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## **Understanding students' intention and actual eco-friendly behavior: A qualitative research in University**

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**Abstract.** Universities can be considered a community because of their large population, large size and participation in many activities on campus. The behavior of these individuals has a direct or indirect impact on environmental sustainability. Because of environmental problems, many universities focus on achieving sustainable development in terms of educational effectiveness. This study investigated the environmental intention and actual behavior of students in two schools. Penetrating many studies have used different theories for eco-friendly behavior, and this study uses the theory of planned action. In order to understand the students' intentions and environmental behavior, 20 students were interviewed through the survey from two universities. The results were made up of six themes (behavioral intention, environmental knowledge, environmental well-being, environmental attitude, social and cultural norms, and environmental behavior), found that current research on the forecasting framework has shaped the student's perspective to identify themes related to intention and actual green behavior.

**Keywords.** Environmental intention, environmental knowledge, environmental attitude, environmental wellbeing, environmental behavior, the theory of planned behavior

### **1. Introduction**

Global warming has increased concerns about environmental damage, mainly due to carbon dioxide pollution and emissions (Meng et al., 2017; Jiang & Guan, 2016). More people are aware of the threat of environmental degradation and are demanding that environmental degradation be reduced through green behavior and environmental sustainability (Dabija et al., 2018). The United Nations are encouraged global awareness of environmental protection and investment in environmental action also emphasizes the balance of social, economic and environmental issues. Taiwan's Ministry of Education has promoted environmental education in schools to better understand the 17 goals of UN Sustainable Development Goals (<https://sdgs.un.org/goals>) to understand major international issues and the context of sustainable development. Environmental behavior has always had indicators such as recycling, energy conservation, waste reduction, transportation use and the use of organic products (Kaiser, 2006). While environmental behavior is needed, it is found that individuals' actual behavior is contrary to their environmental attitudes and intentions (OECD, 2008). Therefore, in environmental psychology, we continue to explore the gap between environmental intention and actual behavior.

Many Theories of Planned Behavior (Ajzen et al., 1991), through rational action theory (TRA; Ajzen & Fishbein 1980), widely used to investigate the relationship between individual behavior and attitude and intention. Green behavior or pro-environmental behavior (PEB) is the result of constitutional control mechanisms through social norms and value agreements, and has evolved from the interpersonal principles held by citizens (Isabel Novo, 2017). People are particularly concerned about saving the environment through personal actions and attitudes (Wu & Chen, 2014). In addition, individuals use a large proportion of energy in their homes and transportation. Therefore, it is important to develop environmentally friendly habits and encourage green behavior (Boyes & Stanisstreet, 2012) as a significant positive impact on the environment (Jensen & Schank, 2006). Accordingly, universities develop green behavior through teaching, training and research has made an important contribution to the development of environmental sustainability (Cristea, 2016; Wang et al., 2019). Universities also support social sustainability because the students themselves do not retain environmental knowledge and feed it back to society (Green, 2013). Environmental degradation is changing through environmental, sustainability campaigns and government protection agencies of non-governmental organizations. The Green Campus is the University's place of activity and procedures for environmental sustainability (Habib & Ismaila, 2008, Gholami, 2020). Globally, business and management education institutions are major universities, and it has a responsibility to educate students, make students future leaders, entrepreneurs, and decision makers for environmental sustainability (Yutao Wang et al., 2013). Yuan et al. (2013) pointed out that educational institutions should involve all stakeholders in their strategic goals to achieve green universities.

Universities are providing a functional option for sustainability and the direction of practice of pro-environmental behavior. Out of the environment ongoing considerations, many universities are developing environmental action plans to strengthen PEBs, such as waste management (Espinosa, 2008), and energy consumption (Bulunga, 2018; Wisecup, 2017), and recycling (Saladie 2016; Vega, 2016). Sustainable campuses are interpreted as "an educational institution that creates green and sustainable lifestyles by reducing negative impacts on the environment, society, the economy and health through its teaching functions, research, external partnerships and management methods" (Leal Filho, W, 2019). Environmental education is considered an important way to improve students' environmental knowledge, attitudes and environmental behavior. The purpose of this study is to explore the environmental behavior and students' intention and actual environmental behavior of Penghu and Kinmen University. An exploratory study was carried out to study the main themes and concepts of college students' intention to be eco-friendly behavior.

## **2. Literature Review**

Many researchers have found that research intentions, attitudes, and behaviors are associated with events. The theory of Planned Behavior (TPB) mode (Ajzen & Driver, 1992; Ajzen, 1985), suggests that individual behavior can be affected by the intention of the action, depending mainly on attitudes and social norms. TPB interpreted the moral obligation of Taiwan's carbon emission intentions (Chen, 2016). Use TPB to study the causal relationship of climate change adaptation behavior intention in Malaysia (Masud et al., 2016). Individual sustainable behavior include waste management (Khan et al., 2019; Liu & Bai, 2019), reducing non-renewable energy and energy conservation (Shi et al., 2017a; Ru et al., 2019; Lopes et al., 2019), reducing CO<sub>2</sub> emissions by reducing traffic use (Donald et al., 2014; Cai et al., 2019). All in all, these three beliefs of TPB lead to the creation of an individual's intentions, which will affect the individual's actual behavior (Ajzen, 2002). This study is defined as an act in which

students are willing to behave environmentally. TPB reinforces environmental behavior intention (Hsu, Chang, & Yansritakul, 2017; Wang, Wang, et al., 2018; Verma & Chandra, 2018). Behavioral intention is consciously influenced by attitude, consequence, and moral obligation to act in a friendly manner. Table 1 shows the list of literature eco-friendly behavior.

Table 1  
The list of literature eco-friendly behavior

Years	Authors	Research Methods	Theoretical Basis	Variables	Dependent Variable
2021	Simangele Dlamini, Solomon G. Tesfamichael, Tholang Mokhele	Survey	critical ratios and a structural equation model	environmental attitudes, perceptions, attachment, and resultant environmental behaviour.	attitudes, perceptions, and attachment
2020	Pihui Liu, Minmin Teng, Chuanfeng Han	Survey	Structural equation modeling	environmental attitudes, environmental behavioral intentions and environmental knowledge	environmental knowledge
2020	Janmaimool Piyapong, and Chudech Surapong	Survey	Value-Belief- Theory	norms Environmental knowledge, environment attitude Domestic environmental concern, and global environmental concern	Environmental Responsibility
2019	Alexandra Stöckert and Franz X. Bogner	Survey	Socialization Theory	Preservation of Nature, Utilization of Nature, Appreciation of Nature, Social Aspects of Technology, Interest in Technology	
2019	Daniel Olsson, Niklas Gericke, Jelle Boeve-de Pauwa, Teresa	Survey		Sustainability consciousness, sustainability knowingness, sustainability attitudes.	Sustainability behaviors



	Berglunda, Tzuchau Change					
2019	Genovaite Liobikien, and Mykolas Simas Poškus	Survey	Value-Belief- norms Theory		Action-related environmental knowledge, Ecological worldview, Awareness of behavioral consequences, Environmental responsibility	Private sphere behavior, Public sphere behavior
2019	Gregor Torkar, Urša Krašovec	Case Study	Social Learning Theory	Culture	Environmental Provision, Environment Regulation, Ecological Culture, and Environmental Support	–
2019	Gyan Prakasha, Sangita Choudharyb, Anil Kumar, Jose Arturo Garza- Reyesd, Syed Abdul Rehman Khane, Tapan Kumar Panda	Survey			Environmental concern, Health concern, Attitude towards ecofriendly products	Purchase intention towards ecofriendly products
2019	Haoai Zhao	Survey	–		Climate change and Climate perception	–
2019	Joyce Weelanda, Odilia M. Laceulleb, Esther Nederhofc, Geertjan Overbeeka, Seijmen A. Reijneveldd	Survey	Stress theory	reduction	Stressful life event and neighborhood greener Stress reactivity	Externalizing behavior
2017	Jyoti Ranaa, Justin Paul	Mixed method	Theory of Planned Behavior and the	Health Consciousness		Consumer Attitude for Quality & Safety

	Approach	Theory of Reasoned action	Environment Friend, Buying Willingness to Pay Organic Food Certification
2017	Siegmar Ottoa, Survey Pamela Pensini		Environmental Knowledge, connected to nature Environmental behavior
2017	Tina Braun, Quasi-experimental Richard Cottrell & Paul Dierkes	Cognitive Theory	Environmental Knowledge, environmental attitude and environmental behavior
2015	Heesup Hana, Survey Hae Jin Yoon	Theory of Planned Behavior (TPB)	Environmental Awareness, Perceived Effectiveness, Eco-friendly Behavior, Eco-friendly Reputation, Attitude toward the Behavior, Positive Anticipated Emotion, Negative Anticipated Emotion, Subjective Norm, Perceived Behavioral Control, Desire toward the Behavior Frequency of Past Behavior, Intention to Visit an Environmentally Responsible Hot
2015	Rahman, Park, & Chi	Survey cognition–affect–behavior(C-A-B) & Influential discounting behavior theory	Skepticism and environmental concerns Perceived intention

Through examining the above studies, most of them were processed by quantitative questionnaire studies. Therefore, in order to understand the individual's environmental perception and its impact on the actual green behavior intentions of college students there are gaps. Similar variables have often been studied in previous studies. Therefore, this study includes additional variables to study the environmental behavior of college students to expand information. This also provides a new dimension to students' environmental behavior.

### 3. Materials and methods

#### 3.1 Research method

The topic of eco-friendly behavior has emerged rapidly in the field of research. The study is currently conducted to understand students' environmental intentions and behaviors. The study addresses the following research issues:

Research Question 1: What are the factors that students think about the intention of environmental behavior?

Research Question 2: Why is there a gap between intention and actual environmental behavior? In order to analyze the problem, a semi-structured and in-depth face-to-face interview was conducted. A face-to-face interview must prove that it is advantageous to understand the nonverbal combination through the interviewee's answers. (Opdenakker, 2006)

### 3.2 Data Collection

This study is exploratory. Interviews are conducted through data collection methods. Exploratory research makes it possible to explore facts. As a result, in-depth interviews provide a more detailed understanding of respondents' perceptions, thoughts, experiences, and perspectives under specific conditions (Boyce & Neale, 2006). Distinguish projection technology by asking direct questions, indirectly forming the interviewer's beliefs, personalities, and feelings (Daymon & Holloway, 2002). In-depth interviews are an appropriate way to study, because the answers can be used to understand college students' thoughts and behaviors on environmental behavior. The sample of the study included 20 selected students from two universities on the outlying islands of Taiwan (Penghu and Kinmen). Qualitative sampling techniques are often used in qualitative studies to identify and select informative respondents (Palinkas et al., 2015). The study targets students, aged between 19 and 24. The interview takes about 30 minutes, takes notes during the interview, and recodes the voice data after the interviewee agrees.

### 3.3 Data Analysis

Data from in-depth interviews, analyzed through content. The content analysis process for inferring and analyzing the obtained data by observing, interviewing, and available materials (e.g., recording interviews, interview notes, observational on-site notes, analytical memos, and notes or journal entries) (Darlington & Scott, 2002). In the coding data of qualitative studies, the content analysis of the descriptive methods (Morgan 1993) and the interpretation of the encodings (Vaismoradi, Turunen, & Bondas, 2013) are used. Analyze the context and content of documents (Spencer, Ritchie & O' Connor, 2003). The first recording was listened to for data analysis and a recorded report of the interview. After reading the transcript report several times, the data is classified using open coding. Open coding includes unselected theme sets (Wood, 2015) to revise the data collected and create themes. Table 2 shows the demographics of respondents.

Table 2

Descriptive Statistics of respondents:

Respondent	Age	Educational Status	Area of Residence
P1	24	Masters	Penghu
P2	24	Masters	Penghu
P3	23	Masters	Penghu
P4	21	Bachelors	Penghu
P5	22	Bachelors	Penghu
P6	22	Bachelors	Penghu
P7	20	Bachelors	Penghu
P8	19	Bachelors	Penghu
P9	20	Bachelors	Penghu

P10	19	Bachelors	Penghu
K1	23	Masters	Kinmen
K2	23	Masters	Kinmen
K3	24	Masters	Kinmen
K4	24	Masters	Kinmen
K5	22	Bachelors	Kinmen
K6	21	Bachelors	Kinmen
K7	19	Bachelors	Kinmen
K8	19	Bachelors	Kinmen
K9	20	Bachelors	Kinmen
K10	21	Bachelors	Kinmen

The coding table is then confirmed and the wrong interpretation and the bias interpretation are corrected. The coding process identifies common concepts of code and collects them as themes based on the theoretical framework of the eco-friendly behavior and environmental sustainability literature. The results are presented as a single topic by the statement of the interview transcript report. To ensure internal reliability, use recording the interview was recorded. Table 3 shows the themes and sub-themes derived from the data.

Table 3  
Identified themes and Sub-themes

Themes	Sub-themes
Environmental Knowledge	Air Pollution
	Water pollution
	Household Waste
	The disappearance of the ozone layer
	Noise pollution
Environmental attitude	Greenhouse gases
	Willingness
	Mentality
	Sense of responsibility
	Concern for the environment
Environmental well-being	In order to save energy, I turn off the lights.
	I know I need to recycle plastic cups
	Reduce the use of paper
	Reduce waste of water in life
	I'll tell others, they want to pursue a clean and green environment.
Cultural and Social Norms	Societies are responsible to clean the street
	We have a moral obligation to purify society.
	Lack of social norms on environmental degradation
Behavioral Intention	I intend to reduce the use of non-renewable energy sources
	In the future, I will use reusable products.
	I intend to participate in recycling

#### 4. Results and Discussion

On the one hand, the interview transcript records the research data and examines the themes accordingly. The following findings are based on the themes matter.

#### 4.1 Environmental Knowledge

Knowledge is the perception and understanding of concepts. Environmental knowledge is information about the environment and its problems (Haryanto, 2014). Environmental knowledge includes many elements, such as awareness, attitudes and behaviors on environmental issues, but education is necessary to develop skills to identify and participate in environmental issues (EPA, 2007). Environmental knowledge is based on the context of environmental behavior (Carmi et al., 2015; Ellen, 1994). The theory of planned behavior highlights individual attitudes, but green behavior is influenced by knowledge (Stern, 2000). According to the results of the reaction, environmental knowledge has some influence on the development of eco-friendly behavior. In Table 4, 80% of the respondents had knowledge of air pollution and 45% were aware of water pollution. 90% of the respondents knew what life was like environmental degradation was caused by household waste, with 35% of respondents aware that environmental problems were associated with depletion of the ozone layer and 45% of respondents aware of environmental information such as noise pollution and the greenhouse effect.

Table 4

Environmental Knowledge

Themes	Sub-Themes	Number of respondents	Percentage (%)
Environmental Knowledge	Air Pollution	P1,P2,P3,P4,P6,P8,P9, P10,K1,K2,K3,K4,K5, K7,K9,K10	80
	Water pollution	P1,P3,P6,P8,K2,K3,K5 ,K6,K8	45
	Household Waste	P1,P2,P3,P4,P5,P6,P7, P8,P9,P10,K1,K2,K3, K4,K5,K7,K9,K10	90
	The disappearance of the ozone layer	P4, P6, P5,P8,K1,K7,K8	35
	Noise pollution	P1,P2,P3,P4,P10,K2,K 4,K5,K6	45
	Greenhouse gases	P4,P6,P9,P8,K3,K4,K6 ,K8,K9	45

Respondents also talked about environmental knowledge.

*"When I hear about environmental pollution, what I think about is air pollution caused by vehicle driving" (P7)*

*"I am also concerned about water pollution because plastic bags, industrial waste, industrial emissions of greenhouse gases, and there is no proper storm water discharge system" (P3).*

*"I know environmental pollution, such as air pollution, water pollution and noise pollution" (K5)*

*"I am aware of environmental problems, such as ozone layer breakage and the greenhouse effect" (K2)*

*"I am also aware of air pollution due to industrial emissions of greenhouse gases and vehicle driving" (K9).*

#### 4.2 Environmental Attitudes

The concept of attitude applies to evaluative thinking (Crano & Prislin, 2011). Environmental attitudes are used to estimate perceptions of environmental protection and the encouragement of environmental sustainability (Cherian & Jacob, 2012; Chuang & Huang, 2018). Law et al. (2017) explain that environmental attitudes are values, concerns about the environment, and perceptions of responsibility and the actual impact on the environment. Environmental attitudes contribute to the psychological intention to consent or object to acts after assessing the environment (Milfont & Duckitt, 2010; Jia et al., 2017). A person has to do more for the environment or to make a contribution Environmental attitude of animals (Jia et al., 2017). Environmental attitudes have an impact on the development of eco-friendly behavior. In Table 5, 55 % of the respondents identified students as willing to define environmental attitudes, 30% as specifically describing their mentality towards the environment, 40% as a sense of responsibility and 80% as environmental concerns.

Table 5

Environmental Attitudes

Themes	Sub-Themes	Number of respondents	Percentage (%)
Environmental attitude	Willingness	P1,P5,P7,P8,P9,P10,K2, K4,K5,K7,K8	55
	Mentality	P2,P4,P6,K2,K3,K5	30
	Sense of responsibility	P5,P6,P4,P9,K4,K5,K7, K10	40
	Concern for environment	theP1,P2,P3,P6,P7,P8,P10, K1,K2,K3,K4,K6,K7,K8,K9,K10	80

Respondents also spoke about environmental attitudes.

"Personal and willing mindset which can be reflected in environmental behavior." (P2).

"Students don't perform green behavior mainly because they don't want to change behavior." (P5)

"I think I'm concerned about changes in the environment" (K5)

"The mentality of social responsibility should be reflected in environmental behavior" (K8).

#### 4.3 Environmental well-being

The concept of well-being derives from the Human Development Index. UNDP (1990) explained how well-being has been improved through a combination of education and health care and improvements in material life to regulate well-being and ensure a more effective quality of life. For well-being be used in different contexts, such as human health (United Nations, 2002), environment and nature (Adams et al., 2004; Dasgupta, 2003) and vulnerability and social relations (Adger & Winkels, 2014). Happiness is the satisfaction of personal expectations and desires (Dolan & Metcaflfe, 2012; Dagher, Itani, & Kassar, 2015; Lai & cheng, 2016). Individuals must recognize that issues related to environmental sustainability can lead to well-being. Law et al. (2017) explain that a positive attitude determines the intention of an individual's environmental behavior. Individuals must recognize the importance of environmental sustainability, which will slowly but surely develop environmental attitudes and follow their environmental practices (Flamm, 2009; Fan et al., 2012; Law et al., 2017). According to the results of the response, environmental well-being has an impact on the development of eco-friendly behavior. In Table 6, 40% described turning off the lights to save

energy, 20% describing participation in recycling activities for environmental well-being, 30% describing reducing the use of paper or paperless work, and 55% describing avoiding wasting water or reducing use. 65% of respondents said they talked to others about how to maintain a green and clean environment and force environmental action to promote environmental sustainability.

Table 6

Environmental Well-beings

Themes	Sub-Themes	Number of respondents	Percentage (%)
Environmental Well-being	In order to save energy, I turn off the lights.	P2,P4,P5,P6,K2,K3,K6 .K10	40
	I know I need to recycle plastic cups	P1, P7,K5,K6	20
	Reduce the use of paper	P1,P2,P6,K1,K2,K7	30
	Reduce waste of water in life	P2,P3,P5,P7,P9,P10,K155 ,K2,K4,K5,K6	
	I'll tell others, they want to pursue a clean and green environment.	P1,P2,P4,P7,P8,P9,P10 ,K1,K3,K4,K5,K8,K9	65

Respondents also spoke about environmental well-being

*"I try my best to recycle. Gain an advantage when using the item and recycle it" (P1)*

*"In Penghu, locals can't use clean and pure water, so I think it's my responsibility to conserve water. The other is that I throw garbage in trash cans and recycle plastic bags." (P2)*

*"In Kinmen, locals can't use clean water, so I think it's my responsibility to save water. " (K4)*

*"I try my best to recycle. In addition, I throw garbage in trash cans and recycle plastic bags. " (K9)*

#### 4.4 Culture and Social Norms

Social norms are an important part of social science research. Social norms are the norms that society clearly enforces and follows in order to uphold social rules ((Lin and Han 2018). Economists also applied social norms to their research (Krupka & Weber, 2013). Social norms have a strong influence on individual behaviour (Fehr & Gächter, 2000; Krupka & Weber, 2013). Social norms have a significant relationship with individual green attitudes (Fan et al., 2012). Culture applies to "collective thinking planning that recognizes the differences between one group and another" (Hofsted, 1980). Culture is also an important factor in establishing oneself in individual environmental behavior (Everett et al., 1994; Ignatow, 2006). Individualism and collectivism have different effects on environmental behavior (Cho et al., 2013). In many studies, environmental intention and environmental behavior are the most important determinants of the two collective cultures (Jang et al., 2014; Perrea et al., 2014; Kai & Haokai, 2016). In Table 7, 40% of respondents said society was responsible for a clean environment and 40% said they were responsible for maintaining the environment sustainability is moral and social responsibility, with 65% of respondents attributing environmental degradation to a lack of social norms and cultural values.

Table 7  
Cultural and Social Norms

Themes	Sub-Themes	Number of respondents	Percentage (%)
Cultural and Social Norms	Societies are responsible to clean the street	P2,P4,P5,P6,K1,K3,K5, K7	40
	We have a moral obligation to purify society.	P1,P2,P8,P9,P10,K8,K9 ,K10	40
	Lack of social norms on environmental degradation	P1,P2,P3,P4,P6,P7,P8,K 2,K4,K6,K7,K8,K9	65

Respondents also talked about cultural and social norms,

*"Most people ignore environmental behavior because culture and society can hinder environmental behavior." (P1)*

*"The implementation of environmentally friendly behaviors from social and social development affects development behavior, so they reflect." (P8)*

*"Culture and society may be importantly relevant to environmental behavior. " (K2)*

*"Purifying society is everyone's moral sense. " (K5)*

#### 4.5 Behavioral Intention

Behavioral intention is the ability to respond favourably and adversely to a particular action (Fishbein & Ajzen, 1977). Cristea and Gheorghiu (2016) indicates that the intention of the act is the individual's willingness to perform a particular action, which is considered to be an indication of a particular action or direction. Behavior is the core prediction of intention (Kaiser et al., 2006; Raziuddin & Vaithianathan, 2018). Chen (2016) believes that individuals understand their intentions, especially in green consumption and environmental protection must have a moral responsibility. As the theory of planned behavior suggests, people are willing to engage in behavior when they are more confident in their abilities and skills. So far, many researchers have demonstrated the important role of environmental sustainability in intention and behavior, such as behaviors to improve air quality (Fu et al., 2019), non-renewable energy conservation intention (Ru et al., 2018) and recycling and e-waste (Wang et al., 2019). It is found that behavior has a deliberate effect on the development of eco-friendly behavior. In Table 8, 55% of respondents engaged in environmental behavior through green behavior intention (reducing the use of non-renewable energy sources). Only 10 % of respondents use reusable products, and 40 % expressed interest in participating in recycling activities.

Table 8  
Behavioral intention

Themes	Sub-Themes	Number of respondents	Percentage (%)
Behavioral Intention	I intend to reduce the use of non-renewable energy sources	P1, P4, P5,P7,P8,P10,K2,K4,K5 ,K7,K9	55
	In the future, I will use reusable products.	P2,K3	10

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I intend to participate inP1,P3, P6, 40  
recycling P9,K1,K6,K8,K10

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Respondents also talked about behavioral intention.

*"I will try to protect the environment and make my surroundings clean and green. " (P1) .*

*"I will pay more attention to protecting the environment, especially to reduce air pollution and water pollution. " (P8) .*

*"I'll choose something that can be reused." (P9) .*

*"I'm going to pay more attention to protecting the environment, especially because of the destruction of the ozone layer." (K3)*

*"Global warming has made me pay more attention to protecting the environment." (K4)*

## 5. Connotation and Conclusion

The aim of this study is to use the theory of planned behavior to investigate the gap between the intention of college students and actual ecological usability. The results of this study contribute to the present literature. First, it makes clear the factors affecting the ecological friendly behavior and development of college students, and it is an important contribution to the development of the actual eco-friendly behavior of college students. Environmental knowledge, sociocultural norms, environmental well-being, helps to make intentional and practical environmental actions. The environmental education of college students has an impact on environmental attitude, so the current research finds that the lack of environmental knowledge not only causes the gap between intention and actual environmental behavior, but also lacks will, lack of environmental well-being, lack of environmental attitude and socio-cultural norms. The main purpose of this study is to improve the pair of college students' schools should provide consistent environmental education. In addition, from the results of the study, the intention of college students and the actual ecological friendly behavior has affected various factors, among which, social and cultural norms have also affected the students' eco-friendly behavior. Research has proved that universities should pay attention to campus environmental knowledge; so that students actively participate in the maintenance of the environment can continue. For family, friends, and spouse relationships also affect environmental behavior. Therefore, governments should also pay more attention to social checks and balances and provide environmental information in the family and society, thereby changing people's positive behavior and attitudes, and ultimately have a more positive impact on environmental sustainability.

According to the results of the study, college students can promote environmental sustainability by developing environmental intention. Environmental intention is developed by the environmental knowledge that universities must provide. Another factor is environmental well-being, which promotes college students' sense of responsibility for environmental sustainability. Another factor is social and cultural norms and values that contribute to the development of environmental intentions and promotion environmentally friendly behavior. Environmental attitude can be said to be the last factor to help college students take action to improve the environment. Without these factors, there will be a gap between college students' intentions and actual environmental behavior.

## 6. Limitation and Future Suggestion

There are several limitations in this study. First, the study was conducted from students at two universities and could not be generalized. Second, this study is exploratory and therefore

may not provide absolute relationships and evidence. However, this study was conducted in quantitative studies, and the results established a framework consisting of topics that could be used as variations in quantitative research testing number. The research framework shown in Fig. 1 identifies the intentions and actual environmental behavior of college students in the university

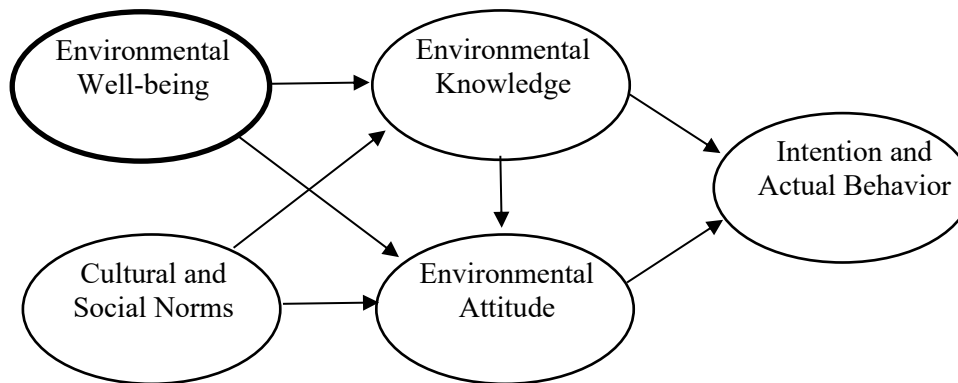


Fig. 1 The proposed research framework

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