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- The relationship between university students' interest in the environmental field and their eco-friendly practices
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The relationship between university students' interest in the environmental field and their eco-friendly practices

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Abstract

This study explores the mechanisms through which young people become interested in environmental issues, and whether this interest leads to action. Accordingly, we offer a summary of the findings to be gained from the existing academic literature. In addition, we analyze the correlation between young people's interest in, and knowledge of, the environment and practices oriented towards environmental conservation (activities on social media, consumption of eco-friendly goods, discussions around environmental issues, etc.). For this purpose, a survey was conducted targeting university students. In this study, the independent variable was the respondents' degree of interest in the environment and the extent of their knowledge about the matter. We then quantified their behavioral patterns (the dependent variable) and conducted a multiple regression analysis. The results show a significant positive correlation between these variables. Young people who showed a greater level of interest in, and knowledge of, environmental issues, were more likely to research, discuss and disseminate environmental-related materials on social networking services (SNS). This finding provides policy suggestions and implication for Japan's environmental education.

Key Words: Eco-conscious behavior, Environmental interest and knowledge, SNS, University students

1. Introduction

Climate change, and the Sustainable Development Goals are recognized by society as a global challenge for humanity. Discussions of climate change in Japanese media frequently cite Greta Thunberg, a young environmental activist who instigated a “school strike for the climate” in front of the Swedish parliament in 2018. Many people who joined Thunberg's strike informed her of the various actions they had taken, such as stopping flying, driving less, and becoming vegan, all inspired by her actions (Ernman et al., 2019). In 2019, 224 academics signed an open letter in support of Thunberg's strike (The Guardian, 2019); UN Secretary General Guterres (2019) also later endorsed her actions. Thunberg has since become a key actor in the global movement on climate change. At the World Economic

Forum in Davos in 2019, she spoke of the need for radical/wholesale social change and stressed the critical importance of climate change (Ernman et al., 2019).

We are interested in the first steps which young people take toward action, as borne out in the statements of those who visited Thunberg's strike. We argue that it is important to focus on what triggers an interest in environmental issues in the first place. We start from the observation that, in order to inspire action, it is important to first raise awareness and galvanize more people to take action for the environment. This study set out to identify the extent of interest in environmental politics among students, including when and why they became involved. Furthermore, it asks whether the extent of their interest and knowledge necessarily leads to action. Our research sample comprised university students majoring in environmental science. Environmentally conscious university students are being found to have a key role in initiating sustainable practices in both local and global communities, as well as in shaping the economy (Ripollés and Blesa, 2024).

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2. Literature Review

In recent decades, the promotion of environmental behavior research has increased. Environment psychology is a field concerned with transactions between humans and their environments. This field of research explored individuals' beliefs, attitudes, and behaviors, and has contributed to conceptualizing human-environment interactions, discussing the theoretical issues, developing the methodological considerations, and conducting experimental studies examining the empirical evidence. Therefore, numerous behavioral models have attempted to examine how people become interested in the environment and demonstrate their behaviors in an environmentally conscious way. This section provides a review of literatures in two topics: environmental interest and environmental behavior.

2.1 Environmental interest, awareness and attitude

The common assumption is that interest is a psychological state of attention (Krapp, 2007), affecting toward a particular achievement goal (Harackiewicz et al., 1997) and mediated by task values (Hulleman et al., 2008). It has been shown that interest is influenced by 'personal interest' along with the characteristics of the topic as well (Schiefele, 2009). In studies where individuals are the focus, 'personal interest' is seen as being related more stable preference or tendency to engage with a subject and is believed to be linked to persistence and effort along with motivation. Several previous studies have measured personal interests by using a measure of interest related to specific subjects and major that students studied (Li and Toyama, 2016) and learning motivation into entrepreneurial actions (Ripollés and Blesa, 2024). For the environmental interest, there are hundreds of studies to identify dimensions of environmental psychology regarding environmental concern and attitudes (Grob, 1995; Kaiser et al., 1999; Milfont and Duckitt, 2010). Thus, the measures have been developed based on a variety of conceptual and theoretical frameworks. In general researchers have postulated that interest in environmental field forms in terms of people's perception and awareness, feelings or emotional responses and value-related aspects about a specific topic (Schiefele et al.,

1993; Schultz et al., 2004). Later, Hidi and Renninger (2006) found that there are different phases in the development of interest, with different relative importance of aspects such as emotion, value, and knowledge. According to Renninger and Hidi (2011), as interest develops, knowledge about the source of interest, i.e., structural or procedural knowledge about an activity or idea, builds up at the same time. In order to accurately measure how strong or deep a level of interest is, a measurement of knowledge should also be taken. Li and Toyama (2016) created a new interest measure based on previous research and assumed a three-factor structure of "emotion," "cognition," and "knowledge," and, utilizing this interest measure, conducted a study measuring university students' interest in learning fields.

2.2 Environmental behavior

A well-developed theory of environmental behavior is the theory of planned behavior (TPB), a social psychological model that has identified psychosocial factors that determine individuals' decisions to engage in environmental activism (Ajzen, 1991). Ajzen and Fishbein (2005) further addressed and found that several aspects influence an individual's perspective and determine whether a person can engage in a behavior. As a result, personal, social, and informational factors directly influence behavioral intention, which ultimately help predict behavior.

To date, a lot of research has been conducted to measure behavioral intention and relevant determinants in environmental fields using this theory or applying it in a modified or developed form. Rausch and Kopplin (2021) studied consumers' purchase intention and behavior regarding sustainable clothing using the Theory of Reasoned Action (TRA) approach. Yadav and Pathak (2016) supported the applicability of TPB in predicting young consumers' green purchase intention. Fielding et al. (2008) adopted TPB to investigate intentions to engage in environmental activism. In the meanwhile, among these, there are many studies targeting university students. University students are a unique social group, with great adaptability in terms of values and behavioral intentions and play an important role in environmental protection and sustainable development. (Kurokawa et al., 2023). Galati et al. (2022) investigated consumers' behavior and the related factors that influence their

behavior pertaining to the purchase of mineral water bottles made with eco-friendly packaging, targeting university. They found that there is a high sensitivity to pay for the purchase of green bottles. Roy (2023) investigated undergraduates' reuse intentions about using reusable drinkware on campus using structural equation modeling. It concluded that moral norms and all theory of planned behavior (moral norms, green university initiatives, and environmental values) constructs influence students' intention to reuse reusable cups, and behavioral control has the highest impact. Liu (2023) explained how narrative transportation influences the environmental intentions of university students and also examined the mediating roles of empathy with nature and environmental attitudes, as well as the serial role. Ibiyeye et al. (2024) investigated the extent of sustainability awareness among architectural students in Nigeria and how effectively they incorporate sustainability principles into their building design projects.

3. Materials and Methods

Students' environmental interest and related conscious behavior can be conceptualized as a continuum spanning from the abstract to the concrete. Abstract actions reflect desired outcome through being interested, recognizing the issues, collecting information, accumulating specialized knowledge, which further extends to thinking about solving a problem, proposing new ideas or developing the concept of sustainability. Concrete actions comprise dissertating the issues and problems, discussing and debating about the issues with others, taking actions to improve problems (volunteer activities - one-time or irregular actions), and practicing in life as a habit.

This study firstly focused on the motivating factors, which are referred to as triggers in the study and the associated time period of these interests. Secondly, the study looked into the degree of students' interest in the environmental field and the subsequent influence on their behaviors. It describes the following two questions.

Q1: When did survey subjects become interested in environmental issues and fields, and what was the most impactful trigger?

Q2: Does their interest and knowledge in the environmental field influence their sustainability practices?

The sample of this study was university students majoring in the environmental field, as we assumed that this would provide useful data on environmental education and related interests. In order to gather data on these questions, we enlisted a questionnaire as a research method with questions based on the following sections.

3.1 Students' environmental interest triggers and timeline

In order to identify the period when students are most interested in the environmental field, this study reviewed the environmental education policies in Japan as summarized in Box 1, and focused on five periods: early childhood, elementary school, middle school, high school, and after entering university. The study then asked students to select the first time that they paid attention to environmental issues and recognized their own environmental attitude or the related field.

In terms of the triggers that generate and promote the interest of the environmental field for students, the study pre-listed 11 possible triggers and categorized them into five areas as listed in Table 1: *School Education, Information, Disfavorable Experience, Favorable Activities, and Opportunity*.

There is a critical role of educational interventions in enhancing students' understanding of environmental conservation (Kevrekidis et al., 2024). Given the positive impact of environmental education in school on students' critical thinking and problem-solving skills, *School education* is one of the most influential factors on student's value judgments on environmental matters. This is why school class has been included as a category.

In addition to schooling, students' value orientations and behaviors are influenced by other non-formal forms of education. Outside of school, students are exposed to huge amounts of information, which are delivered through various channels such as TV media, social networks, newspaper/magazines, as well as by their friends or family. Altin et al. (2014) found that secondary school students attain information regarding environmental issues via mass media (i.e., audio, printed and visual media). Thus, *Information* that was sub-specified with the above four elements was adopted as a trigger category.

An individual's environmental mindset is related to their feelings or emotional reactions to environmental

issues (Tam and Milfont, 2020), which may be accumulated through experience. Milfont and Duckitt (2010) argued that an environmental mindset has been associated with “a psychological tendency expressed by evaluating the natural environment with some degree of favor or disfavor.” Referring to Milfont and Duckitt (2010), we include two categories, disfavorable experience (fear from the environment) and favorable activity (a sense of accomplishment through environmental conservation activities and practices). The **disfavorable experience** category is related to facing environmental problems personally, such as exposure to environmental pollution caused by human economic activities or experiencing natural disasters. One study found that willingness to conserve the environment increased when the situation seemed severe (Van Vugt and Samuelson, 1999). **Favorable activities** for environmental conservation are carried out as practical training i.e., voluntary program. This practical experience gives students the opportunity to think about the importance of the conservation of nature. Choosing a major when entering university and looking for a job serve as an **Opportunity** for students to reflect on their areas of interest (Li and Toyama, 2016). Because of this, the opportunity is reflected as a trigger and consists of two items: university admission and future careers.

Table 1 Items related to triggers.

Category	Items	Details
School	Classes	Learned environment-related topics in school classes
	Media	Gained the information of environmental field on TV and other media
	Activity on SNS	Searched and posted contents on SNS about the environmental issues
	Paper articles	Read newspapers, magazines or books regarding environmental issues
	Hearing	Heard others (parents, friend etc.) about the environmental issues
Experience	Issues	Experienced of environmental destruction and pollution
	Natural disaster	Experienced of natural disaster
Activity	Volunteer	Participated in environmental-related volunteer activities
Opportunity	Entering university	Enrollment in a university
	Career	Future career

Box 1 Environmental education policies in Japan

The Ministry of Education, Culture, Sports, Science, and Technology (MEXT) states that as a basis for lifelong learning, “dealing with environmental problems and making efforts to conserve the environment are inevitable issues for all people in the future and are major subjects for lifelong learning. Environmental education in schools is a prime example of lifelong learning and should be positioned as a fundamental part of it” (MEXT, 1991). The Ministry developed a step-by-step curriculum that covers the entire growth process from early childhood to high school. As a result, environmental education is a core element of primary education, and various measures and initiatives have been implemented to date. In 2003, the Law concerning the Promotion of Motivation for Environmental Conservation and Environmental Education was enacted. The following year, the Cabinet approved the Basic Policy on the Promotion of Motivation for Environmental Conservation and Environmental Education based on this law. In 2006, the Fundamental Law of Education was revised, to include new education goals found in Article 2 which stated, “to cultivate an attitude that respects life, cherishes nature, and contributes to the conservation of the environment.” In 2008, the report of the Central Council on Education included environmental education on the list of matters to be improved across the board, including strengthening from the perspective of responding to changes in society. Ever since then, the law's content was supplemented and there is a current need for a new structure of environmental education that incorporates ESD (Education for Sustainable Development) based on the above description. The three goals of environmental education in elementary schools are to develop a rich sensitivity to the environment, develop views and ways of thinking about the environment, and to advance practical skills to work with environmental issues (National Institute for Educational Policy Research, Curriculum Research Center, 2014). These goals are important aspects of the curriculum that form the basis for the principle underlying environmental education stated in the new Courses of Study for elementary, junior high, and senior high schools (MEXT, 2010). MEXT (2010) describes the importance of this as “to cultivate morality as the foundation for nurturing Japanese people who have the initiative to contribute to environmental conservation and develop the future.” Later, in elementary, junior high, and high schools, teachers are directed to work on creating a common understanding and awareness of the issues, as well as how the subjects are interrelated based on the MEXT's Courses of Study (MEXT, 1991). Additionally, there is a focus on ensuring environmental education is conducted throughout the schools' educational activities.

3.2 Analysis of the association between environmental interest and behaviors

3.2.1 Analytical framework

For the second research question of this study, “does their interest and knowledge in the environmental field influence their sustainability practices?”, an analytical framework is developed as shown in Figure 1. The explanations for the independent and dependent variables are as follows.

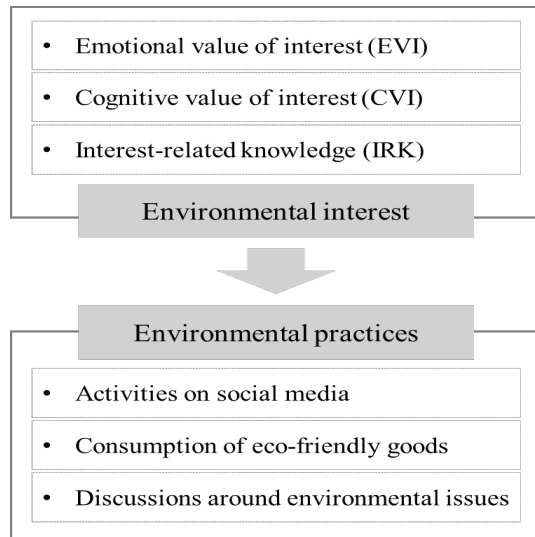


Figure 1 Analytical framework

3.2.2 Independent variables: students' interest measure

We measured students' environmental interest and knowledge and also adopted those as independent variables. Someone's interest or attitudes are a latent construct and as such cannot be observed directly. Thus, rather than being measured directly, these have to be inferred from explicit responses. Thus, we used direct self-report methods through a question based on interest measure studied by Li and Toyama (2016). Li and Toyama (2016) considered students' major selection as a decision based on general personal interests and measured these interests by dividing them into three factors: interest based on emotional value (EVI), interest based on cognitive value (CVI), and interest-related knowledge (IRK). The three factors included four statements. We modified the factors and statements to this study's purpose (Table 2). Students were asked to respond to a series of statements on a scale from 1 to 7, where 1 denoted 'not at all true' and 7 'very true.' The combined score (Max = 28) was used as a metric for

three factors and equation 1 shown in 3.2.4.

Table 2 Classification of interest measure and question items for each category

Factor	Description	Valuation
Emotional value of interest (EVI)	1. You look forward to learning more about environmental issues.	
	2. The content of the field is interesting to you.	
	3. The environmental field is attractive for you.	
	4. You like the environmental field.	
Cognitive value of interest (CVI)	1. Knowledge related to the environment will be helpful for your development.	
	2. Knowledge related to the environment is important to you.	
	3. It is important to think about environmental issues.	1: not at all true,
	4. Gaining knowledge about the environment is valuable to you.	7: very true
Interest-related knowledge (IRK)	1. You have an extensive knowledge of the environmental field.	
	2. You can draw on significant knowledge to respond to environmental issues.	
	3. You can talk a lot about environmental issues.	
	4. You know where to go to learn more about the environment.	

3.2.3 Dependent variables: students' practices and actions

Environmental interest and awareness drive sustainable practices. There are a range of pro-environmental behaviors, such as recycling, saving energy and water, using reusable water bottles, reducing food loss and waste, separating waste and other eco-friendly practices.

In this study, we considered environmentally conscious behaviors that would influence and promote others, such as Greta Ernman Thunberg's actions. As a result, the dependent variables, such as eco-friendly practices and behaviors, SNS activities such as reading environmental articles and posting environmental conscious content, discussing environmental issues and

problems with people, purchasing behavior that prioritize environmentally conscious products and the voluntary activities for environmental conservation were selected.

The valuation for each variable is as shown on Table 3. SNS is a new media as learning spaces and spaces for demonstration of environmental action. In this sense social networks become indispensable as virtual spaces for demonstration of environmental interests, which can contribute to pro-environmental activities, or foresight patterns of pro-environmental behavior (Buzov, 2014). In line with this green trend, many consumers are now oriented towards purchasing more environmentally sustainable products, green packaging or biodegradable and compostable materials (Galati et al., 2022). Younger people's behavior appears to be more willing to adopt green behavior (Ewe and Tjiptono, 2023).

Table 3 Description of variables and valuation

Variable	Valuation
Search/read/post on environmental related contents on the SNS	1: almost never 5: every day
Consume eco-friendly products	1: not at all 5: often
Discuss environmental problems and issues with people	1: not at all 5: often
Participate in the environmental voluntary activities	0: no experience 1: experienced

3.2.4 Model of regression analysis

This study used multi-regression analysis to examine how much each independent variable (EVI, CVI and IRK) explains the dependent variable (environmental practices). For each of the independent variables, the value was determined by summing the responses students answered to four questions, each rated on a scale from 1 to 7.

While replacing each dependent variable into the model one by one, the correlation between the categorized independent variables and each dependent variable was analyzed.

The multi-regression model is constructed in the equation below, capturing the relationship between dependent variables and the preset independent variables.

$$\text{Environmental practices} = \beta_0 + \beta_1 \text{EVI} + \beta_2 \text{CVI} + \beta_3 \text{IRK} + \varepsilon$$

----- eq1

Here ε represents the error term, and β_0 is the constant for the equation.

3.3 Survey outline and details of questionnaire

The survey was divided into several sections, including a basic information section that asked about academic grade, gender, and university major. Other sections consisted of questions about the reason and timing of becoming more aware of the environment, the level of interest, and eco-friendly behavior.

Online and paper-based questionnaire surveys were conducted in October 2021 with undergraduate students in the Faculty of Environmental Science, Nagasaki University. The number of respondents was 300 (154 men, 129 women, and 4 blank surveys) out of the 540 average annual students enrolled in this faculty. The successful completion rate of the surveys was 80%, with a final valid response number of 287.

According to the demographic statistics of respondents (Table 4), the proportion of male and female respondents is 54% and 45%, respectively. By grade, first-year students accounted for the most with 105 students, accounting for 37%, followed by third-year students with 98 students, accounting for 34%.

Table 4 Sample profile

Variables	Items	f	%
Gender	Male	154	54
	Female	129	45
Academic year	1 st	105	37
	2 nd	53	18
	3 rd	98	34
	4 th	31	11

4. Research Results

4.1 Proportion of respondents interested in the environment

First of all, we filtered students who explicitly indicated their interest in the environmental field. To the question, "Are you interested in the environmental field?", 260 students answered yes, which is 91% of all respondents. The analysis of the data in this study is based on these 260 responses. Of the respondents who did not express an interest in the environmental field, the majority of this group was comprised of third-year students. For them, the question about their interest in the

environment seemed to be perceived as a preferred career field. This disinterest could be accounted for by the stage of life these third-year students are at. Many are likely seeking pragmatic career pathways post-graduation, which means that environmental work is not a priority.

4.2 When and how students became interested in the environmental field

As shown in Figure 2, among 260 students surveyed, 41% were aware of their interest in the environmental field during high school, while 19% developed this interest during elementary school. The next significant period was after entering university (18%), suggesting they gained specialized knowledge and affirmed their interest in the field. For the remaining students, 15% discovered their interest in junior high school, 4% were unsure, and 3% cited early childhood as the time of awareness.

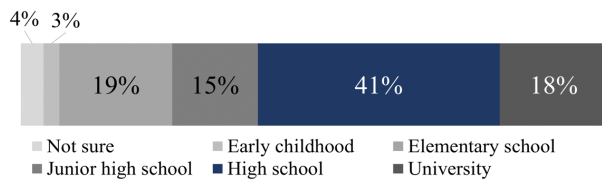


Figure 2 Period when respondents became interested in environment field ($n = 260$)

Students were asked to select one of 11 items (Table 1) that they believed triggered their own interest in this field. The results are shown by the proportion of category in Figure 3. If no trigger was applicable, students were requested to select 'other' and to write down their own trigger.

It was revealed that students' interest was primarily sparked by information gathered from various sources (38%). The second triggered motivation factor is learning through school classes (28%). Although some study pointed out that traditional environmental education methods have been criticized for failing to change students' attitudes and behaviors toward sustainability (Chen et al., 2020), this study found that courses in schools helped to awaken students' environmental awareness and interest. Interest stemming from direct experiences or activities was comparatively low, at 10% for experiences and 8% for activities.

Among the triggers offered as options, 5% of students chose "others." Summarizing the descriptive answers written in an open-ended format about the others, it mainly seems that their interest was triggered when they interacted with parents (or grandparents) who have environmental related jobs, hobbies, or interests and are in close proximity to nature around their houses, such as gardens, parks, or the outdoors (Simsekli, 2015).

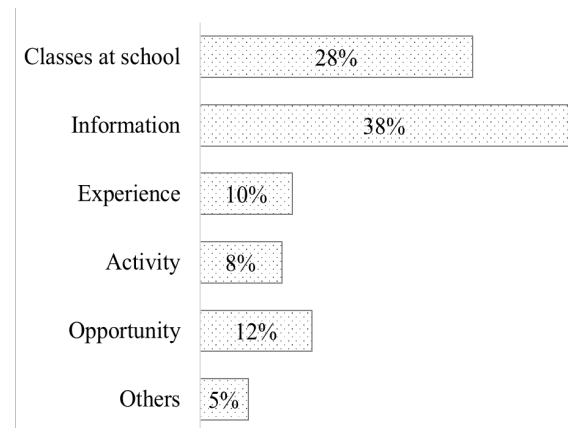


Figure 3 Triggers in Table 1 that sparked interest in environmental field ($n = 260$)

Analysis of the main channels of information acquisition showed that major media outlets like television (71%) exerted the most significant influence on high school students (Figure 4).

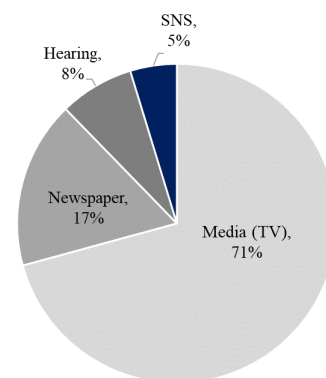


Figure 4 Share of information channels that stimulate high school students' interest in environmental field ($n = 107$)

Similar results were observed in previous studies, showing that Turkey secondary school students notably consider mass media to be particularly important in their experiences with the environment issues and news and follow environment-related information from mass

media (Altin et al., 2014). However, this previous study was the result of research 10 years ago and considering the development and increasing frequency of use of SNS these days, it was expected that the SNS selection rate would be higher in this study. However, interestingly, social media was not a preferred channel for information acquisition, with only 5% of respondents selecting it. In contrast, 17% of respondents found paper-based materials like newspapers to be informative, while 8% were motivated by conversations with people around them.

As shown in Figure 5, it was found that there were differences in motivational factors depending on when one became interested.

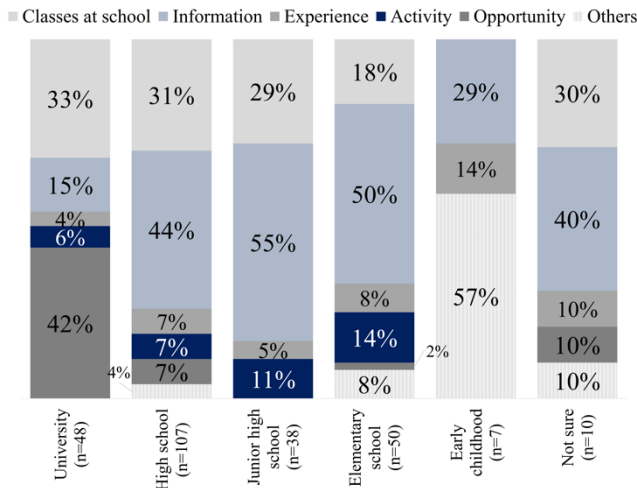


Figure 5 Triggers of environmental interest by time period ($n = 260$)

In elementary, middle and high schools, students were mostly influenced by the information provided by the media and close people, and then the next influence was through school classes. The combined factors of these two motivations, which are indirect experiences through learning or information acquisition, account for 68–84% of students' environmental interest. At this time, empirical motivation factors (experience and activities) do not have a relatively significant impact on enhancing students' interests. The motivational factors of students who are interested in the environment after entering university are slightly different from other academic periods.

In universities, students explore career opportunities, with 42% of those initially interested in the environment citing employments prospects as a motivating factor.

Consequently, many students view environmental studies as a viable career path post-graduation. While ethical considerations may drive interest in the environment during high school, university students often perceive it as a professional avenue to pursue.

More than half of those who were motivated during their preschool years chose "other" and said that their interest was particularly triggered by interactions with their parents (or grandparents).

4.3 Multiple regression analysis results

4.3.1 Independent variables: interest measure

Statistic results of independent variables are summarized in Table 5.

CVI has the highest mean value, 23.1 out of the maximum score 28.0, followed by EVI, with a score of 22.0. This implies that students are interested in the environmental issues and acknowledge the importance of environmental knowledge acquisition. IRK has a relatively lower score with 16.3. As students, the respondents appear to have evaluated themselves as not having a high level of knowledge in the environmental field compared to experts and professionals.

Table 5 Statistical analysis of students' interest measure ($n = 260$)

Interest measure	Mean	Std.Dev.	Max.	Min.
EVI	22.0	4.1	28.0	7.0
CVI	23.1	3.9	28.0	5.0
IRK	16.7	4.4	28.0	4.0

4.3.2 Dependent variables: environmental practices

The number of students who had experience participating in volunteer work was 44%.

On the other hand, the respondents scored moderately high for activities on SNS, eco-friendly consumption, and talking about and discussing environmental issues with people around them. When compared to a group who are not interested in the environment (the results are omitted here), the difference is marginal, but the environmentally interested group show higher averages across the three variables shown in Table 6. In line with Buzov's (2014) conclusion, this study assumed that more students would represent their interest in environmental issues via social media networks. However, the data

produced within this study does not support this theory.

Table 6 Statistical analysis for students' environmental practices ($n = 260$)

Activities	Mean	Std.Dev.	Max.	Min.
Activities on SNS	3.1	1.0	5.0	1.0
Discussing topics of the environment with others	3.1	0.9	5.0	1.0
Purchasing environmentally friendly goods	3.4	1.0	5.0	1.0

4.3.3 Regression analysis

The correlations between students' interest, knowledge, and environmental practices were identified using a multiple regression analysis. As shown in Table 7, the significance probability (P) of the F value of all models is less than 0.01, so these regression models are significant, and we will discuss this further in this section. In addition, although not shown in the table, in all of the models, the values of tolerance (TOL) are greater than 0.1, and the variance inflation factors (VIF) are less than 10, confirming that the problem of multicollinearity does not exist between variables.

All explanatory variables, EVI, CVI and IRK, were found to be significantly correlated to the eco-friendly activities, which are the dependent variables, environmental-related content reading on the SNS, discussing environmental issues with other, and purchasing eco-friendly product. Being interested in and

learning about the environment provides students with the inner-force (internal motivation) that drives students to adopt environmentally friendly lifestyles and to engage in discussions with their peers and communities about the environment. This study confirmed the previous findings that an environmental mindset, which is a mindset that emphasizes eco-friendly choices, serves as a guiding principle for engaging in consistent self-behaviors that make positive impacts on the environment (Chen et al., 2020). Environmental interest based on emotions (EVI) showed a positive and significant relationship with sustainable consumption activities. IRK is related to the behavior of discussing environmental issues or fields with others, as found in our research.

Dealing environmental related contents on SNS showed a significant relationship with all three independent variables. This implies that the importance of the social aspects of learning, supported by new technology, specifically social networks, is a new channel for communication and education about the environment. One noteworthy aspect of the results is that there is a positive correlation between EVI and IRK and SNS activity, but a negative correlation between CVI and SNS activity. Students who recognize that environmental issues are serious and important for expanding their knowledge, that is, students with high cognitive environmental interests, do not prefer reading environmental content on the SNS. They would instead prefer to seek out information through more authoritative, scholarly sources such as textbooks, academic journals, etc.

Table 7 Multiple regression analysis results ($n = 260$)

Variables	Reading on the SNS			Discussing			Eco-shopping		
	β	t		β	t		β	t	
β_0	2.189 (0.360)	6.087	***	1.115 (0.243)	4.582	***	1.487 (0.284)	5.238	***
EVI	0.800 (0.025)	3.239	***	0.021 (0.017)	1.278		0.041 (0.020)	2.086	**
CVI	-0.062 (0.026)	-2.428	**	0.014 (0.017)	0.833		0.002 (0.020)	0.090	
IRK	0.041 (0.015)	2.660	***	0.035 (0.010)	3.327	***	0.160 (0.012)	1.346	
$F(p)$		8.202	***		13.361	***		7.265	***
R^2		0.880			0.135			0.780	
Adjusted R^2		0.770			0.125			0.680	

Note: The data in the parenthesis is standard error.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

5. Summary and Discussion

The idea for this study originated from a curiosity about when and as a result of what motivations university students majoring in environmental science become interested in the field of environmental studies and its surrounding issues. Additionally, a research question arose as to whether the degree of their environmental interest and knowledge was correlated to environmentally conscious behavior.

In order to resolve these questions through academic analysis, we reviewed the theories established in environmental psychology, identified various methodologies, and referred to studies on similar topics conducted on university students. Through this process, we found that there was extensive and in-depth research that was conducted on this topic, and the summary of this research was written in the literature review.

More than 90% of respondents on this study expressed explicit interest in the environmental field. We found that these students were mainly influenced to become interested in the environmental field during the time period spanning from elementary to high school, with the primary trigger being exposure to mainstream mass media content. Therefore, from the perspective of environmental education in schools, it was suggested that classes that can make use of movies and TV programs may be an effective way to promote interest in the environment, along with choosing pertinent and useful information in classes at school.

Meanwhile, it was interesting to note that for those who developed an environmental mindset during early childhood, practical experiences through relationships with their parents (or grandparents) were a major influence. This supports the claim in environmental psychology that close experiences with the environment have a positive impact on environmental attitudes.

Students who first became interested in the environmental field after entering university tended to view their environmental interest purely through a professional perspective related to their career aspirations, rather than through a more emotional or personal lens. The professional knowledge and expertise demonstrated by this well-educated group would evidence the future talent in the environmental field and scalability of the environmental industry.

In addition, this study posed the question: “Do

students’ interests and knowledge of environmental issues and the field lead to more environmentally conscious practices or actions?” For this question, based on the respondent’s subjective evaluation, the degree of interest in the environment and the degree of practicing eco-friendly behavior were quantified and the correlation was identified. Interest in the environmental field was measured from EVI, CVI, and IRK aspects adopted with reference to previous research. The results very clearly revealed that awareness and interest in the environmental field are related to related environmental behavior. However, there is a difference in the environmental interests that cause each environmental behavior. The EVI, student’s interest in the environmental field itself, makes students follow the latest information on SNS and respond to more noticeable environmental issues, while also promoting eco-friendly purchases. On the other hand, in activating discussions with others, accumulation of knowledge in the environmental field and self-confidence in the ability to propose solutions to problem (Interest-related knowledge) is significant. This result will also be beneficial in the field of environmental education to induce and promote students’ interest in the environmental field. On the other hand, there are a few limitations. There would be the possible influence of external factors on students’ eco-friendly behaviors such as price of the product. There are studies reporting the younger generations’ price sensitivity in relation to environmental consumption (Galati et al., 2022) that could be implemented in future studies on this topic. Considering external influences would be important for a more nuanced understanding of the motivations that trigger the eco-conscious actions and that further enhance students’ sustainable practices both in their educational choices in higher education, and daily-life.

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7. Ethical Declaration

This study was conducted in accordance with the Nagasaki University research ethics regulations.

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