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Investigating Awareness, Attitudes, and Behaviors of Geography Student's toward Sustainable Development

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بررسی آگاهی، نگرش و رفتار دانشجویان جغرافیا نسبت به توسعه پایدار

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Abstract

To gain sustainable development, balanced development with maintaining environmental values, should be think about the evolution of the biological culture of societies so that people adapt to the sustainability. The purpose of this research was to study Geography students' awareness, attitudes, and behaviors toward sustainable development at Urmia University. This study is survey research, and the statistical population is Geography students at Urmia University. Among them, 149 students were selected using random sampling method, and the required information was collected by a questionnaire. The validity of the questionnaire was confirmed based on the evaluation of experts, and its reliability was confirmed by calculating Cronbach's alpha (environmental awareness= 0.71, environmental attitude= 0.78, and environmental behavior= 0.75).The findings indicated that 25.5% of the students had a high level, 41.5% had a medium level, and 33% had a low level of awareness, and 28.2% of students had a strong, 33.5% had a moderate, and 38.3% had a weak attitude toward sustainable development. Also, 42% of students had good behavior, 32.2% had moderate, and 35.8% had poor behavior in sustainable development. The results of the correlation analysis showed that there was a significant and positive relationship between these sets: awareness and attitude, awareness and behavior, and attitude and behavior toward sustainable development. Stepwise regression analysis indicated that attitude and Grade Average predict 19% of the variation inGeography students' behavior toward sustainable development. Therefore, it can be said that environmental education and changing students' attitude toward the environment are prerequisites for achieving sustainable development.

Keywords: Awareness, Attitude, Behavior, Sustainable Development, Geography Students

چکیده

برای دستیابی به توسعه پایدار با حفظ ارزش‌های محیطزیستی، باید به تحول فرهنگ زیستی جوامع اندیشید تا افراد جوامع خود را با پایداری سازگار کنند. هدف از این پژوهش، مطالعه آگاهی، نگرش و رفتار دانشجویان رشته جغرافیا نسبت به توسعه پایدار در دانشگاه ارومیه می‌باشد. این پژوهش از نوع پیمایشی است و جامعه آماری آن را دانشجویان رشته جغرافیای دانشگاه ارومیه در سال تحصیلی ۱۳۹۸-۱۳۹۷ تشکیل می‌دهند که از بین آنها ۱۴۹ دانشجو با استفاده از روش نمونه‌گیری تصادفی ساده انتخاب شدند و اطلاعات موردنیاز با استفاده از پرسشنامه جمع‌آوری شد. روایی پرسشنامه بر اساس ارزیابی متخصصان و پایایی آن با محاسبه آلفای کرونباخ (آگاهی محیطزیستی ۰/۷۱، نگرش محیطزیستی ۰/۷۸ و رفتار محیطزیستی ۰/۷۵) تأیید شد. نتایج تحقیق نشان داد که ۲۵/۵ درصد دانشجویان سطح آگاهی بالا، ۴۱/۵ درصد متوسط، ۳۳ درصد آگاهی پایین و ۲۸/۲ درصد دانشجویان نگرش قوی، ۳۳/۵ درصد متوسط و ۳۸/۳ درصد نگرش ضعیفی نسبت به توسعه پایدار داشتند. همچنین ۴۲ درصد دانشجویان رفتار خوب، ۳۲/۲ درصد متوسط و ۳۵/۸ درصد رفتار ضعیف نسبت به توسعه پایدار داشتند. نتایج تحلیل همبستگی نشان داد که بین این مجموعه‌ها: آگاهی و نگرش، آگاهی و رفتار و نگرش و رفتار نسبت به توسعه پایدار رابطه مثبت و معناداری وجود دارد. تحلیل رگرسیون گام‌به‌گام نشان داد که نگرش و میانگین نمرات، ۱۹ درصد از تغییرات رفتار دانشجویان جغرافیا نسبت به توسعه پایدار را پیش‌بینی می‌کند؛ بنابراین می‌توان گفت که آموزش محیطزیست و تغییر نگرش دانشجویان نسبت به محیطزیست، پیش‌نیاز دستیابی به توسعه پایدار است.

واژه‌های کلیدی: آگاهی، نگرش، رفتار، توسعه پایدار، دانشجویان جغرافیا.

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Introduction

Sustainable development and its multiple dimensions, as well as environmental protection, are new concepts that are considered today in most countries. The main reason for paying attention to the policies of this development is the limited possibilities and unlimited needs and desires of human (Mensah, 2019). Following the growth of technology and population, human needs have increased exponentially, and many sources have been reduced for the current generation, and in particular for the future generation (Bongaarts, 2009). Human beings continue to behave inappropriately on the environment at individual, organizational, and social levels. These behaviors create and exacerbate environmental crises and create a serious threat to the welfare and well-being of humans and other species. In simple terms, with the spread of modernity, humans have been manipulating the environment more than ever. Giddens also considers the environmental crisis to be one of the hazardous dimensions of the modern world (Giddens, 2013).

Planet Earth is experiencing numerous problemsand the financial, and economic crisis that began in 2007 has been just one of the obvious signs of this instability in global development patterns.Although the development literature has undergone many changes since the early twentieth century to the present, and in the face of social realities and theoretical and practical bottlenecks, it has been attempting to overcomethe challenges and limitations of definitions with a more comprehensive look,andto be cover the broader theoretical and applied field; however, the challenges faced by developed countries, as well as the high number of countries that still carry the label of developing or underdeveloped, suggest that the findings of development studies have fundamental implications or have not been implemented properly and appropriately (Tencati & Pogutz, 2015).

It is a fact that full development does not happen in societies whose individuals do not have sufficient knowledge and positive attitude towards the environment. In order to prevent this, we must accept sustainability as an integral part of our lives (Van Egmond & De Vries, 2011). The concept of sustainable development was formed since the 1980s in the form of new paradigm to overcome the shortcomings such as: the over-utilization of the industrialized world from non-renewable natural resources, excessive environmental pollution, the problems caused by industrial wastes, the migration of villagers to cities and the creation of unsustainable production systems in the old paradigms of development (Pretty, 1995). Sustainable development is an interaction of economic, social, cultural-political and ecological forces (Elliott, 2012) and it points to the balance between economic, social and environmental sustainability (Hawkins et al., 2016).

Sustainable development is as the most important and the most challenging issues of the 21st century that human society is facing (Mintz & Tal, 2014). This type of development is a continuous process driven by economic, social and environmental changes, with aimed at the welfare of current and future citizens, which requires the creation of an efficient economy and resources based on a just and fair society that respects environmental limitations and environmental capacities (UNESCO, 2014). Sustainable development means giving solutions to theeconomic, social, and physical patterns of development toprevent problems such as the deterioration of biological systems, the destruction of natural resources, the excessive increase in population, injustice and the reducing the quality of human life in the present and future (Koroneos & Nanaki, 2012). Sustainable development is based on human consciousness towards himself and towards the natural resources, and demands a sustainable lifestyle for all humanbeings, and opposes excessive consumption, waste of resources, and the lack of attention to future generations andthe disconnection with the past (Li et al., 2017).

Sustainable development discusses the relationship between the environment and human society. In developing countries, there is much pressure on Local base resources, and this pressure is growing as the population grows, urbanization and rising wealth (Aikins, 2014). Sustainable development literature shows that

the most important concern of international organizations and scholars and scientific and research centers in the third millennium is the emergence of environmental problems and its increasing trend that human beings are considered as an effective factor and victim of this crisis (Napolitano, 2013). Hence, the improvement of the environmental crisis, according to most experts, depends on the reform of human teachings and the change in the attitude, insight, and knowledge of humans towards their destiny and the surrounding environment (Huckle, 1991). Regarding the importance of education in sustainable development, the United Nations named 2005-2014 as the decade of education for sustainable development.In these years, each country has the opportunity to use the education and learning behaviors, values, and necessary lifestyles for sustainable development, and places developing and industrial countries in an equal position (UNESCO, 2009). One of the overall goals of this decade was to focus the core values of sustainable development to encourage change in behavior in order to provide a more sustainable and equitable society for all (Michalos et al., 2012).

Today, sustainable development has been strongly emphasized at all levels of education in order to inspire awareness of sustainability, to preserve and improve the life quality of the present and future generations (Aziz et al., 2012). Education is a fundamental tool for sustainability, and people in the world have found that public awareness is the key to moving society towards sustainability and that economic development is not sustainable (UNESCO, 2006). Generally, developing environmental knowledge and awareness is one of the best ways to cope with environmental challenges and achieve sustainable environmental development (Wu et al., 2018).

Educations should not only focus on Promoting people's literacy level, but it should also promote the knowledge, skills, values andincreasing the living standards of citizens in a way that will lead to their sustainable livelihoods. Education for sustainable development is generally recognized as an education that changes knowledge, skills, values, and attitudes towards creating a sustainable society. The goal of education for sustainable development is to empower and equip the next generation to eliminate its needs with a balanced approach to the economy, society, and the environment (UNESCO, 2014). Environmental education can play an important role in mobilizing public opinion and their readiness to protect the environment (Altuntaş & Turan, 2018).

Environmental education is important, especially for students who are future managers and planners of the community (Heidari & Heidari, 2015). Universities have the greatest responsibility to increase the knowledge, awareness, values, and skillsneeded to create a justly and sustainable future because they have the task of preparing tomorrow's experts, decision-makers and consumers (Karatzoglou, 2013). The mission and the main activity of higher education are howfuture generations and experts become familiar with the capabilities of sustainability. Delors (1998) defined the competencies of sustainable development, learning for know (continuouslearning), learning for do (entrepreneurship and production), learning for live together (sustainable peace, environment, and sustainable development) and learning for being (responsiblyand responsive citizenship). In the next 20 to 40 years, society must adopt new strategies in order to provide the needs of the growing population fairly and sustainable in terms of the environment. Higher education plays an important role in the success or failure of this field and universities as institutions of higher education are the real place to reform and develop awareness, attitudes, and behaviors of students about sustainability (Aziz et al., 2012). Environmental knowledge means knowledge and awareness about environmental problems and possible solutions to these problems, and environmental knowledge and attitudes are closely interrelated. Attitude is acquired and lead to a person's reaction to the environment, and most importantly, it has stability and durability. In other words, if one's attitude toward sustainable development, the need for protection and prevent environmental degradation changes so that it can lead to a person's reaction and positive response to the environment, it will affect the person's behavior (Zsóka et al., 2013).

Various studies have been conducted on sustainable development. Ryan (2006) investigated the student teachers' attitudes

about education for sustainable development and concluded that the students do not have any knowledge, understanding, values, and attitudes that which would indicate a commitment to ESD, except in terms of the process of teaching. Pe'er et al. (2007) examined the environmental knowledge and attitudes of students in colleges. The results showed that although the students' awareness was low, their general attitudes to the environment were favorable. Cotton et al. (2007) investigated lecturers' understanding and attitudes towards sustainable development. They concluded that, there is a high level of support from sustainable development in all areas. Özden (2008) assessed the environmental attitudes and knowledge of students. Results showed that the female students, who have high socioeconomic level, had more favorable attitudes towards sustainable development than the other students. Walshe (2008) investigated the Understanding the conceptions of sustainability in geography students in the UK. The results showed that students have a wide variety of understanding fromthe concept of sustainability. Esa (2010) examined the environmental awareness, attitudes, and practices of teachers. The results indicate that to prepare the teachers for their role in environmental education, a more coordinated effort is needed.

Michalos et al. (2012) created an index for evaluating the awareness, attitudes and behavior of the tenth -grade student on sustainable development. This index consists of 50 items divided into three indices: the awareness of sustainable development, the favorable attitudes for sustainable development, and the favorable behavior toward sustainable development. Berglund et al. (2014) examined the effects of ESD (education for sustainable development), in terms of increasing students' sustainability awareness. They concluded that a significant difference in sustainability consciousness was found between students from schools that train with an ESD method and students from ordinary schools. Olsson et al. (2016) developed a questionnaire to investigate the sustainability awareness in Swedish Schools. In this questionnaire, thesocial, economic, and environmental dimensions of sustainable developmenthave been considered in terms of sustainability knowledge, attitudes, and behaviors. The results showed that ESD profile schools had a low positive effect on the students' sustainability awareness. Olsson and Gericke (2017) studied the influence of gender on students' sustainability consciousness. Their resultsindicate a gender gap in sustainability awareness of students. Biasutti and Frate (2017) described the validation of the university students' attitudes about sustainable development. The results indicated that theattitudes for sustainable development can be effective for concepting how students think about sustainability and can be used to evaluate the relations between sustainability attitudes and other variables. Cynk (2017) studied the environmental awareness, values, and attitudes of university students. The results showed that students generally pay attention to environmental status. Ergin (2019) studied the environmental awareness of teacher candidates and concluded that the candidate teachers have a very high environmental awareness.

Waltner et al. (2020) examined Education for Sustainable Development implementation at the local (teachers') level. The result showed that teachers' attitudes towards Sustainable Development Goals were significantly higher in 2019 compared to 2007.

Shahi et al. (2021) studied the relationship between environmental awareness, information seeking behaviour, and attitude of students. The results showed that students had moderate attitudes toward the environment.

The aim of this study was to investigate the awareness, attitude, and behavior of geography students about sustainable development. Therefore, this research seeks to answer the question of whether awareness, attitude, and behavior of geography students in the field of sustainable development have a significant relationship with each other.

Research Methodology

This research is applied and was donethrough the descriptive-correlative method. Data collection was carried out using documentary and library methods and field study. The

statistical population of this research was all geography students of Urmia University (N=245) University in the academic year of 2018-2019, that 149 of them were selected using Cochran's formula and by simple random sampling. The research instrument was a questionnaire that contained individual-educational features, a set of 13 true/false questions for examination of students' awareness, and a set of 13 and 15 Likert-type Sentences ranging from 'completely disagree' (=1) through 'No idea' (=3) to 'completely agree' (=5) about students' attitudes and behaviors toward sustainable development, respectively. These Scaleshas been adopted from Michalos et al. (2009) with a slight change. The validity of the questionnaire was confirmed by the viewpoints of experts and professors in this field. To evaluate the reliability of the questionnaire, Cronbach's alpha coefficient was calculated. Cronbach's alpha for environmental awareness, environmental attitude, and environmental behavior were 0.71, 0.78, and 0.75, respectively, which indicated good reliability. Data analysis was done using SPSS 16.0 in two descriptive and inferential sections. The percentage, mean, standard deviation, and coefficient of variation were used in the descriptive section and t-test, correlation analysis (Spearman correlation coefficient) and regression analysis were used in the inferential section. Index of Standard Division and Mean (ISDM) was used to determine the level of awareness, attitude, and behavior of students, which was introduced by Gangadharappa et al. (2007). According to ISDM standard, the level of any variable or component, such as awareness, attitude, and behavior, is determined by the distance of the desired index from its mean and standard deviation in the whole society (Gangadharappa et al., 2007).

A>Mean+½SD = strong

Mean-½SD<A<Mean+½SD =medium

A< Mean-½SD = poor

Research Findings

The distribution of the participants' demographic characteristics is presented in Table 1. Of the students, 69.8% were female, and 30.2% were male; 82.6% of the participants were an undergraduate student, and 17.4% were a postgraduate student. 76.5% of the students were living in the city, and 23.5% were living in the village. In terms of employment, 20.1% of the students stated that their fathers have a government job, and 79.9% were in the private sectors. The results also showed that the mean age of the students was 21 years (minimum18 and maximum 29 years) and their mean GPA (Grade Point Average) was 16.11 (minimum 12 and maximum 19). Average ofstudents' family members were 5 people (minimum 3 and maximum of 10people). In terms of parents' level of education, 81.8% of the fathers had Diploma and lowereducation, 9.4% had A.S. degree, 5.4% had B.S. degree, and 3.4% had M.S. and Ph.D. degree. 93.2% of the mothers had Diploma and lowereducation, 4% had A.S. degree, and 7.2% had B.S. degree.

Table 1. Distribution of Students according to Individual Characteristics

Variables	Groups	Frequency	Percentage
Gender	Male	45	30.2
	Female	104	69.8
Age	18-20	64	42.9
	21-23	62	41.6
	24-26	16	10.8
	27-29	7	4.7
Degree	undergraduate student	123	82.6
	postgraduate student	26	17.4
GPA (GradePoint Average)	12-15	44	29.5
	16-19	105	70.5
Resident	City	35	23.5
	Village	114	76.5
Father's job	government job	30	20.1
	Self-employed	119	79.9
Number of family members	3-4	60	40.2
	5-6	66	44.3
	7-8	15	10.1

Variables	Groups	Frequency	Percentage
Father's level of education	9-10	8	5.4
	Diploma and lower	122	81.8
	A.S. (Associate in Science)	14	9.4
	B.S. (Bachelor of Science)	8	5.4
	M.S. (Master of Science) and Ph.D.	5	3.4
Mother's level of education	Diploma and lower	139	93.2
	A.D. (Associate Degree)	6	4
	B.S. (Bachelor of Science)	4	2.7
	M.S. (Master of Science) and Ph.D.	0	0

As seen in Table 2, students' awareness of gender equality in sustainable development is less than the other, and the most incorrect answers are related to this item.Cultural diversity in sustainable development also has the highest incorrect answers, which indicates that students' awareness about these items is less than other items.Students' awareness about the dimensions of sustainable development and Maintaining biodiversity is more than other cases (with 94% and 86%correct answers, respectively). To determine the level of geography students' awareness toward sustainable development, ISDM was used. Based on the findings of the research, awareness of 25.5% of students toward sustainable development was high, 41.5% was medium, and 33% was low.

Table 2. Geography Students' Awareness of Sustainable Development

Sentence	Correct answer		Wrong answer	
	Frequency	Percentage	Frequency	Percentage
K1. Environmental conservation, social development, and economic development are essential for sustainable development.	140	94	9	6
K2. Education for sustainable development stresses Training of Peace Culture.	124	83.3	25	16.8
K3. Sustainable development emphasizes social justice.	121	81.2	28	18.8
K4. Sustainable consumption is the use of goods and services in ways that minimizes the use of toxic chemicals and natural resources and reduces waste.	115	77.2	34	22.8
K5. Education for sustainable development stresses gender equality.	81	54.4	68	45.6
K6. Helping poor people to get out of poverty is an essential condition for more sustainability.	106	71.1	43	28.9
K7. Education for sustainable development aims to balance economic and human welfare with cultural traditions and in relation to the natural resources.	128	85.9	21	14.1
K8. Integrated social responsibility is suitable to sustainable development.	127	85.2	22	14.8
K9. Preserving fresh water is not our priority because we have enough drinking water.	126	84.6	23	15.4
K10. Conservation of biodiversity (the variety and number of living organisms) is necessary for the effective functioning of ecosystems.	128	85.9	20	14
K11. Education for sustainable development protects cultural variety.	96	64.4	53	35.6
K12. Using of non-renewable resources, such as oil, should not exceed the sustainable renewable resources.	109	73.2	40	26.8
K13. Estimating the value of services that the ecosystem prepares to us, such as eliminating air pollution or water purificationis useful.	107	71.8	42	28.2

(*: Except thissentence that correct answer is No, in other sentences, the correct answer is yes.)

Table 3 is shown the attitude of geography students toward sustainable development. As it is seen, informing to people about sustainable living in the community is the priority, and students believe that people need to be informed about sustainable life in the community and should be trained the perspectives, values, issues, and life skills. Poverty reduction is the second priority, and students believe that poverty reduction is amain subject in education for sustainable development. Overuse of natural resources is in the third priority, and students have posed this to be a major threat to the health and well-being of next generations.A review of the mean of attitude items shows that the mean of 9 items from a total of 13 items was more than 4, which means that students have much agreement together in expressing their attitudes about these items and emphasize their importance.Classification of Students' Attitudes, according to ISDM,also showed that 28.2% of students had a high attitude, 33.5% had medium, and 38.3% had a low attitude.

Table 3. Geography Students' Attitude toward Sustainable Development

Sentence	Mean	Standard deviation	Coefficient of variation
A1. Everyone needs to be informed about sustainable life in the community and should be trained the perspectives, values, issues, and life skills.	4.39	0.73	0.17
A2. Overusing of natural resources is a major threat to the health and well-being of next generations.	4.20	0.77	0.18
A3. Accepting sustainable development as a national priority is a key factor to maintaining Iran's position as one of the most livable places in the world.	4.02	0.89	0.22
A4. Citizenship education is a major part of education for sustainable development.	4.10	0.83	0.20
A5. Governments should encourage the use of vehicles that are more fuel-efficient.	4.05	0.97	0.24
A6. Poverty reduction is a mainsubject in education for sustainable development.	4.36	0.79	0.18
A7. The present generation must ensure that the future generation will be the heirs of a community that is as healthy, productive, and diverse, as it is today.	4.04	0.99	0.24
A8. Manufacturers should reduce the use of disposablesmaterials.	4.08	0.92	0.22
A9. Companies that are environmentally sustainable will be beneficial in the long run.	3.87	0.95	0.24
A10. Protecting the environment, strict laws and regulations are required.	4.18	0.98	0.23
A11. Training on sustainability principles should be part of the curriculum in all academic disciplines and at all levels in schools.	3.99	0.92	0.23
A12. Sustainable development will not occur until the rich nations stop the exploitation of natural and human resources of poor countries.	3.54	1.07	0.30
A13. The tax on pollutants must be increased to compensate for the damage to the environment and society.	3.79	1.06	0.28

*Range of mean: Min=1, Max=5 (In the table above, all sentences are presented as positivesentence)

Table 4 shows the behavior of geography students about sustainable development. Students put the use of environmentally friendly goods and services in the priority and stated that they would tryto use these goods. Ensuring gender equity at home, school, and work are considered as the second priority behavior from the students' perspective towards sustainable development. The change of personal lifestyle to reduce waste and residue is also in the third priority, and students are trying to live in ways that reduce waste and residue. Looking for signs of ecosystem deterioration, recycling materials at home and volunteering with charities are the behaviors that students have done less, and these are in the last priorities. Classification of Students' behavior based on ISDM showed that 42% of students

had a good, 32.2% had medium and 35.8% had poor behavior toward sustainable development.

Table 4. Geography Students' Behavior toward Sustainable Development

Sentence	Mean	Standard Deviation	Coefficient of Variation
B1.I try to use goods and services in my life that are environmentally friendly.	4.07	0.89	0.22
B2.I have changed my lifestyle to decrease waste.	3.89	1.01	0.26
B3.I do not purchase goods from companies that have bad records on social responsibility.	3.71	1.02	0.27
B4.I conversation to others about how to help poor people.	3.44	1.12	0.32
B5.I do not use pesticides, chemical herbicides and chemical fertilizers.	3.51	1.17	0.33
B6.I disassociate waste by the waste separation directive in home, school, workplace, public places, etc.	3.48	1.20	0.34
B7.I finance my savings in institutions that are ethically answerable and responsible.	3.87	0.97	0.25
B8.I care about gender equity at home, school, workplace, and so on.	3.95	1.02	0.26
B9.I try to recycle the material at home as much as possible (I use recycled material again).	3.31	1.19	0.36
B10.I vote in councils and NGOs electionsif necessary.	3.58	1.21	0.34
B11.I would like to spend a course that discusses sustainable development.	3.41	1.19	0.35
B12.In our home, the household duties, regardless of their gender, are equally divided among family members.	3.71	1.07	0.29
B13.I always follow up the signs of ecosystem destruction	3.08	1.11	0.36
B14.I cooperate voluntarily with localand regional charities.	3.36	1.16	0.34
B15.I prefer to bike to places or walk instead of going by car.	3.44	1.95	0.86

*Range of mean: Min=1, Max=5

Table 5 shows the results of correlation analysis between awareness, attitude, and behavior of students in the field of sustainable development, as well as the relation of Grade Average Point (GPA) and age with these variables. The results of the research showed that there is a positive and significant relationship between students' awareness about sustainable development and their attitude toward sustainable development (r = 0.376, sig = 0.000), between students' awareness and their behavior toward sustainable development (r = 0.204, sig = 0.013), and between students' attitude and their behavior toward sustainable development (r = 0.387, sig = 0.000). In other words, whatever the students' awareness from sustainable development is more, their attitudes towards sustainable development will be more favorable, and whatever the students have a more favorable attitude toward sustainable development, they will have more friendly behaviors with the environment, and, as a result, their behaviors will be more consistent with the criteria for sustainable development. Also, according to Cohen's classification, the relationship between awareness and behavior is poor, and the relationship between awareness and attitude and between attitude and behavior is moderate (Cohen, 2013). Consequently, if students are supposed to behave appropriately with the environment and move in line with the goals of sustainable development, changing their attitudes towards sustainable development will be more important than increasing their awareness in this area. The results also showed that there is a positive and significant relationship between student's Grade Average and their awareness (r = 0.214, sig = 0.019) and behavior (r = 0.218, sig = 0.017) toward sustainable development. In other words, whatever the student's Grade Average is high, their awareness and behavior toward sustainable development are more favorable. According to Cohen's classification, the relationship between the Grade Average with awareness and the grade average with behavior is poor. Correlation between student's age and their awareness, attitude, and behavior toward

sustainable development is also positive and significant. There was no significant correlation between student's gender, residences, Father's job, Number of family members, and Parent's level of education with their awareness, attitude, and behaviortoward sustainable development.

Table 5. Pearson Correlations among Students' Awareness, Attitude, and Behavior toward Sustainable Development

Sustainable Development	Awareness	Attitudes	Behavior
Awareness	1		
Attitudes	0.376**	1	
Behavior	0.204*	0.387**	1
GPA	0.214**	0.13	0.218**
Age	0.170**	0.265**	0.203**

*: Significant at 5% **: Significant at 1%

Table 6 shows the comparison of awareness, attitude, and behavior of undergraduate and postgraduate students about sustainable development. According to the results of the research, there is a significant difference between the level of awareness and attitude of undergraduate and postgraduate students towards sustainable development at 1% significant level. Therefore, it can be said that the level of awareness of postgraduate students is more than undergraduate students, and they have a more favorable attitude towards sustainable development than undergraduate students. Comparison of the behavior of undergraduate and postgraduate students showed that there was no significant difference between the two groups in terms of sustainable development.

Table 6. Comparative Analysis of Students' Awareness, Attitudes and Behavior toward Sustainable Development Based on the Degree of Education

Variable	Variable Classes	Frequency	Standard Deviation	Mean	T	P-value
Awareness	undergraduate student	123	2.3	9.8	-3.48	0.001**
	postgraduate student	26	1.8	11.5		
Attitude	undergraduate student	123	6.2	52.3	-2.52	0/01**
	postgraduate student	26	5.5	55.6		
Behavior	undergraduate student	123	9.6	53.2	1.61	0.11
	postgraduate student	26	7.5	56.5		

Stepwise regression was used to study the effect of different variables on students' behavior toward sustainable development. In this method, independent variables of awareness, attitude, Grade Average, age, and degree of education were used to examine their impact on the dependent variable (students' behavior toward sustainable development). In this study, results of the regression analysis indicated that attitude and Grade Average explained 19% of the variation in students' behavior toward sustainable development. According to table 7, attitude explains 16% of the variation in students' behavioralone, and it can be said that this variable is one of the factors affecting students' behavior toward sustainable development. The Grade Average also explains 3% of the variation in student's behavior. The Beta (β) scores are coefficients of regression that are standardized using zero and standard deviations of one. These values may be considered as percentages of a complete step, thereforewhen the amountsof one predictor are kept constant in an equation, and the amount of the other predictor changes one complete step, the amountof the dependent variablewill change a certain percentage. The Beta value for the attitude is 0.38; this means that if attitude value increased by one complete step, the behavior value would increase by 38% of a step. Comparison of the Beta score for attitude and Grade Average shows that attitudeis more effective than Grade Averagebecause a change in the Grade Averagevalue of one complete step would only change thebehaviorsvalue by 17% of a step.

Table 7. The Coefficients of Variables in Regression Analysis

Variable	R	R^2	Beta	t	sig
Attitude	0.30	0.16	0.38	4.45	0.000
GPA	0.43	0.19	0.17	2.02	0.000

Conclusion

Preventing environmental crises and protecting the environment is primarily related to the human factor (ideology, culture, and environmental awareness of humans). Therefore, it is necessary to pay much attention to skill training and environmental education (Derevenskaia, 2014). Selfish thoughts and attitudes are also the results of the lack of human'sawareness and responsibility to nature. This theory has been accepted among most environmental experts that ultimate goal in environmental education is to influence the behaviors of audiences and to educate active citizens (Eilam & Trop, 2012), and as mentioned earlier, universities have a great responsibility in this regard.This study was conducted to assess the awareness, attitudes, and behaviors of geography students toward sustainable development. The results indicated that there is a significant relation between students' awareness of sustainable development and their attitude and behavior. Other researchers have also come to this conclusion (Aziz et al., 2012). Hence, increasing students' awareness about the environment and sustainable development can help to improve their attitude and behavior in this regard. The research findings also demonstrated that there is a strong and significant relationship between students' attitude about sustainable development and their behavior toward sustainable development. Regression analysis also showed that attitude explains 16% of the variation in students' behavior toward sustainable development. In other studies, the importance of attitude and the needs for change in people's attitude has been emphasized to improve sustainable development (Hay, 2006; Eilam & Trop, 2012). Changing attitude is a prerequisite for behavior change and is a prerequisite for the emergence of environmental behaviors (Bonnett, 2002),and researchers have emphasized on attitudinal structures in environmental education (Eilam & Trop, 2012), and acquiring environmental attitudes is considered as a step towards the improvement of environmental behavior (Nickerson, 2002; Waltner et al., 2020).Based on the findings of this research, awareness, attitude, and behavior of postgraduate students toward sustainable development are more than undergraduate students, and the status of postgraduate students in these fields is better than those.In regression analysis, the Grade Average is defined as another variable that influences students' behavior. This result is in agreement with the findings of the researchers (Kahriman-Ozturk et al., 2012; Berglund et al., 2014).

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