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University Students' Attitudes related to Environmental, Economic, Social, and Educational Aspects of Sustainable Development

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Abstract

This research was done to evaluate students' attitudes related to environmental, economic, social, and educational aspects of sustainable development. The purpose of the study was to investigate students' attitudes related to sustainable development through an adapted tool. The study method was quantitative. Questionnaires were used to collect the data from the respondents. The population of the study was masters and bachelor students of 1 public and 1 private university in Lahore. The sample of the study was selected through convenient sampling. About 225 questionnaires were distributed for the survey to explore the attitudes of university students related to environmental, economic, social, and educational aspects of sustainable development. A total of 200 students responded to the questionnaire. Data were analysed through mean scores. ANOVA and t-tests were applied to compare the mean scores of students with various demographic characteristics. The study's conclusions showed that students show agreeable attitudes related to environmental, economic, social, and educational aspects of sustainable development. There is a need to further investigate students' practices related to Aspects of sustainable development from an economic, social, and educational perspective.

***Keywords**: Sustainable development, Aspects of sustainable development, environmental sustainability, economic sustainability,*

social sustainability, educational sustainability, Attitudes, Student's attitude related to sustainable development.

Introduction

The idea of sustainability has drawn interest from academics and professionals at both the local and global levels during the past 20 years. According to Duran et al., (2015) by balancing economic, social, and environmental support strategies, sustainable development aims to maintain system stability while also addressing the demands of future generations. Meadowcroft (2023) explains that sustainable development involves considering social, economic, and environmental factors in all decision-making processes to fulfil both present and future generations' needs. Meisam et al., (2019) define sustainability as a human life's integration of social, environmental, and economic performance within the context of society, the environment, and the economy. In summary, sustainability entails balancing the improvement of both current and future generations by addressing the social, environmental, and economic facets of human existence. Martin et al. (2017) also emphasize the importance of the three pillars of sustainability in achieving this goal.

Environmental sustainability refers to maintaining a balance between resources and avoiding damage to renewable resource systems, which includes preserving biodiversity, promoting a clean atmosphere, maintaining the quality of food and water, and other ecosystem services (Wise et al., 2013). Economic sustainability involves producing goods and services regularly, maintaining government and external economic stability, and avoiding imbalances in a nation's economy (Reed, 1997). Social sustainability aims to achieve justice and appropriate social service provision, including that for gender equity, health and education, and political responsibility and involvement (Holmberg, 1992). Educational sustainable development has been shown to positively impact capacity building and professional growth, providing students with necessary skills and key strategies for achieving sustainable development and constructive societal change (Daniel et al., 2016). In summary, sustainability encompasses environmental, economic, and social aspects, in order to achieve the aims of sustainable development, education is essential.

Attitude refers to an individual's motivational, emotional, perceptual, and cognitive processes regarding certain aspects of their world (Krech et al., 1948). When it comes to environmental sustainable development, attitudes are defined as an individual's beliefs, affect, and behaviour alimentations related to environmental issues or activities (Schultz et al., 2004). Economic sustainable development has gained the attention of economists and educators who are interested in understanding cognitive behaviour in the economic domain. Despite understanding the effects of economic decisions and policies, people may take action in an irrational manner due to their economic attitudes conflicting with cognitive understanding (Soper &Walstad, 1983). For social sustainable development positive or negative ideas, feelings, and actions towards a given entity are traits of attitudes, which are an acquired inclination to evaluate social characteristics in a particular way (Staff writter, 2020). In summary, attitudes are complex mental processes that influence an individual's behaviour towards environmental, economic, and social sustainable development.

Students' Attitudes

A student's attitude refers to their response to anything, which can be positive, negative, good, or terrible. Since 1992, UNESCO has been working to improve education initiatives for sustainable development, aiming to change people's mindset and increase awareness of sustainability-related attitudes (Scoullos, 2013). It is crucial that students and society at large discover new ways of thinking and acting to create a sustainable society through developing new skills, values, behaviors, and attitudes. As they develop future leaders and employers, educational institutions, particularly those in higher education, have a key role to play in this regard. With the global population projected to exceed 10 billion by 2100, sustainable development is critical due to limited resources. The Decade of Education for Sustainable Development in 2005 to 2014, established by the United Nations, aims to incorporate sustainable development principles and practices into all facets of education and learning.All students must be involved in sustainable development education, which covers environment, economics, politics, and culture, it is important for a sustainable world. Raising awareness among students about sustainable development is vital for success. Sustainable development education empowers educators to contribute to societal

change and prepares them for exciting career opportunities (Delors, 2002).

Purpose of the study

There were many research studies on sustainable development, in 1996 one of them focus on the sustainable development in a complex world a study by Alex Robert. The emphasis of the study lied on the meaning of sustainable development in a complex world the implications of policies and institutions the tools that could be used to aid in making decision for sustainable development in a complex world. Another study was conducted by Mog (2004)reviewed struggling with sustainability, a comparative framework for evaluating sustainable development programs as a vibrant, undefined and disputed concept.Michele and Sara (2016) reported the development and endorsement of the attitudes towards sustainable development scale, a quantitative 20-item scale that measures Italian university students' attitudes towards sustainable development.The findings of the tests depicted that the instruments meet the reliability and validity criteria. The study recommended that the attitudes towards sustainable development scale are useful for better understanding students' thinking and point of view regarding sustainability issues and thus can also be applied for the investigation of relationship among sustainability attitudes and other variables. The researcher finds the need to investigate university students' attitudes related to sustainable development in Lahore, Pakistan.

Significance of the Study

This study was conducted to determine students' attitudes related to sustainable development. It is important to identify students' sustainable attitudes at university level as students are an important element of an educational institution and to find out there interests and intensions are as necessary as educational curriculum. It is important to find out whether students' attitudes are negative or positive related to different aspects of sustainable development. This study will be helpful for future researchers to assess what university students' attitudes are related to different aspects of sustainable development.

Objectives

This study aims to:

1. Determine university students' attitudes related to environmentally sustainable development.
2. Determine university students' attitudes related to economic sustainable development.
3. Determine university students' attitudes related to social sustainable development.
4. Determine university students' attitudes related to educational sustainable development.
5. Identify the difference in attitudes of students having different demographic variables.

Method

This study adopts the quantitative research method. Design for the study was conducting the survey through questionnaire. The population of study was the students of public and private universities of Lahore, currently doing masters and bachelors. The sample for the study was selected through convenience sampling. Respondents were selected from different departments including Environmental sciences, Social Sciences, Economics, Education and others. About 225questionnaires were administered for the survey to identify the attitudes of university student's related to sustainable development. Total 200 students responded to the survey questionnaire.

Instrument

A questionnaire tool by Biasutti & Frate (2016) was adapted by the researchers. The questionnaire comprised on four aspects of Environment, economic, social and educational attitudes related to sustainable development, each aspect includes 5 statements. The tool was valid and reliable scale to test students' attitudes related to sustainable development. Students respond to these statements in 5 likert scales, which students have to answer in strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. The researcher also collected some basic demographical information for example gender, sector, and socio-economic difference from students strictly for the research purposes.

Analysis

For the analysis of different factors of sustainable development, mean scores were found and calculated. T-test was used to see the difference in mean scores of different genders. ANOVA was used to see the difference in mean scores of students having different socio-economic status.

The table 1 presents the mean scores of students' attitudes towards environmental sustainable development.

Table 1

Descriptive Statistics of Statements of the Environmental Sustainable Development

Sr. No	Environmental Attitudes on sustainable development	N	Mean	SD
1	When people interfere with the environment, they often produce disastrous consequences	200	3.86	.972
2	Environmental protection and people's quality of life are directly linked	200	3.64	1.148
3	Biodiversity should be protected at the expense of industrial agricultural production	200	3.61	1.102
4	Building development is less important than environmental protection	200	3.74	.978
5	Environmental protection is more important than industrial growth	200	3.29	1.230

Table 1 display that the mean score of the students with environmental sustainable attitudes were mostly agreeable. Students' attitudes were neutral with the mean score of 3.29 on environmental protection is more important than industrial growth.

The table 2 presents the mean score of students' attitudes towards economic sustainable development.

Table 2

Descriptive Statistics of Statements of the Economic Sustainable Development

Sr. No.	Economic Attitudes of sustainable development	N	Mean	SD
6	Government economic policies should increase sustainable production even if it means spending more money	200	3.63	1.034
7	People should sacrifice more to reduce economic differences between populations	200	2.66	1.290
8	Government economic policies should increase fair trade	200	3.60	1.046
9	Government economic policies should act if a country is wasting its natural resources	200	3.58	1.072
10	Reducing poverty and hunger in the world is more important than increasing the economic well-being of the industrialized countries	200	3.80	1.083

Table 2 displays that the mean scores of students with economic sustainable attitudes were mostly agreeable. Students show neutral attitudes with the mean score 2.66 on people should sacrifices more to reduce economic differences between populations.

The table 3 presents the mean scores of students' attitudes towards social sustainable development.

Table 3

Descriptive Statistics of Statements of the Social Sustainable Development

Sr. No.	Social Attitudes on sustainable development	N	Mean	SD
11	Each country can do a lot to keep the peace in the world	200	3.59	.994
12	The society should further promote equal opportunities for male and females	200	3.94	1.054
13	The contact between cultures is stimulating and enriching	200	3.68	1.172
14	The society should provide free basic health services	200	3.60	1.364
15	The society should take responsibility for the welfare of individuals and families	200	3.60	1.315

Table 3 displays that the mean score of the students with social sustainable development were totally agreeable.

The table 4 presents the mean scores of students' attitudes towards Educational sustainable development.

Table 4

Descriptive Statistics of Statements of the Educational Sustainable Development

Sr. No.	Social Attitudes on sustainable development	N	Mean	SD
16	Teachers in university should use student-centred teaching methods	200	3.63	1.297
17	Teachers in university should promote future-oriented thinking in addition to historical knowledge	200	3.84	1.001
18	Teachers in university should promote interdisciplinary between subjects	200	3.99	1.107
19	Teachers in university should promote the connection between local and global issues	200	3.26	1.190
20	Teachers in university should promote critical thinking rather than lecturing	200	3.77	1.201

Table 4 displays the mean score of students with educational sustainable development were mostly agreeable. Student exhibit neutral attitudes with the mean score of 3.26 on teachers in university should promote the connection between local and global issues.

Table 5 shows the t-test to find the difference in mean score of students with different genders.

Table 5

Mean Score Difference of Students with Different Genders

	Gender	N	Mean	SD	Mean Difference	Df	T	Sig
Environment	*Female*	114	3.6105	.56808	.03831	198	.406	.006
	Male	86	3.6488	.76631				

The p value for t-test for finding the difference in students' Attitudes with different genders related to environmental sustainable development was

.006, which is significantly better than economic, social and educational Attitudes.

Table 6 shows the t-test to find the difference in mean score of students with different marital status.

Table 6

Mean Score Difference Of Students With Different Marital Status

	Sector	N	Mean	SD	Mean difference	Df	T	Sig
Environment	Single	127	3.7102	.56608	.22804	198	2.383	.040
	Married	73	3.4822	.77877				
Economic	Single	127	3.4646	.55371	.02621	198	.286	.011
	Married	73	3.4384	.73307				

The p value for finding the difference in students' attitudes with different marital status related to environmental sustainable development is .040 and economic sustainable development is .011.

Table 7 shows the p value for ANOVA for finding the difference in mean score of different departments.

Table 7

Mean Score Difference of Students in Different Departments

		Sum of squares	df	Mean square	F	P
Environment	Between Groups	15.316	4	3.829	10.496	.000
	Within Groups	71.138	195	.365		
	Total	86.454	199			
Economic	Between Groups	10.488	4	2.622	7.646	.000
	Within Groups	66.867	195	.343		
	Total	77.355	199			
Social	Between groups	15.459	4	3.865	8.130	.000

	Within groups	92.701	195	.475		
	Total	108.160	199			
Education	Between groups	10.527	4	2.632	4.844	.001
	Within groups	105.951	195	.543		
	Total	116.478	199			

P level for ANOVA for finding the difference in students' attitudes from different departments was significantly better.
Table 7.1 shows the post hoc test for different departments.

Table 7.1
Post hoc test for different departments

Dependent variable	(I)department	(J)department	Mean difference (I-J)	P
Environment	Others	Environmental sciences	1.44211*	.001
		Economics	.71858*	.000
		Social sciences	.80044*	.000
		education	.55387*	.000

Post hoc test shows that students' attitudes from education department were significantly better than the students from environmental sciences and students from other departments were significantly better then environmental sciences, economics, social sciences and education department.
Table 8 shows the p value for ANOVA for finding the difference in mean score of students' time period of living in Lahore.

Table 8
Mean Score Difference of Students' Time Period of Living in Lahore

		Sum of squares	df	Mean square	F	P
Environment	Between Groups	16.754	4	4.189	11.718	.000

	Within Groups	69.700	195	.357		
	Total	86.454	199			
Economic	Between Groups	8.241	4	2.060	5.813	.000
	Within Groups	69.114	195	.354		
	Total	77.355	199			
Social	Between groups	31.002	4	7.751	19.588	.000
	Within groups	77.158	195	.396		
	Total	108.160	199			
Education	Between groups	31.085	4	7.771	17.746	.000
	Within groups	85.394	195	.438		
	Total	116.478	199			

P level for ANOVA for finding the difference in students' attitudes with the time period of living in Lahore was significantly better.

Table 8.1 shows the post hoc test for the difference of time period for living in Lahore.

Table 8.1

Post Hoc Test for Difference of Time Period for Living in Lahore

Dependent variable	**(I) years in Lahore**	**(J)years in Lahore**	**Mean difference (I-J)**	**P**
Economic	Less than a year	1-5 years	.41604*	.045
		6-10 years	.52879*	.035
		11-20 years	.61061*	.002
		More than 20 years	.83805*	.000
Social	11-20	Less than a year	.78631*	.000
		1-5 years	1.03391*	.000
		6-10 years	.70449*	.000
		More than 20 years	23412*	.032
Social	More than 20 years	Less than a year	.55219*	.009
		1-5 years	.79978*	.000
		6-10 years	.47037*	.020
		11-20	.23412*	.032

Post hoc test shows that students' who were living in Lahore less than a year were significantly better than students who were living in Lahore for 1 to 5 or more than 20 years related to economic sustainable development. Students who were living in Lahore for 11-20 years were significantly better than students who live in Lahore for less than a year or from 1-10 years and more than 20 years related to social sustainable development. Students who were living in Lahore for more than 20 years were significantly better than students who live in Lahore less than a year and students who live up to 1 to 20 years in Lahore related to social sustainable development.

Table 9present the p level for ANOVA to see the difference in mean scores of family income.

Table 9

Mean Scores of the Family Income

		Sum of squares	df	Mean square	F	P
Environment	Between Groups	7.648	4	1.912	4.731	.001
	Within Groups	78.806	195	.404		
	Total	86.454	199			
Economic	Between Groups	16.036	4	4.009	12.749	.000
	Within Groups	61.319	195	.314		
	Total	77.355	199			
Social	Between groups	27.754	4	6.939	16.828	.000
	Within groups	80.406	195	.412		
	Total	108.160	199			
Education	Between groups	32.669	4	8.167	19.003	.000
	Within groups	83.809	195	.430		
	Total	116.478	199			

The p level for ANOVA for finding the difference in attitude of students with different family incomes were significantly better.
Table 9.1 present the post hoc test for the different family income.

Table 9.1
Post Hoc Test for Different Family Income

Dependent variable	(I)university	(J)university	Mean difference	P
Social	More then 90,000	Below 20,000	.67652*	.005
		30,000-40,000	1.02727*	.000
		50,000-60,000	.95152*	.000
		70,000-80,000	.30694*	.004
Education	More then 90,000	Below 20,000	1.00076*	.000
		30,000-40,000	1.12727*	.000
		50,000-60,000	.85576*	.000
		70,000-80,000	.50588*	.000

Post hoc test shows that students with the family income of more than 90,000 were significantly better than students with the family income below 20,000 or 30,000- 40,000 or 50,000- 60,000 or 70,000 – 80,000 related to social and education sustainable development.
Table 10 present the t.testto see the difference in mean scores of students who were employed in paid work.

Table 10
Mean Scores of the Students Employed In Paid Work

	working	N	Mean	SD	Mean difference	Df	T	Sig
Economic	Yes	96	3.4646	.67652	.01843	198	.208	.026
	No	104	3.4462	.57334				

Mean score of the students' attitude related to economic sustainable development who were currently employed in paid work were

significantly better than environmental, social and educational sustainable development.

Table 11 present the t.testto see the difference in mean scores of students who ever worked voluntarily.

Table 11

Mean Scores of the Students who Ever Worked Voluntarily

	voluntarily worked	N	M	SD	Mean difference	Df	T	P
Economic	Yes	101	3.40 20	.666 63	.10711	198	1.216	.031
	No	99	3.50 91	.574 47				

Mean score of the students' attitude related to economic sustainable development, who ever worked voluntarily were significantly better than environmental, social and educational sustainable development.

Discussion

A study for measuring knowledge, attitudes and behaviours towards sustainable development (Michalos et al, 2007) proposed that the knowledge of the students from the house hold survey were very well, their attitude levels were also favourable but their behaviour were not as good. The study also exhibits that the students survey results were different form the results of the house hold survey. Their knowledge were not as advance as that of the house hold survey, Although students' knowledge and attitudes towards a topic tend to improve as they progress through the grades, there was still a noticeable decline in their positive behaviours related to the topic. Present study results depicted that students' attitudes were mostly agreeable related to environmental, economic, social and educational sustainable development. But some students show neutral attitudes related to environmental, economic, social and educational sustainable development. Hence, the student's attitudes related to sustainable development were slightly positive.

In 2018, a research by Syed and Mumtaz was carried out to investigate if students studying in Home Economics colleges had been educated on the concept of Sustainable Development (SD) through their curriculum. A survey questionnaire was given to students from six Home Economics

colleges located in Punjab to gauge their reported behaviours towards SD. The results indicated that students from Home Economics colleges exhibited positive behaviours towards SD. Additionally, there was no significant difference found in the average SD behaviour scores among students from different colleges. This study aims to identify university students' attitudes related to sustainable development. A survey questionnaire was distributed among public and private universities of Lahore. Around 200 questionnaires were collected from the students. Study shows agreeable attitudes among students.

Biasutti and Sara (2016) reported the development and endorsement of the attitudes towards sustainable development scale, a quantitative 20-item scale that measures Italian university students' attitudes towards sustainable development. The findings of the tests depicted that the instruments meet the reliability and validity criteria. The study recommended that the attitudes towards sustainable development scale are useful for better understanding students' thinking and point of view regarding sustainability issues and thus can also be applied for the investigation of relationship among sustainability attitudes and other variables.This study adapted the tool of students, attitude towards sustainable development scale to investigate university students' attitudes in Lahore, Pakistan. This study shows university students' attitudes were agreeable related to environmental, economic, Social and economic sustainable development.

Recommendations

The finding suggested that university students' attitude were mostly agreeable related to environmental, economic, social and educational aspects of sustainable development. For future research study should also investigate students' practices related to different aspects of sustainable development.This study find out that female students were more than male students. On this basis, future research should focus on male students. The investigation revealed that more data were collected from other departments conveniently other than environmental sciences, economics, social sciences and education department. For future investigation the data should be collected equally from all the departments for better results. Study shows that students who have been living in Lahore for less than a year and for more than 20 years were

significantly better. On this basis future research should also examine students who have been living in Lahore for months only. Study shows that mostly students' monthly family income was 90,000. For future research students' income resources should also be investigated. A number of 96 out of 200 students were currently working. The research findings suggested furthering investigating students' working fields and backgrounds. Data around 101 students show that they worked voluntarily. On this basis future research should examine students' volunteer working environment.

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