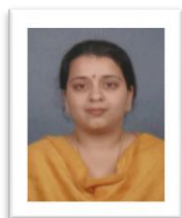


Development of a Scale for Measurement of Sustainable Habits (SHS)



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Abstract

Sustainability Education is the study of how natural systems function, remain diverse and produce everything it needs for the ecology to remain in balance. It also acknowledges that human civilization takes resources to sustain our modern way of life. Sustainability takes into account how we might live in harmony with the natural world around us, protecting it from damage and destruction. It is important that individuals adopt a sustainable way of life. The individual decisions that we make on a daily basis impact the world we live in today and the outlook for our future are known as Sustainable habits. Sustainable habits will give students and graduates insights into most aspects of the human world from business to technology to environment and the social sciences. The objective of the study was to develop a scale for measurement of Sustainable habits for undergraduates. The Dimensions of the scale are Economic development, Social development and Environmental protection. Sustainable Habits scale was prepared in bilingual form. The Content Validity of the Items was found to be 0.78 while the Split half Reliability of the Scale was computed to be 0.92. The Sustainable Habits Scale may be used to; measure the level of Sustainable habits among students and assess the utility of legal or Educational initiatives taken up for development of Sustainable habits among the youth. It will assist Teachers, Researchers and policy makers to take up sustainable development and habits as investment for the future.

Keywords: Sustainability Education, Sustainable habits

Introduction

The present decade has been marked by a retreat from social concerns. Scientists bring to our attention urgent but complex problems bearing on our very survival: a warming globe, threats to the Earth's ozone layer, deserts consuming agricultural land. We respond by demanding more details, and by assigning the problems to institutions ill-equipped to cope with them. Environmental degradation, first seen as mainly a problem of the rich nations and a side effect of industrial wealth, has become a survival issue for developing nations. It is part of the downward spiral of linked ecological and economic decline in which many of the poorest nations are trapped. Despite official hope expressed on all sides, no trends identifiable today, no programs or policies, offer any real hope of narrowing the growing gap between rich and poor nations. And as part of our "development", we have amassed weapons arsenals capable of diverting the paths that evolution has followed for millions of years and of creating a planet our ancestors would not recognize." Report of the World Commission on Environment and Development: Our Common Future

Why Sustainable Habits?

Sustainability Education is the study of how natural systems function, remain diverse and produce everything it needs for the ecology to remain in balance. It also acknowledges that human civilization takes resources to sustain our modern way of life. Sustainability takes into account how we might live in harmony with the natural world around us, protecting it from damage and destruction. It is important that individuals adopt a sustainable way of life. This can be instigated only by development of sustainable habits. The individual decisions that we make on a daily basis impact the world we live in today and the outlook for our future are known as Sustainable habits. Sustainable habits will give students and graduates insights into most aspects of the human world from business to technology to environment and the social sciences.

The core sustainable skills with which graduates will leave college or university will be highly sought after, especially in a modern world looking to drastically reduce carbon emissions and discover and develop the technologies of the future. Sustainable habits will draw on their ideas on politics, economics and, philosophy of life. Therefore, when students take up to various vocations their sustainable habits and lifestyles will impact civic planning, environmental consultancy (built and natural environment), agriculture, corporate strategies, health assessment and planning, and even into law and decision making; contributing to the economic and social development core of sustainability while promoting good environmental practices.

Objective of the Study

The objective of the study was to develop a scale for measurement of Sustainable habits for undergraduates. The procedure of development of the scale is as follows-

Item Phrasing and Procedural Details

Before framing the items, the specific aims behind the development of the scale were determined. The entire area of the tool was divided in three parts, in accordance with the tool's dimensions. These are-

1. Environmental Dimension
2. Social Dimension and
3. Economic Dimension.

In 2005, the World Summit on Social Development identified three core areas that contribute to the philosophy and social science of sustainable development. These "pillars" in many national standards and certification schemes, form the backbone of tackling the core areas that the world now faces. The Brundtland Commission described it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" They are Economic development, Social development and Environmental protection .Economic development is about giving people what they want without compromising quality of life, especially in the developing world, and reducing the financial burden and "red tape" of doing the right thing. Social development ensures that people's health and wellness is strongly protected. It is also about maintaining access to basic resources without compromising the quality of life. Environmental protection is the third pillar and to many, the primary concern of the future of humanity. It defines how we should study and protect ecosystems, integrity and sustainability of our resources and focusing on the elements that place stress on the environment

After a perusal of literature review, items were identified that could be easily understood by the subjects. The list of items was scrutinized by 5 teachers from Education, Psychology and Science Departments from Dayalbagh Educational Institute. The Investigator avoided any ambiguity and confusion regarding item phrasing. Suggestions were incorporated in order to have an adequate measure of the construct being assessed.

Sustainable Habits scale was prepared in bilingual form .The item in those forms were similar to

each other and in the same sequence. Subjects could respond on a five point scale ranging from "strongly agree", "agree", "uncertain", "disagree" to "strongly disagree". Instructions were given at the top of the questionnaire and an example was given also in order to avoid confusion. Scores of 5, 4, 3, 2, 1 were proposed to be given to the subject's responses, so that a score of one would denote minimum sustainable habits and that of five would indicate maximum sustainable habits. Thus the high total score would reflect a great degree of sustainable habits.

Try Out and Item Analysis

The preliminary draft contained 106 items. Itemwise distribution is as shown in the table below-

Table: 1

First draft of Sustainable Habits Scale (SHS)

S.N.	Dimensions	No. of items
1	Environmental	36
2	Social	37
3	Economical	33
		Total – 106 items

Experts were asked to review the relevance of each question on a 4- point likert scale (1- not relevant, 2- somewhat relevant,3 relevant, 4- strongly relevant). On the basis of expert's opinion and suggestions the researcher improved the first draft of Sustainable Habits. Language of some items was modified.

After experts rating only those items were selected which gained a score of 3 or more or ICV (Content Validity Index) count of 0.80 or more (Martuza 1977)

$$I-CVI = \frac{\text{No. of Experts recommended as relevant}}{\text{total no. of experts}}$$

$$\text{Calculated I-CVI} = 0.78$$

Second Draft of Sustainable Habits Scale (SHS) Pilot Study

The second draft was administered on the sample of 175 undergraduate students. On the basis of try out some items were modified and order of the items was altered. Thus final draft of the test was prepared.

Table: 2

Second Draft of Sustainable Habits Scale

S. No.	Dimension	No. of items in first draft	No. of items deleted	No. of selected items in second draft
1	Environmental	36	11	25
2	Social	37	04	33
3	Economical	33	06	27
	Total			85

Scoring of Items

For the purpose of scoring, the positive and negative statements's key was developed by giving a score of 5,4,3,2 and 1 for favourable items and 1,2,3,4 and 5 for unfavourable items respectively.

Reliability

Table: 3

Reliability of Sustainable Habits Scale (S H C)

S.N.	Reliability	N	Reliability Index
1	Split Half Method	106	0.92

Split half Reliability was computed. The obtained Reliability score was 0.92 which indicates high Reliability of the SHS.

Conclusion

In 2012, the United Nations Conference on Sustainable Development met to discuss and develop a set of goals to work towards; they grew out of the Millennium Development Goals (MDG) that claimed success in reducing global poverty while acknowledging there was still much more to do. The SDG eventually came up with a list of 17 items which included amongst other things:

1. The end of poverty and hunger
2. Better standards of education and healthcare - particularly as it pertains to water quality and better sanitation
3. To achieve gender equality
4. Sustainable economic growth while promoting jobs and stronger economies
5. All of the above and more while tackling the effects of pollution and other environmental factors that can harm and do harm people's health, livelihoods and lives.
6. Sustainability to include health of the land, air and sea.

Finally, it acknowledged the concept of nature having certain rights- that people have stewardship of the world and the importance of putting people at the forefront of solving the above global issues through management of the environment and of consumption (for example, reducing packaging and discouraging food waste as well as promoting the use of recyclable materials). These goals are the essence of Sustainable habits.

The Sustainable Habits Scale may be used to-

1. Measure The Level of Sustainable Habits Among Students
2. Assess The Utility Of Legal Or Educational Initiatives Taken Up For Development Of Sustainable Habits Among The Youth.
3. It Will Assist Teachers, Researchers And Policy Makers To Take Up Sustainable Development And Habits As Investment For The Future.

In the words of A. S. Timoshenko, Institute of State and Law, USSR "Today we cannot secure security for one state at the expense of the other. Security can only be universal, but security cannot only be political or military, it must be as well ecological, economical, and social. It must ensure the fulfilment of the aspirations of humanity as a whole. "

It may be concluded that security for future life can only be achieved if we adopt sustainable habits. Hence the study has long term implications.

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