour among higher education institutions, government bodies and NGOs to spread environmental literacy (H1). Table III depicts that environmental literacy explains a comprehensive portion of variance in development of environmental attitude (0.32). Secondly, health, happiness, lifestyle and environment are entwined. Studies have shown how environmental hazard would influence human life and health adversely. Healthy living cannot be expected at the cost of environmental Armageddon as environment is the primary source of life and living. Human sustenance would be endangered when environment would be threatened. The second hypothesis clearly explains how healthy living is facilitated in the light of arousal of environmental attitude and conscience to play their part in minimizing the impeding threat on environment. The adoption of healthy living practice such as taking up cleaning initiatives in the community to prevent health hazards, consumption of food with proper labeling, plantation of trees to prevent pollution, etc. is directly influenced by environmental attitude (H2). Thus a nexus among education-attitude-health has been observed.

Thirdly, sustainable lifestyle practice is an integral component of sustainable development. Sustainable lifestyle encompasses preservation and conservation of resource use such as water, electricity, purchase and consumption of environment-friendly alternatives and energy-efficient appliances. However, the list of such practices is illustrative and not exhaustive. Environmental attitude leverages adoption of such behaviour for environmental protection (H3). Similarly, a nexus among education-attitude-sustainable living has been pinpointed.

Finally, as sustainable living resorts to environmental protection, means adopted in daily life to combat environmental threat and adoption of such practice is an outcome of environmental literacy. Similarly as ultimate adoption of environmental protection measures ensures safeguarding of human life and health, again a nexus is established in between sustainable and healthy lifestyle practice. Sustainable living practice mainly encompasses the environmental parameters where health benefit is incidental. On the contrary, healthy lifestyle practice mainly encompasses protection of human health through environmental protection measures as human health and environment are not replacements or substitutes; rather environmental protection is an indispensable measure to safeguard human lives. The fourth hypothesis was adequately supported with a comprehensive portion of the variance, 0.37, in adoption of healthy lifestyle practice being explained in the light of sustainable lifestyle practice.

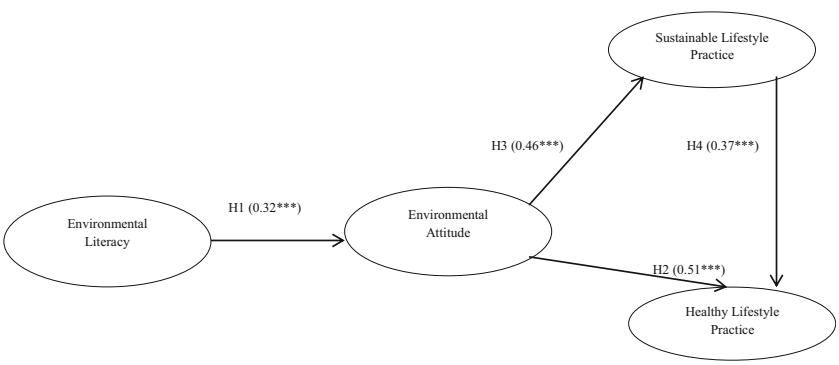

Fig. 2 Result of path analysis. The Literacy-Sustainability-Lifestyle-Health framework

Table II Model fit indices for the overall model

Index	Structural model value	Recommended value*
$\chi 2$/d.f.	2.38	< 3
RMSEA	0.07	< 0.10
CFI	0.97	≥ 0.90
IFI	0.97	≥ 0.90
GFI	0.92	≥ 0.90
NFI	0.96	≥ 0.90

Environmental literacy has been identified as the point of inception to bring a change and form a positive and close nexus between environment, education and health. Therefore, institutes of higher education, government organizations, local bodies and NGOs should develop an understanding of sustainable development and make demonstrations to create awareness through visual, audio-visual or other measures. Sometimes the efficiency of formal curriculum is superseded by informal education or community-level awareness campaigns. Hence, rigorous spreading of environmental literacy and its implementation in daily life to protect and preserve the environment has been unparallel. Environmental literacy will eventually pave the way for more sustainable and healthy living practice. It would enable more participation among citizens, and it is undeniable that environmental threat can only be combated when all the stakeholders of the environment realize their responsibilities and do not consider their own well-being as separate from the well-being of the environment.

The two lifestyle practices cater to the goals of sustainability and individual health concern encompassing both exogenous and endogenous parameters. The goal for better living is channelized either through a greater proactive measure to adopt sustainable lifestyle practice or more as a reactive measure to take steps to reduce the hazardous impact on health through better community cleaning, plantation of in-door plants, trees in gardens, kitchen gardens or change in food habits or refraining from consumption of food containing toxic substances or those produced in a manner that may be detrimental to health and environment. It can be stated that different aspects of lifestyle practices may not be completely mutually exclusive and same is the case for sustainability and healthy lifestyle practice. The distinction between these two dimensions has been stated. The perspectives with which these two measures have been studied and the need to study these two aspects of lifestyle practice in a collaborative manner for better designing of environmental policies by providing more comprehensive, feasible and behaviourally realistic inputs of socio-environmental opportunities and constraints have been discussed. As human being is only a component of the environment and if the sustainability of the environment is endangered, survival of human life would be intimidated more rigorously. Hence, safeguarding the environment would begin with environmental literacy as it would transcend human behaviour and living practice in a more environmentally responsible way.

Information and marketing campaigns on environment-sustainability-health and lifestyle change may be tailored to engage consumers with different lifestyle interests based on willingness to change. Based on their feedbacks and reactions, measures may be drafted for effective product design with pro-environmental focus for the group willing to change lifestyle owing to sustainability concern or with a focus on health for the group willing to change lifestyle owing to health first and sustainability as second concern. The study may further be applied to assess how flexible individuals are to changing their lifestyle practices.

The limitations of the present exploratory study have been acknowledged. The reported results may be viewed more as hypotheses for future research than as firm-generalized conclusions. Segmentation of consumers based on multidimensional scaling has not been conducted in this study.

It may be stated that continued development and application of lifestyle management practices will enable designing of polices and strategies that seek transition towards sustainability among all stakeholders of the environment through ramification of virtue of individuals, institutions and organizations.

Table III Standardized regression coefficients

Path			Estimate	Hypotheses
Environmental literacy	→	Environmental attitude	0.32***	H1 is supported
Environmental attitude	→	Healthy lifestyle practice	0.51***	H2 is supported
Environmental attitude	→	Sustainable lifestyle practice	0.46***	H3 is supported
Sustainable lifestyle practice	→	Healthy lifestyle practice	0.37***	H4 is supported

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