GREEN INITIATIVES OF HIGHER EDUCATION INSTITUTIONS (HEIS) AND STUDENTS' WILLINGNESS TO PARTICIPATE IN GREEN ACTIVITIES: A STUDY IN PAKISTAN

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ABSTRACT

Educational Institutions are expected to play their role in order to save the environment for current and future generations. Drawing on theory of planned behavior, this research aims to evaluate the impact of HEI's green initiatives on students' attitude and willingness to participate in green activities. Under the philosophical assumptions of positivism and using quantitative approach, data was collected from 281 students in different HEIs of Pakistan. Data was analyzed using Smart PLS techniques. Results indicate that HEIs' green initiatives have a positive impact on students' attitude towards environmental concern. Similarly, relationship between students' attitude towards environmental concern and their willingness to participate in green activities was also found positive. However, emotional affinity toward nature did not moderate the relationship of attitude toward environmental concerns and willingness to participate in green activities. Implications for HEIs and policy makers have also been discussed.

Keywords: Sustainable Development Goals; Higher Education Institutions; Green Initiatives; Attitude toward environmental concerns; Emotional affinity toward nature; Willingness to participate in Green activities

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1. INTRODUCTION

In recent decades, public concerns about the negative impacts of human activities on environment has increased in multiple terms (Andrea Okanovic, 2021). In order to maintain the long-term quality of the environment, it is essential to interact with the environment without degrading it (Tan et al., 2017). The United Nations has taken strong initiatives introducing laws

and governance models in order to contribute to the drive of sustainable environment (Mazzarino et al., 2020). As a result, it set some goals with respect to sustainable environment comprising responsible consumption, production, and climate action among others (Tan et al., 2017).

Pakistan has also played its part in contributing to sustainable environment especially with launch of its tree planation initiative i.e. "The Billion Tree Tsunami" (Kamal et al., 2019). All major sectors in Pakistan are contributing to such causes to spread awareness about environmental sustainability. Higher education institutes (HEI) can play a pivotal role in building more sustainable societies to fostering sustainable practices in operations, curricula and research programs in these educational institutes (Fissi, 2021). Education is vital to the pursuit of sustainability now a days that has been recognized by international organizations (Stephens et al., 2008), so the educational institutions are expected to demonstrate visible practices of their responsibility by providing awareness to the community to save the environment by promoting responsible consumption of saving resources for future generations. In Pakistan, Association for the advancement of sustainability in HEIs began in 2006, this association motivates the faculties, students, administrators and staff to play a role of change agents and sustainability innovation drivers (Aashe, 2020). A recent research evidenced that institutional commitment is one of the crucial enablers to driver sustainability (Menon, 2021).

In order to save the environment, HEIs must take some effective and wider level green initiatives. Green initiatives are those actions or activities that are being carried out to minimize or reduce the environmental impact (Molla et al., 2008). Some of the green initiatives that educational institutes can take to reduce its carbon footprints are maximizing the recycling programs, energy conservation activities, water conservation activities, greenhouse gas emission, and implementing green purchasing practices (Ling T.C., 2015). The role of HEIs in contemporary society is catalytic, and HEIs through sustainable development re-orienting the society toward cleaner production (Aleixo et al., 2018). The concept of environmental sustainability is in the infancy stage in Pakistan, but some of the universities in Pakistan such as University of central Punjab (*Tribune*, 2018), agriculture university Faisalabad (*Tribune*, 2019) and university of engineering and technology (*UET Lahore*, 2020) are taking green initiatives such as use of solar energy panels, implanting trees and water conservation activities. Still a lot

of structural and strategic reforms need to be done about sustainable practices in HEIs of Pakistan. The Government of Pakistan is also expanding its initiatives for environmental sustainability e.g. digital Pakistan initiative in which technology will be used for the welfare of society and over a time horizon for the sustainability of the environment (Nizam et al., 2020). Major portion of Pakistan's population consists of people ages from 5 to 44 (*Pakistan Bureau of Pakistan*, 2020), so the awareness of young generation is indispensable for the implementation of green activities. Similarly, Pakistani Government has also introduced the National Environmental Policy (NEP) in 2005 due to serious environmental issues such as water pollution, air pollution, deforestation, climate change and noise pollution (Farooqi & Fatimah, 2010). According to environmental performance index, Pakistan is at 142th position out of 180 countries in environmental performance with 33.1 EPI score (*Environmental Performance Index*, 2020). Moreover, cities like Lahore and Karachi have been included in top 10 polluted cities of the world (*Dawn*, 2018).

Higher management of HEIs must apprehend its societal supremacy to encourage a network of student body under their influence. Prominent accomplishments must be on the surface of the academic institutes backed by the higher education commission. It is must be communicated to the young generation to learn and understand the concept of sustainability for the green initiatives (Eddy Jusuf, 2020). Students are one of the most important stakeholders of HEIs, and lack of awareness and education is one of the major reasons that students don't take potential initiatives and cannot incorporate their competencies to sustainability (Malik et al., 2019). According to recent research, a huge gap still exists about the perception of students for the implementation of sustainability by HEIs (de Matos Pedro, 2020). HEI's requires to transform the society toward sustainability by their education curriculum, governance structures, research, outreach activities and prominent campus operations on the green initiatives of campus operational activities taken toward the sustainable environment (O'Regan, 2021). Students can ultimately pass son their initiatives to their peers and social media circles which will ultimately communicate this drive across other cities and cultures inside Pakistan. The role and initiatives of the institutes will have an enormous impact on the society in this way leading to a gradual but effective change in the youth. This research is among the early attempts to investigate HEI's green initiatives and their impact on students' attitude toward environmental concerns and students' willingness to participate in green activities. This study

also examines the moderating role of students' emotional affinity toward nature between the students' attitude toward environmental concerns and students' willingness to participate in green activities.

2. LITERATURE REVIEW

2.1 HEI's green initiatives:

Green initiatives are set of actions undertaken by a firm to minimize the negative environmental effects associated with the entire life cycle of its products or services (Pollack, 2021). The concept of sustainability has drawn considerable attention in different areas of life, such as education, agriculture, transportation and industry (J.L., 2017) and sustainability has created several challenges for HEIs as well(Nauman, 2021). HEI's are expected to be responsible for a significant influence through its teaching, research and operational activities over future leaders(Mahalaxmi Adhikariparajuli, 2021) . Environment sustainability performance of HEIs can be improved by embedding effective initiatives and these initiatives can be implemented through research, community involvement, education, and campus operations (Mohamed et al., 2020). HEIs can implement recycling programs by promoting the use of biodegradable bags, maximizing energy conservation activities by implanting solar panels to save the energy, water conservation activities by storing or reusing the water or reducing the wastage of water. HEIs may also contribute in the reduction of carbon foot prints by encouraging the use of bicycles and may also promote the green purchase practices by purchasing the devices which are not harmful for the environment. HEIs campus greening initiatives are becoming a proxy indicator in near future that can make a difference in their ranking to become a global leader in sustainability and green initiatives of HEIs are widely spread around the globe (Sima et al., 2019). Private sector HEIs are increasing in numbers and also becoming influential sector in developing Nations that imparts even more responsibility on them to contribute in sustainable development initiatives (Jegede, 2016). Changes in strategic planning initiatives, changes in organizational structures, changes in leadership strategies and collaborative efforts for the future requires more focus from the leaders in HEIs (Amui et al., 2017).

2.2 Attitude toward environmental concerns:

Attitude is defined in various ways, as a mental and emotional "construct" not directly detectable, or as a "psychological tendency expressed by evaluating a particular entity" (Gaiseanu, 2020). In psychology attitude characterizes a person. Attitude is a very important factor in forming an individual's behaviour. ''Environmental attitude is a preliminary tendency of reaction a particular individual has toward the subject around the environment'' (Onurlubaş, 2018) and attitude plays the role of one of the key elements of an individual's environmental responsibility (Dunlap & Van Liere, 1978). Students of HEIs are the part of young people of community endure the burden of the past and current carelessness towards the environment as the environmental quality strongly depends on the human behaviour patterns (Shafiei & Maleksaeidi, 2020). HEIs encourage the good environmental behaviours in the community by providing a supportive environment for students to learn and discuss sustainability issues as the students are in the age range that can be convinced that the environment is in an unfavourable situation (Vicente-Molina et al., 2018). Environmental attitude based on three things, the perception about environmental problems, the emotions or feelings that appear to the environment and a tendency to behave toward that environment(Nizar Fauzan, 2020). Researchers suggested that the environmental attitude is one of the strongest influencer toward environmental behaviour (Ballantyne, 2005) , (Kotchen, 2000), (wells, 2011),(Adrita, 2020).

2.3 Emotional affinity toward Nature:

Emotional Affinity toward Nature as a "Motivational Basis to Protect Nature." (Mullenbach, 2019). According to researchers there are three components of nature connectedness, cognitive, affective and behavioral. Cognitive component defines how an individual conceive himself as a part of the nature. Affective component addresses to what extent a person cares about the nature and behavioral component refers to how much a person is committed to the nature(Talebpour, 2020). The pride arising from acting environment friendly lead the individuals toward pro-environmental behaviors as compare to the guilt arising from their failure to act environment friendly(Schneider, 2017). According to research, personality traits are also related to environment-friendly behaviors that the positive affect broadens the perspective of an individual toward the environment, and he tends to engage in pro-environmental behaviors by engaging in such activities required to resolve environmental issues(Coelho, 2017). Affinity toward nature can be enhance in individuals from their childhood age that will promote pro-environmental

behavior. Spending of valuable time in nature can also promote affinity toward nature and attachment toward nature is demonstrated as a best predictor for environment protective behavior(Logeswari Uthama puthran, 2020).

2.4 Willingness to participate in Green Activities:

The willingness to participate of the individual is defined by its interest and accessibility of the activity in person (Carter, 2021). The research argues that the Environmental knowledge and awareness (Gan, 2021) about the safety of environment may influence an individual's willingness to participate in green activities. Many studies have concluded that pro environmentalism leads toward environment friendly behaviors (Kenichi ITO, 2020). It was highlighted by Meyer (2016) that educated individuals possess higher Sustainable development values and more concerned about the potential environmental damage (Meyer, 2016). Sustainable consumption also plays an important role in sustainability of economies(Manita Matharu, 2020). Usage of renewable energy is promising to solve environmental problems and it is also a form of green activity(Ogunmodede, 2021). Green activities are for the benefit of the environment, and developing countries need to appreciate their citizens' efforts in promoting such activities. Green activities can be encouraged at every level in every industry, such as at corporate level employees can also play their part by participating in organizational citizenship behavior toward the environment and corporate social responsibility(Malik, 2021). People with high environmental concerns and knowledge about the solution of these problems will be more engaged in pro environmental buying behaviors(Patharia, 2020).

2.5 Theory of Planned Behaviour (TPB):

Theory of planned behaviour is an extension of theory of reasoned action. Because of the limitations of theory of reasoned action, the theory of planned behaviour has been proposed (Fishbein, 1974). According to the theory of planned behaviour behind execution of any behaviour there is an individual's attitude, subjective norms, perceived behavioural control and intentions toward that behaviour. (Ajzen, 1991). The factors such as air pollution, water pollution, soil pollution, climate change, garbage problems, extinction of plant and animal species causing negative effects on the behaviours and lifestyles of the human beings and because of the increased environmental destruction, environmental provisions are taking place in constitution of the Country (YUZUAK & Erten, 2018). Theory of planned behaviour has been

used in various studies to explain the intentions and behaviours of individuals because of its validity such as it has been extended to study the intention of individuals toward sustainable bike sharing(Si, 2020). HEIs role is very influential in societal transformation toward sustainability and theory of planned behaviour is the most popular theory that has been widely used for explaining the human course of action. (Holdsworth et al., 2020). This theory remains the most widely used framework for studying individual behaviours and from the development of this theory, almost three decade ago, theory of planned behaviour has been applied to study the various environmental behaviours (Yuriev et al., 2020).

Theoretical Framework:

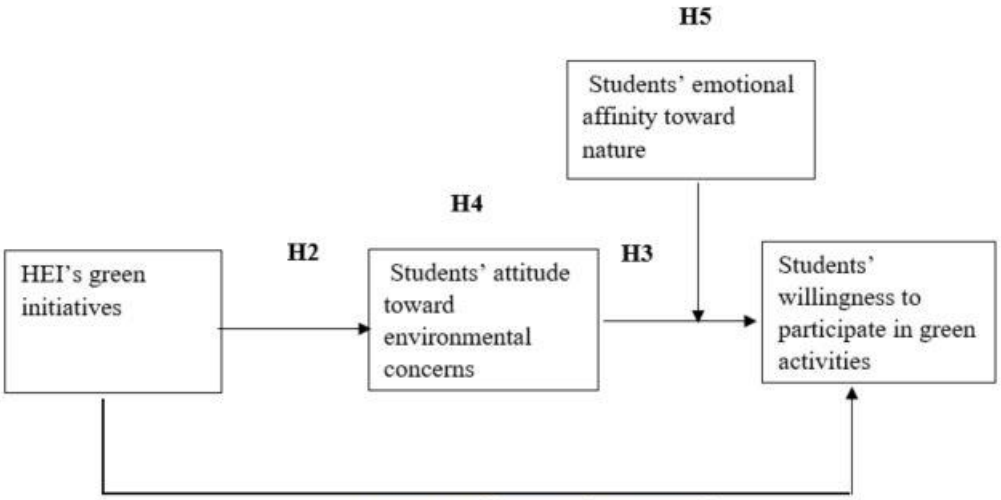

Figure 2.1 Theoretical Framework

2.6 Hypotheses Development:

2.6.1 Relationship between HEI's green initiatives and students' willingness to participate in green activities:

HEIs have a distinctive role to encourage sustainable development (Yanthi et al., 2019). The green initiatives of HEIs have visible social, environmental and economic impacts and these impacts can be obtained through the involvement of faculty and administration of HEIs (Ribeiro et al., 2019). HEIs provide the opportunities to students to take part in sustainable development of environment and become a part of sustainable society. HEIs take society towards a sustainable future by bringing transformational changes in life styles and by promoting sustainable practices and can lead by example (Amaral et al., 2015).

H1: HEI's Green initiatives has a positive impact on students' willingness to participate in green activates.

2.6.2 Relationship between HEI's green initiatives and students' attitude toward environmental concerns:

HEIs can bring a huge change in an individual's attitude by imparting knowledge and shaping an individual's sustainable intent (Milutinović & Nikolić, 2014). It was suggested in a recent research that education for sustainability should be implemented in educational sectors, otherwise environmentally sustainable practices will be obsolete(Istiqomah, 2020). HEIs character in motivating the students' attitude toward environmental concerns is of great importance.

H2: HEI's green initiatives has a positive impact on students' attitude toward environmental concerns.

2.6.3 Relationship between students' attitude toward environmental concerns and students' willingness to participate in green activities:

Attitude of a person will help to make an individual's intention to participate in green activities. There has been massive increase in environmental concerns and environmental awareness during the past three decades (Chen & Chai, 2010). It has been proved from previous research that attitude positively influence the pro-environmental behavioural intentions(Abdul Rahman Butta, 2019).

H3: Students attitude toward environmental concerns has a positive impact on students' willingness to participate in green activities.

2.6.4 Mediation effect of students' attitude toward environmental concerns mediates the relationship between HEI's green initiatives and students' willingness to participate in green activities:

Positive environmental attitude constructs a sense of obligation to act in an environment friendly manner and take decisions which are beneficial for the environment (Janmaimool & Khajohnmanee, 2019). One of the studies has been done on sustainable and the result shows that attitude positively mediates the relationship related to green purchase intention (Fazal, 2019).

H4: Students attitude toward environmental concerns mediate the relationship between HEI's green initiatives and students' willingness to participate in green activities.

2.6.5 Moderation effect of students' emotional affinity toward nature moderates the relationship between students' attitude toward environmental concerns and students' willingness to participate in green activities:

Emotional affinity toward nature is an essential element in predicting pro-environmental behavior (Allen & Ferrand, 1999). In previous studies it has been confirmed that emotional affinity toward nature explains individual's commitment to environment to a considerable extent (Taufique et al., 2014). The role of affinity toward nature is very much important to promote pro-environmental behaviors and it has been resulted in a research that the stronger connection to nature increases the people's engagement in pro environmental behavior(Julie Whitburn, 2020).

H5: Emotional affinity toward nature moderate the relationship between student's attitude toward environmental concerns and willingness to participate in green activities.

3. METHODOLOGY

The research has been conducted based on positivism epistemology. This study uses the quantitative method of analysis. The nature of the study was causal. The population was the students of HEIs of Pakistan. Data was collected from graduate and post graduate level students. Unit of analysis was individuals. The sampling technique which was used in this research is the convenience sampling technique. In this research there were 28 cases approximately, so the sample size was 281. Data has been collected through an online Google form questionnaire to answer the research questions. The questionnaire was divided into five sections, which included respondents' demographic information and variable measurement items. The scale we used was Likert scale (Strongly disagree =1, disagree 2, Neutral=3, Agree- 4, strongly agree=5).

4. RESULTS AND ANALYSIS

The first step in data analysis procedure was cleaning of data which has been done to ensure the validity of results. The normality of data has been ensured by doing descriptive analysis in which values of kurtosis and skewness has been observed.

4.1 Descriptive Analysis:

Descriptive analysis gives an idea for the distribution of data. If skewness is less than plus or minus (<+/-1.0) the data of variable is normally distributed(Nancy L.Leech, 2015). The table 4.1 contains the information about the mean, standard deviation, skewness and kurtosis of the

variables which has been used for data analysis. The threshold value for kurtosis is between +7 to -7(Byrne, 2010).

Table 4.1 Descriptive Analysis

	Mean	Standard deviation	N	Skewness	Kurtosis
Gender	1.562	0.49	281	-0.25	-1.95
Age	2.776	1.41	281	0.21	-1.22
Education	2.331	1.19	281	0.21	-1.50
Province	2.242	1.18	281	0.27	-1.46
Institution	1.548	0.51	281	0.19	-0.32
G2	3.445	0.87	281	0.13	-0.65
G3	3.359	0.86	281	0.13	-0.62
SA2	3.274	1.19	281	-0.12	-0.86
SA6	3.100	1.08	281	-0.18	-0.63
SA10	3.157	1.20	281	-0.10	-0.86
EA1	3.206	1.13	281	-0.29	-0.57
EA3	3.142	1.12	281	-0.42	-0.51
W1	3.651	0.82	281	-0.20	-0.44
W2	3.605	0.80	281	-0.26	-0.37
W4	3.641	0.81	281	-0.20	-0.42

4.2 Demographic Analysis:

Table 4.2 is about the demographic information of the respondents which include gender, age, academic qualification, from which province of Pakistan they belong to, and their institution. Data has been collected from the students of different universities of Pakistan through online Google form questionnaire.

Table 4.2 Demographic Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender					
	Male	123	43.8	43.8	43.8
	Female	158	56.2	56.2	100.0
Age					
	18-22	71	25.3	25.3	25.3
	23-27	58	20.6	20.6	45.9
	28-32	62	22.1	22.1	68.0
	33-37	43	15.3	15.3	83.3
	38-42 or above	47	16.7	16.7	100.0
Education					
	Bachelors	101	35.9	35.9	35.9
	Masters/Mphil	110	39.2	39.2	131
	Ph.D.	70	24.9	24.9	100
Province					
	Punjab	112	39.9	39.9	39.9
	Sindh	47	16.7	16.7	56.6
	Balochistan	64	22.8	22.8	79.4
	KPK	58	20.6	20.6	100.0
Institution					
	Private	130	46.3	46.3	46.3
	Government	151	53.7	53.7	100.0

4.3 Reliability Analysis:

The measurement model of Smart-PLS Measures the reliability and validity of data. The authenticity and reliability of constructs has been tested by using consistent PLS algorithm. Cronbach alpha has been calculated to ensure the internal consistency of construct items. Cronbach alpha > .07 is acceptable(Nunnally, 1978). As shown in the table 4.3, the cronbach alpha of all variables is > then .07. The table no. 3 also shows the values of composit reliability of variables and threshold for composit reliability is 0.70(Nunnally, 1978),(Gefen, 2000). Average variance extracted is a measure of the amount of variance that is captured by a construct. The threshold value for AVE is 0.50(Hair, 2012). All three variables are surpassing the range except the Attitude toward environmental concerns variable, that is showing the value of 0.49 which is very near to 0.50.

Table 4.3 Reliability Analysis

Variables	Cronbach's Alpha	Composit reliability	Average Variance extracted
HEI'S Green initiatives	0.91	0.91	0.83
Students attitude toward environmental concerns	0.76	0.74	0.49
Students emotional affinity toward nature	0.71	0.74	0.60
Students willingness to participate in green activities	0.96	0.96	0.89

4.4 Outer Loadings:

Outer loadings determine an items absolute contribution to its assigned construct and these are the estimated relationships in reflective measurement. Table 4.4 shows the outer loading of items of variables.

Table 4.4 Outer Loadings

	Students attitude toward environmental concerns	Students emotional affinity toward nature	HEI's green initiative	Students willingness to participate in green activities
EA1		0.923		
EA3		0.600		
GI2			0.918	
GI3			0.908	
SA10	0.623			
SA2	0.681			
SA6	0.800			
W1				0.894
W2				0.975
W4				0.967

4.5 Discriminant Validity:

The conventional method to test discriminant validity is Fornell and Larcker. There is also another method of heterotrait monotrait (HTMT) which shows the ratio of correlation between the variables(Ab Hamid, 2017). In heterotrait monotrait analysis, by looking at the cross loading,

the factor loading on the assigned construct must be higher than the loading on other constructs(Joseph F. Hair, 2014). Table 4.5 shows the cross loading according to HTMT method.

Table 4.5 HTMT Analysis

	Students attitude toward environmental concerns	Students emotional affinity toward nature	HEI's Green initiatives	Students willingness to participate in green activities
Students attitude toward environmental concerns				
Students emotional affinity toward nature	0.19			
HEI's Green initiatives	0.49	0.10		
Students willingness to participate in green activities	0.31	0.71	0.25	

Table 4.6 Forner Larcker Analysis

	Attitude toward environmental concerns	Emotional affinity toward nature	HEI's green initiatives	Willingness to participate in green activities
Attitude toward environmental concerns	0.705			
Emotional affinity toward nature	0.182	0.778		
HEI's green initiatives	0.506	0.105	0.913	
Willingness to participate in green activities	0.328	0.697	0.252	0.946

4.6 Model Fit:

Standardized Root Mean Square Residual (SRMR) and Non normed-Fit-Index (NFI) values are used as a threshold for model fitness in Smart-PLS. The value of SRMR between 0-0.08 and value of NFI between 0-1 indicates a good model fit(Hu, 1999). The table 4.7 shows the SRMR value and NFI values of the model.

Table 4.7 Model Fit Analysis

SRMR	NFI
0.07	0.82

4.7 R Square:

Table 4.8 R Square Analysis

	R Square	R Square adjusted
Attitude toward environmental concerns	0.256	0.253
Willingness to participate in green activities	0.551	0.545

The value of R square depicts the variance in dependent variable in percentage by the dependent variable. R square ranges are from 0 to 1(Hair Jr, 2017).

4.8 Hypothesis Results:

Figure 4.3 and Table 4.9 shows the result of hypothesis.

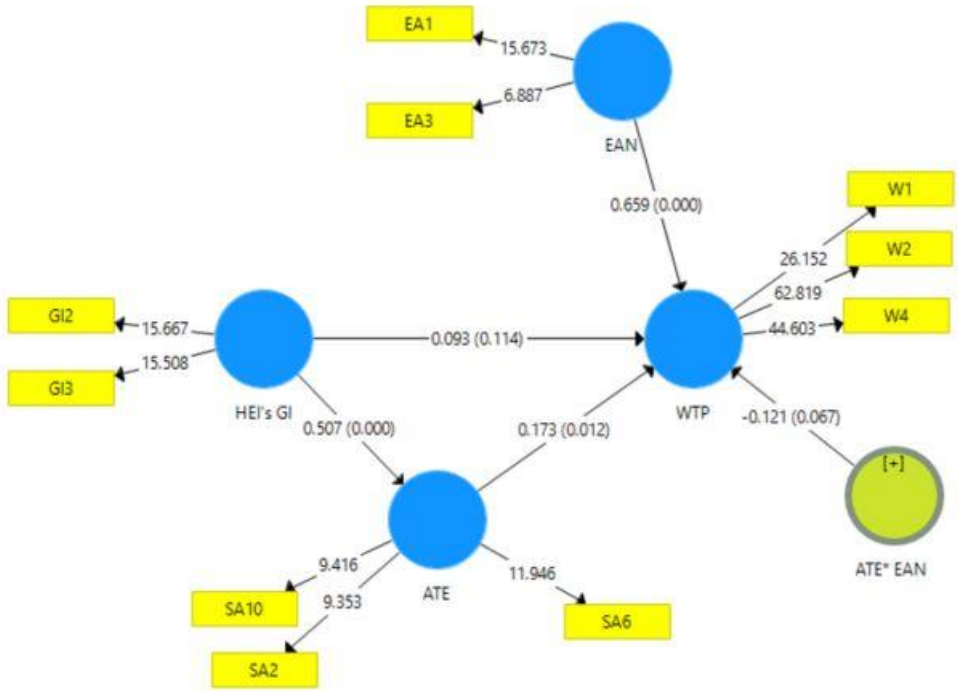

Figure 4.3 Hypothesis Analysis

Table 4.9 Hypothesis Analysis

	Path Coefficient	T- Statistics	P value	Decision
H1	**0.093**	**1.583**	**0.11**	**Rejected**
H2	**0.507**	**7.696**	**0.00**	**Accepted**
H3	**0.173**	**2.525**	**0.01**	**Accepted**
H4	**0.088**	**2.37**	**0.01**	**Accepted**
H5	**-0.12**	**1.83**	**0.06**	**Rejected**

4.9 Moderating Effect:

To analyze the moderating effect, consistent PLS bootstrapping has been done along with simple slope analysis. To check the moderating effect emotional affinity toward nature has been taken as a moderating variable and attitude toward environmental concerns has been taken as an independent variable for the willingness to participate in green activities. This Figure depicts that there is no moderating effect of emotional affinity toward nature has been observed.

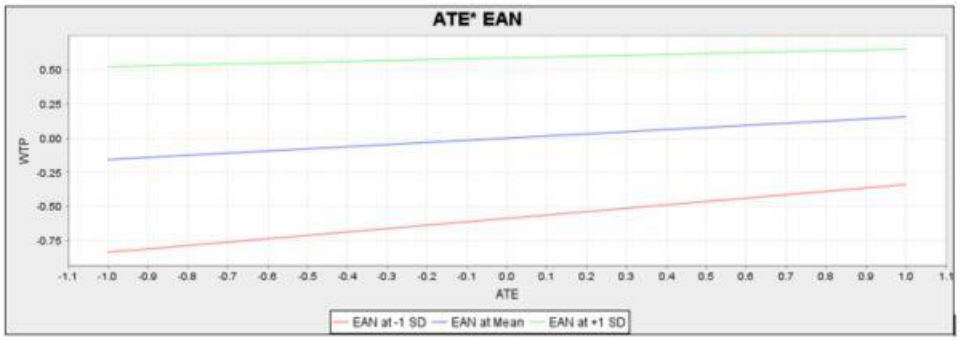

Figure 4.4 Moderating Effect

5. DISCUSSION, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH SUGGESTIONS

5.1 Discussion:

This research testifies the theory of planned behavior while addressing environmental prospective in Pakistan. The first hypothesis proposed a direct relationship between HEI's green initiatives and students' willingness to participate in green activities, which was rejected. In the view of theory of planned behavior, the reason for the rejection of this hypothesis would be the lack of explanations related to individual's attitude which is a mandatory pathway to individual's intention (Armitage, 2003). The second hypothesis proposed a positive relationship between HEI's green initiatives and students' attitude toward environmental concerns. This hypothesis is accepted as, according to the theory of planned behaviour, an indicator can affect an individual's attitude (Ajzen, 2002). The third hypothesis proposed a positive relationship between students' attitude toward environmental concerns and students' willingness to participate in green activities, and was accepted reflecting its consistency with the previous researches. This hypothesis also validates linking attitude in theory of planned behavior and his willingness to participate in green activities (Chan, 2001; Kozar, 2013). The fourth hypothesis was also accepted, which proposed that the attitude toward environmental concerns mediates between HEI's green initiatives and students' willingness to participate in green activities. This also confirms the previous research findings by Patwary (2021) in which it was revealed that an individual's attitude mediates between perceived environmental responsibility and intention to engage in a green activity such as visiting the green hotels (Patwary, 2021). The hypothesis testing has enlightened the literature with the significance of mechanisms in between the

initiatives and wiliness. In addition, a lot of other mechanisms have also been proved in literature to stem intention and behavior together (Hagger, 2021). Hardeman and colleagues (2002) in their meta-analysis on 24 studies related to the theory of planed behavior, concluded that they needed more explanations and robust analysis in order to retest all the relationships of this theory in multiple context. This hypothesis result also emphasizes on the existence of various missing phenomena's explaining the connection of initiatives with a certain attitude development. The fifth hypothesis was proposed as the moderating role of students' emotional affinity toward nature between students' attitude toward environmental concerns and students' willingness to participate in green activities. This hypothesis was rejected and the possible reason for no moderation of emotional affinity toward nature would be the cultural aspect and value system of Pakistan in which individuals are not much close to nature as the previous research explores that children's connection to nature, their perceived family value toward nature, their previous experience in nature and their perceived control positively influenced their interest in performing environment-friendly activities (Cheng, 2012; tanja Sobko, 2018). Thus, the hypothesis proves the individual's affinity irrelevant in Pakistani context unlike other studies. Another study by HC Hoang who established a positive moderating relationship of environmental concerns with the environment while testing TPB (Hoang, 2019) proved that when provided with appropriate awareness and guidance, individual concerns can influence the attitudes and behaviors.

5.2 Theoretical and practical implications:

This study supports the positive relationship between HEIs green initiatives and students' willingness to participate in green activities and is being mediated by students' attitude toward environmental concerns. Theoretically, this research encourages and promotes the HEI's green initiatives and focus on the attitudes of students towards green practices. This study enriches the understanding of a positive indicator of human intentions and attitudes. This model contributes to the body of knowledge by providing in-depth knowledge based on theory of planned behavior by creating a new phenomenon based on attitudes leading to the actions.

The practical contribution of this research is illuminating the university management with clear and comprehensive roadmap to initiate the green movements from university level to the wide spread levels. Properly communicated guidelines related to the benefit of taking green initiatives

at the operational level in campus can influx the student level movement for the green initiatives developing willingness and positive attitudes towards green practices. With the help of this model, policymakers can make policies and set the standards for implementing sustainable practices. Those practices could include plantation days, effective waste management campaigns, zero carbon day and campaigns related to global warming etc. The research upholds that such steps would have a considerable positive influence on students' attitude and willingness to contribute in the green activates. Such activities will also provide awareness at student's capacity which will snowball to their relative subcultures developing a continuous contribution to the sustainability environment.

5.3 Limitations and future research:

First, this research focuses on the campus operational level practices implemented by the HEIs only. Future research can be done by focusing on the academic level practices of HEIs such as investing in environmental research programs or introducing environmentalism courses. Secondly, the primary contribution based on the foundation of the theory of planned behavior in the literature is the testing of its theoretical model, whereas new research can focus of on the HEI's green initiatives' impact on students' actual green behavior. Third, due to the COVID situation, data was collected through a Google form questionnaire from different universities. However, in the future, the data could also be collected through a self-administered questionnaire or using qualitative interviews.

5.4 Conclusion:

The current study can significantly help HEIs in creating higher level of awareness about implementing green initiatives amongst the students. Current research can be used as a guideline by the university's management for initiate proper structured trainings for students to develop initiatives for green and sustainable environment. The primary purpose of implementing green initiatives at an operational level and to encourage the students to participate actively in environment-friendly activities. The results also provide the way forward for developing countries like Pakistan to integrate environment-friendly initiatives in HEIs regular curriculum practices to achieve sustainable development goals. HEIs need to take holistic initiatives for the implementation of the sustainability concept. By implementing the green initiatives, HEIs benefit the stakeholders and a larger social community as the stakeholders of HEIs have a vital role in

implementing the sustainability concept. This study's findings guide us to believe that policymakers and practitioners can use green initiatives to influence individuals to develop the intentions to participate in green activities.

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