



*Journal of Human Ecology and Sustainability*

DOI: 10.56237/jhes22006

**Corresponding author**

Emilia S. Visco  
Email:  
esvisco@up.edu.ph

**Funding Information**

Not Applicable

Received: 02 November 2022

Accepted: 26 September 2023

Published: 09 October 2023

© The Author(s) 2023. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

# “Who Are You Wearing?”: Comparative Analysis on the Awareness, Knowledge, Attitudes, and Practices Among Selected UPLB Students on Sustainable Fashion in Los Baños, Laguna, Philippines

**Makki Princess V. Malonzo, Emilia S. Visco, and Dhino B. Geges**

*Department of Social Development Services, College of Human Ecology, University of the Philippines Los Baños, College 4031, Laguna Philippines*

---

## Abstract

This study was conducted to compare the UPLB students’ awareness, knowledge, attitudes and practices (AKAP) on sustainable fashion. It also described their socio-demographic characteristics, explained their AKAP on sustainable fashion, analyzed the relationship between their AKAP towards sustainable fashion, and compared the AKAP of students who have not yet taken the HUME 112 (Sustainability Science) course (first cohort) and students who finished the HUME 112 course (second cohort) on sustainable fashion; and formulated recommendations on the AKAP of selected UPLB students. This research was conducted using a quantitative research method with 225 selected UPLB students determined through purposive sampling. A self-administered survey questionnaire through Google Forms was used as a research instrument. Data were analyzed using descriptive statistics, Spearman’s correlation, and Mann-Whitney U-test. Results showed that the respondents from the first cohort showed a moderate level of awareness, while the respondents from the second cohort showed a high level of awareness. For the knowledge level, both cohorts (first cohort is 77%, second is 95%) had a high level of knowledge on sustainable fashion. Both cohorts showed favorable attitudes towards sustainable fashion and had a moderate level of practice towards sustainable fashion. Variables such as awareness and knowledge, awareness and practices, and knowledge and practices had a significant relationship with each other for the first cohort, while only awareness and knowledge and awareness and practices for the second cohort. Lastly, results showed a significant difference in the awareness and knowledge level between the two cohorts.

**Keywords**— attitudes, awareness, knowledge, practice

---

## 1 Introduction

The fashion industry is projected to reach US\$768.70bn in 2023. It is expected to show an annual growth of 9.45%, resulting in a projected market volume of US\$1,103.00bn by 2027 [1]. With its fast growth, this industry became the second most polluting industry on Earth after oil and the second largest polluter of clean water globally after agriculture [2]. This was because some fashion industries use cheap, toxic textile dyes that pollute the ocean and the vast amounts of textile waste. Aside from the environmental impacts, the industry is condemned for its ethical and social impacts, such as its garment workers' unfair and poor treatment. [3] Bick stated that there are approximately 40 million garment workers today, many of whom do not have the rights and are some of the lowest-paid workers in the world. Almost 85% of all garment workers are women, contributing even more to their exploitation [3].

YouGov Omnibus, a database that records individuals' habits and opinions, surveyed 3,037 respondents in the Philippines [4]. It has revealed that 29% of Filipinos have thrown away an item of clothing after wearing it just once. In addition, 18% have thrown away in the past year at least three items that they have only worn once. Moreover, the study revealed that 60% of Filipinos discard their clothes because they no longer fit, while 46% do so because of damage. 34% throw away their clothes that have developed a fault, 21% dispose of their outfits that are "more than a few seasons old", and 14% because they are simply bored of wearing them. According to Fletcher [5], the sustainable fashion industry upholds environmental responsibility, social welfare, worker's rights, and the prosperity of human life through its products and practices.

[6] Elizabeth defined sustainable fashion simply as the garments and accessories that are produced or accessed in an ecologically and socially responsible manner. It is a holistic term that combines a concern for the protection of the environment as well as the garment workers. Given that the fashion industry is responsible for 8-10% of global carbon emissions, changing how we view and practice fashion through sustainability will inherently make significant progress in reaching our global climate goals for the Earth. Rejecting the supply chain of the fast fashion industry can also notably reduce air and water pollution in many communities around the world. Aside from this, practicing sustainable fashion by improving the supply chain of the fashion industry would significantly improve the lives of many, specifically the estimated 430 million people working in the fashion and textile industries.

This research introduces sustainable fashion as an alternative to today's emerging fast fashion industry. Essentially, the researcher looked into the difference between the awareness level, knowledge level, attitudes and practices of students who have not yet taken the HUME 112 (Sustainability Science) course and students who have finished the HUME 112 (Sustainability Science) course regarding sustainable fashion at the University of the Philippines Los Baños, Laguna Philippines. Specifically, it sought to describe the socio-demographic characteristics of the respondents of the study; explain their awareness, knowledge, attitude and practices on sustainable fashion; analyze the relationship between their awareness, knowledge, attitudes and practices towards sustainable fashion; compare the awareness, knowledge, attitude and practices of students who have not yet taken the HUME 112 (Sustainability Science) course and students who have finished the HUME 112 (Sustainability Science) course on sustainable fashion; and formulate recommendations on the awareness, knowledge, attitude and practices of selected UPLB students for a greater level of understanding on sustainable fashion, fast fashion, and its effects on the environment.

UPLB college students were chosen as the respondents for this study because of their extensive participation in the fast fashion market. This is supported by recent studies by an analytics company called Gallup, which reveals millennials participate in consumer habits more than other generations [7]. Aside from this, they are also more inclined to fashion and their social image [8]. This study is of great importance as it benefits many sectors, including the consumers and producers of fashion products in terms of increased awareness and knowledge on sustainable fashion, the

environmental organizations in their efforts to promote sustainability, the academe, the local and national government in their development of programs and policy-making decisions regarding sustainability and protection of the environment and the rights of workers.

## 2 Methodology

This comparative study was conducted using a quantitative research method, given that almost all of the variables of this research were quantitative in nature. Purposive sampling, which is a form of non-probability sampling, was used for selecting the participants. The participants were composed of two cohorts of selected UPLB students, specifically those who have not yet taken the HUME 112 (Sustainability Science) course and those who have finished the HUME 112 (Sustainability Science) course at the University of the Philippines Los Baños. This study targeted 111 respondents from the students who have not yet taken the HUME 112 (Sustainability Science) course, but only 99 students could answer the questionnaire. Additionally, the researcher targeted 144 respondents from the students who have finished the HUME 112 (Sustainability Science) course but only 126 respondents were able to answer, having a total of 225 respondents overall.

Self-administered survey questionnaires through Google Forms were used in this study to gain valuable information from the selected UPLB students. The questionnaire was divided into six sections: socio-demographic profile, access to sustainable fashion, awareness, knowledge, attitudes and practices & Processes with Virtual Facility Tour" held on November 26, 2021, which was attended by the researcher as well.

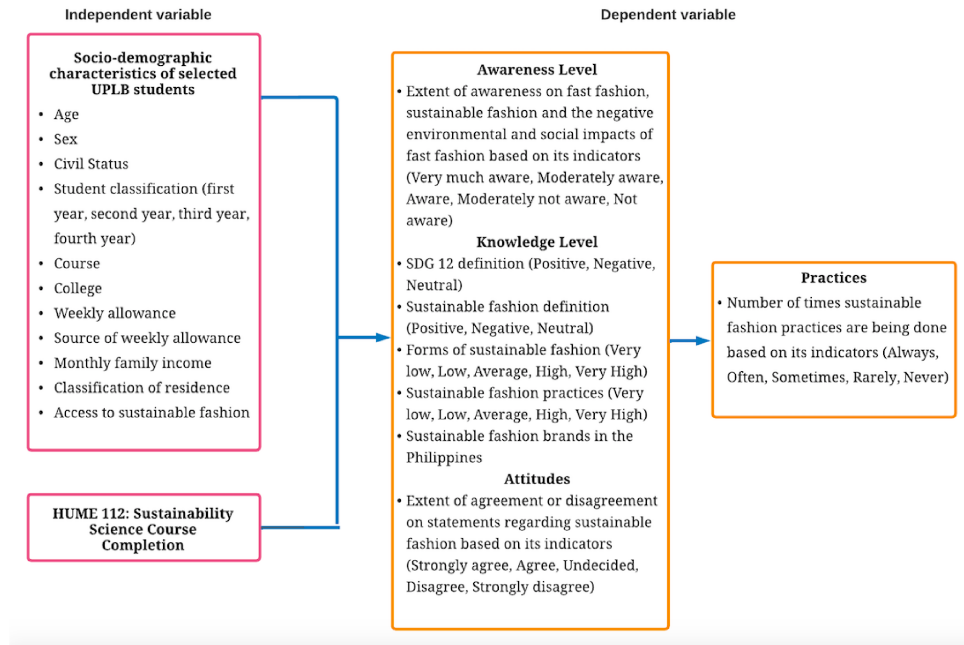
Other secondary data were generated through theses and journal articles from the CHE library and reliable sources on the internet. The data gathered from the respondents' socio-demographic characteristics, awareness, knowledge, attitudes, and practices (AKAP) were presented and analyzed using descriptive statistics such as the frequency distribution, mean, and percentage. On the other hand, Spearman's correlation was used to measure the relationship between the respondents' level of awareness, knowledge, attitudes, and practices to each other. Moreover, Mann-Whitney U test was used for the comparative analysis between the level of awareness, level of knowledge, attitude, and practices (AKAP) of the students who have not yet taken the HUME 112 (Sustainability Science) course and the students who finished the HUME 112 (Sustainability Science) course.

Figure 1 shows the relationship of the variables of this study divided into two: independent (socio-demographic characteristics and completion of the HUME 112 (Sustainability Science) course) and dependent variables (awareness level, knowledge level, attitudes and practices). This was adapted from Jobog in her study on Awareness, Knowledge, Attitudes and Practices of Selected Freshmen Students on Responsible Clothing Consumption at the College of Human Ecology, University of the Philippines Los, Los Banos, Laguna [9].

For this study, the socio-demographic characteristics of respondents and their completion of one of the courses offered by the Department of Social Development Services of the College of Human Ecology in UPLB, Laguna Philippines named HUME 112 (Sustainability Science) were considered as factors that affect the result of their awareness level, knowledge level, attitudes and practices on sustainable fashion. The socio-demographic characteristics that were tested are the following: age, sex, civil status, student classification (new first year, continuing first year, second year, third year, and fourth year students), course, college, weekly allowance, source of weekly allowance (own job, parents/family member/any sponsor, or scholarship allowance), monthly family income, classification of residence (rural, suburban, or urban), and access to sustainable fashion.

One of the core courses offered by the Department of Social Development Services of the College of Human Ecology in UPLB during the second semester of the academic year is HUME 112 (Sustainability Science). It is a required course for BS Human Ecology Students but students from other courses such as BS Development Communication among others are also allowed to take

it as an elective course. In this comparative study, the researcher sought to identify if there is a difference in the awareness level, knowledge level, attitudes and practices of students who have not yet taken the HUME 112 (Sustainability Science) course and students who have finished the HUME 112 (Sustainability Science) course in sustainable fashion. The level of awareness, knowledge, attitude and practices on sustainable fashion were determined.



**Figure 1.**  
Conceptual framework of the study

## 2.1 Definition of Terms

Awareness refers to the respondent's level of perception or familiarity on sustainable fashion and was assessed through a 5-point Likert scale through several statements.

	Positive Statement	Negative Statement
Not aware	1	5
Moderately not aware	4	2
Very much aware	5	1

Each respondent's awareness level was measured based on the score on each item. The higher total score on each item indicated a higher level of awareness while the lower total score indicated a lower level of awareness.

Attitude refers to the degree of liking (positive), uncertainty, or disliking (negative) of something or someone by a person. For this research, attitude defines a respondent's attitude regarding sustainable fashion. These were measured using a 5-point Likert scale through several statements.

	Positive Statement	Negative Statement
Strongly disagree	1	5
Disagree	2	4
Neutral	3	3
Agree	4	2
Strongly Agree	5	1

The higher total score on each item inferred that a respondent's attitude was favorable. Otherwise, a respondent's attitude is unfavorable if the total score is lower. On the other hand, the middle range indicated a neutral attitude from the respondent. HUME 112 (Sustainability Science) refers to the core course offered to BS Human Ecology students usually during the second semester of their first academic year in the university. It can also be taken up by non-BS Human Ecology Students who wish to take it as an elective course. This study looked into the difference between the awareness level, knowledge level, attitudes and practices towards sustainable fashion of students who have not yet taken the HUME 112 (Sustainability Science) course and students who finished the HUME 112 (Sustainability Science) course at the University of the Philippines Los Baños Laguna, Philippines.

Knowledge refers to the amount of information that a respondent can answer regarding the proper definition of SDG 12, the definition, forms and practices of sustainable fashion, and enumerating the sustainable fashion brands they know in the Philippines. The definition of SDG 12 and sustainable fashion were assessed as positive if 47 respondents answered to the question was yes. Otherwise, it was evaluated as negative. Moreover, the forms and practices of sustainable fashion were measured using the scoring system listed below.

Number of correct answers	Equivalent
0-6	Low
7-13	Moderate
14-20	High

The algebraic summation of each respondent's scores on each item indicated the respondent's total score. The scores were grouped into three categories – high, moderate and low. If a respondent's total score is lower than or equal to six, it indicates a very low knowledge of the indicators of forms and practices of sustainable fashion. If a respondent's total score is between seven and 13, it suggests that they have a moderate knowledge of the indicators of forms and practices of sustainable fashion. However, they have a high knowledge if they accumulate 14 to 20 correct answers. The interpreted scores represented the knowledge level of each respondent.

Practices describe how often a respondent does each activity related to sustainable fashion practices. This was measured through a 5-point Likert scale through several statements.

	Positive Statement	Negative Statement
Never	1	5
Rarely	2	4
Sometimes	3	3
Often	4	2
Always	5	1

A respondent who got a high score on each item shows that his/her practices on sustainable fashion are positive and vice versa. The middle range was indicative of a respondent's neutral practices.

Socio-demographic Characteristics refer to the name (optional), age, sex, civil status, student classification (new first year, continuing first year, second year, third year, and fourth year students), degree course, college, location of residence, weekly allowance, source of weekly allowance (own job, parents/family member/any sponsor, or scholarship allowance), monthly family income, access to sustainable fashion such as access to online and physical clothing and/ or accessories stores in town or city, type of clothing and/ or accessories stores accessible in town/city, and lastly, completion of the HUME 112: Sustainability Science course.

Sustainable fashion refers to the clothes and accessories produced in an ecologically and socially responsible manner. Sustainable fashion means using eco-friendly fibers, providing livable wages and a safe working environment to garment workers, and making quality and long-lasting products.

### **3 Results and Discussion**

The discussion focuses on the results gathered from the respondents based on the objectives and survey questionnaire used in this study.

#### **3.1 Socio-demographic Characteristics of the Respondents**

The socio-demographic characteristics of the respondents included age, sex, civil status, student classification, degree course, college, location of residence, weekly allowance, source of weekly allowance, monthly family income, access to sustainable fashion such as access to online and physical clothing and/ or accessories stores in town or city, type of clothing and/ or accessories stores accessible in town/city, and lastly, completion of the HUME 112: Sustainability Science course.

Less than one-third (31%) of the respondents are 19 years old. Most (71%) of the respondents are female. All the respondents are single. Over one-third (36%) of the respondents are classified as second year in the university. Many (79%) respondents took up BS Human Ecology. In relation to their degree course, 80% of the respondents are enrolled in the College of Human Ecology. Among all the respondents, 39% are living in urban residence, while those living in rural residences constitute 32% of the respondents. For the weekly allowance, 74% of them revealed that they currently have no weekly budget due to the COVID-19 pandemic. In contrast, the remaining 26% have a weekly allowance. Of the 26% who have weekly allowance, 45% claimed that the range of their weekly allowance is lower than Php 500 and 29% of them got their weekly allowance from their parents, family, members or any sponsor. For the monthly income, 24% of the respondents have a monthly family income higher than Php 50,000.

Almost all (93%) respondents have access to online clothing and/or accessories stores in their respective towns/cities, while the remaining 7% claimed they have no access to such. Regarding physical clothing and/or accessories stores in their town or city, 96% of them have access while the other 4% have none. The following are the top three clothing and/or accessories stores accessible to the respondents in their towns or cities: ukay-ukay stores/garage sales, cheap online shops, and shopping markets or palengke. Only 25% had access to sustainable clothing and/or accessories stores.

Regarding the completion of the respondents to the HUME 112 (Sustainability Science) course offered by DSDS, 56% of them have taken the course already. In comparison, the remaining 44% have not yet taken the course.

### 3.2 Respondents' Knowledge Level on SDG 12 Definition and Definition, Forms, Practices of Sustainable Fashion and Sustainable Fashion Brands in the Philippines

The level of knowledge of the respondents on the definition of SDG 12 and sustainable fashion and forms and practices of sustainable fashion were measured as low if their number of correct answers from the questions are 0-6, moderate if 7-13, and high if 14-20. Table 1 shows the overall knowledge level on the SDG 12 definition, & definition, forms, and practices of sustainable fashion among the first and second cohort students.

It was found out that for the first cohort, 77% of the respondents had a high level of knowledge on the SDG 12 definition & definition, forms, and practices of sustainable fashion while 17% had no response to this section. This is because they were also the respondents who were unaware of the terms "fast fashion" and "sustainable fashion". Only 6% of the first cohort had a moderate level of knowledge and it is also notable that none of them had a low level of knowledge.

For the second cohort of this study, it is noteworthy that 95% of the respondents had a high level of knowledge on the SDG 12 definition, & definition, forms, and practices of sustainable fashion and only 3% of them had no response to this section. In addition, only 2% of them had a moderate level of knowledge while none acquired a low level of knowledge on the SDG 12 definition & definition, forms, and sustainable fashion practices.

From this, it is evident that the level of knowledge of the second cohort is more significant as compared to the first cohort. However, both cohorts did not demonstrate a low level of knowledge on the SDSG definition, forms, and practices of sustainable fashion. This implies that completion of the HUME 112 (Sustainability Science) course has a positive effect and impact on the level of knowledge of students regarding sustainable fashion.

**Table 1.** Summary of respondents' knowledge level on SDG 12 definition, definition, forms, and sustainable fashion practices

<b>AWARENESS LEVEL</b>	<b>FREQUENCY (N=225)</b>	<b>PERCENT</b>
<i>Students who have not yet taken the HUME 112:</i>		
<i>Sustainability Science course</i>		
High	76	77
No Response	17	17
Moderate	6	6
Low	0	0
Total	99	100
<i>Students who have taken the HUME 112:</i>		
<i>Sustainability Science course</i>		
High	120	95
No Response	4	3
Moderate	2	2
Low	0	0
Total	126	100

#### **Students who have not yet taken the HUME 112 (Sustainability Science) course**

The majority (70%) of the respondents from the first cohort got the correct answer on the definition of SDG 12, while 13% did not know the answer. It is also important to note that 17% of the respondents from the first cohort had no response for each of the questions here on the Knowledge section.

As for the definition of sustainable fashion, 77% of them got the correct answer while there were



6% among them who did not know the answer. About the forms of sustainable fashion, the highest known form of sustainable fashion among the first cohort is the Repair, Redesign, and Upcycle garnering a total of 82% of correct answers among the respondents.

Knowledge on sustainable fashion practices of producers and consumers was also gathered from the respondents. Among all the mentioned sustainable fashion practices of the producers, the practice on doing extensive research and planning before releasing any products got the highest number of correct answers (83%).

On the other hand, the consumers' practice on repairing or upcycling clothing and accessories instead of buying newly produced items and buying second-hand or vintage if it is necessary to purchase new clothing and accessories ranked as the highest (81%) known practice among the respondents.

Notably, 75% of the first cohort did not know any sustainable fashion brands. For the 25% who answered yes, some of the brands mentioned are Tela.mnl, Bench, Candid Clothing Co.Craftcha, H&M, Penshoppe, Rags2Riches, Riotaso, Uniqlo, Adidas, ANTHILL Fabric, Carino the brand, Forever21, Fun tee, Gazastores, Grab a tee, Groove activewear, LADAKSA, Lafiza Fiamma, Lee, Levi's, Local small brands on Shopee, Re Clothing, RRJ, Shopflorice, SundayCollective.Studios, Sunki, The Vintage Collective, Touchic & Sweet Repeat, Ukay-ukay stores, VINTA Gallery, and Zara.

Looking further into the sustainable fashion brands mentioned earlier, some are not sustainable and are just fast fashion. This further emphasizes the need to increase the knowledge of the students regarding fast fashion and sustainable fashion because some of them are misinformed about what brands are sustainable and what brands are just greenwashing their consumers.

### **Students who have taken the HUME 112 (Sustainability Science) course**

Many (86%) of the respondents got the correct answer on the definition of SDG 12, while only 11% did not know the answer. Notably, for this cohort, only 3% of participants had no response to all the questions in the Knowledge section.

For the definition of sustainable fashion, almost all (94%) got the correct answer. Regarding the forms of sustainable fashion, the highest known form (94%) of sustainable fashion among the respondents are both the repair, redesign and upcycle and the green and clean, which simply means that clothes must be produced in an environmentally sound manner.

For the sustainable fashion practices of the producers, the highest (96%) known practice by the respondents is doing extensive research and planning before releasing any products, and for the sustainable fashion practices of the consumers, the highest (96%) known practice among the respondents is repairing or upcycling clothing and accessories instead of buying newly produced items and buying secondhand or vintage if it is necessary to buy new clothing and accessories.

In comparison to the knowledge level of the first cohort, it is evident that the knowledge level of the second cohort is higher, as they acquired a higher number of correct answers to each question in the Knowledge section. This only suggests that taking the HUME 112 course significantly increases one's knowledge on fast fashion and sustainable fashion.

The second cohort was also able to enumerate numerous sustainable fashion brands, but similar to the first cohort, they also mentioned a lot of brands that are the opposite of sustainable fashion – fast fashion.

### **Respondents' Attitudes on Sustainable Fashion**

Table 2 summarizes the respondents' attitudes toward sustainable fashion. The attitudes of the respondents were measured as unfavorable if their weighted mean ranged from 0 - 1.70, fair if 1.71 - 3.40, and favorable if 3.41 - 5.0.

Remarkably, all respondents from the first and second cohorts had a favorable attitude towards sustainable fashion. The general attitude of the first cohort is favorable, having a weighted mean of



4.80. The general attitude of the second cohort is also favorable but their weighted mean is a bit higher than that of the first cohort, having a 4.83 weighted mean. This positive attitude of both cohorts could be attributed to their moderate and high level of awareness as well as high level of knowledge. As supported by the study of Okoli et al., increases in knowledge and awareness lead to changes in attitudes [10]. The positive attitude of Generation Z toward sustainable fashion is supported by new research, stating that Generation Z expresses the most concern for the Earth's well-being and is the generation that influences others to consume in a sustainable manner [11].

**Table 2.** Summary of respondents' attitudes on sustainable fashion

<b>ATTITUDES</b>	<b>FREQUENCY (N=225)</b>	<b>PERCENT</b>
<i>Students who have not yet taken the HUME 112:</i>		
<i>Sustainability Science course</i>		
Favorable	99	100
Fair	0	0
Unfavorable	0	0
Total	99	100
WEIGHTED MEAN	4.80	
DESCRIPTION	Favorable	
<hr/>		
<i>Students who have taken the HUME 112:</i>		
<i>Sustainability Science course</i>		
Favorable	126	100
Fair	0	0
Unfavorable	0	0
Total	126	100
WEIGHTED MEAN	4.83	
DESCRIPTION	Favorable	

**Students who have not yet taken the HUME 112: Sustainability Science course**

All in all, the respondents showed favorable responses regarding all of the attitudes related to sustainable fashion. The highest favorable (4.87) attitude among the given statements were the statements regarding: 1) showing support to the local sustainable fashion brands that provide high quality and classic pieces of clothing and accessories that will last long; 2) fashion brands should be required by the law to protect the environment at every stage of their production; and 3) fashion brands should be required by the law to provide information about the environmental and social impacts of their business.

The first cohort also indicated their opinion on other positive attitudes that will help improve sustainable fashion practices. The top three positive attitudes include supporting local sustainable fashion brands (15%), being mindful of products that we use by buying only what we truly need (9%), and lastly, sharing knowledge about sustainable fashion with other people (8%) to encourage them also to practice it.

### Students who have taken the HUME 112 (Sustainability Science) course

Similar to the first cohort, they also have an overall favorable attitude towards sustainable fashion. Still, their weighted mean (4.83) is a bit higher than that of the first cohort which is only 4.80. The top two (4.90) favorable attitude among all the statements stated that fashion brands should be required by the law to protect the environment at every stage of their production and provide information about the environmental and societal impacts of their business.

Their top three positive attitudes include sharing knowledge about sustainable fashion with others (11%); refraining from following microtrends (10%), as these quickly go out of style, thus needing to change one's wardrobe constantly; and lastly, supporting local sustainable fashion brands (9%). This being said, it can be suggested that even though both cohorts have a favorable attitude towards sustainable fashion, the second cohort has more insights on positive attitudes that can help improve the practice of sustainable fashion.

### 3.3 Respondents' Practices on Sustainable Fashion

#### Students who have not yet taken the HUME 112 (Sustainability Science) course

Out of the 21 statements used to measure the respondent's practices on sustainable fashion, five statements got a high level of practice. These statements included: 1) reducing overall consumption of clothing by not buying new clothes and accessories when there is no need and prolonging the lifecycle of all clothes and accessories (4.15); 2) buying second-hand clothes and accessories (3.75); 3) buying clothes and accessories that one can wear over a longer term compared to trendy clothes that go out of style quickly (4.39); 4) borrowing clothes and accessories from a family member, a relative or a friend (3.73); and lastly 5) letting someone borrow his/her clothes and accessories (3.85). At the same time, all the remaining statements had a moderate level of practice.

**Table 3.** Summary of respondents' practices on sustainable fashion

PRACTICES	FREQUENCY (N=225)	PERCENT
<i>Students who have not yet taken the HUME 112:</i>		
<i>Sustainability Science course</i>		
Moderate	62	63
High	37	37
Total	99	100
WEIGHTED MEAN	3.13	
DESCRIPTION	Moderate	
<hr/>		
<i>Students who have taken the HUME 112:</i>		
<i>Sustainability Science course</i>		
Moderate	74	59
High	50	40
Total	126	101*
WEIGHTED MEAN	3.30	
DESCRIPTION	Moderate	

*\*due to rounding off*

The first cohort's opinion on the essential practices they need to improve further to sustain sustainable fashion was also stated. The top three practices include reducing overall consumption

of clothing by not buying new clothes and accessories when it is not needed and prolonging the life cycle of clothes and accessories (23%), researching about the products first before buying (12%), and lastly learning how to repair and upcycle own clothes (11%).

**Students who have taken the HUME 112 (Sustainability Science) course**

Out of the 21 statements used to measure their level of practice, nine statements had a high level of practice, which is comparably higher than the first cohort with only five statements having a high level of practice.

Similar to the first cohort, the highest (20%) practice mentioned is reducing the overall clothing consumption. This is followed by learning how to repair and upcycle your own clothes (14%), and lastly researching the materials of the products first before buying (12%). This being said, it is notable that the top three practices answered by both cohorts are similar to each other. This indicates that both cohorts have the same set of practices that they still need to improve.

3.4 Relationship of Variables

**Students who have not yet taken the HUME 112 (Sustainability Science) course**

Table 4 indicates the relationship between the first cohort’s awareness level, knowledge level, attitudes and practices toward sustainable fashion. It is important to note that for both cohorts, it was found out that attitudes have no linear correlation with awareness, knowledge, and practices since the results are favorable for both cohorts. This simply means that the respondents’ awareness, knowledge and practices are not based or dependent on their attitudes.

Variables that were found to have a significant relationship to each other are: 1) awareness and knowledge; 2) awareness and practices; and 3) knowledge and practices. It was found that there is a moderate positive correlation between the awareness level and knowledge level of students who have not yet taken the HUME 112 course. When the level of awareness increases, the level of knowledge of the students also increases. This means that an individual is knowledge level depends on his/her level of awareness.

It was also found that there is a moderate positive correlation between the awareness level and practices of students who have not yet taken the HUME 112 course. When their level of awareness increases, their practices also increase which means that the practice of an individual is dependent on his/ her level of awareness.

**Table 4.** Relationship of respondent’s (Students who have not yet taken the HUME 112: Sustainability Science course) awareness, knowledge, attitudes, and practices to each other

VARIABLES		Spearman's Rank Correlation				
		Correlation Coefficient	p-value	Significant?	Strength of Correlation	Interpretation
AWARENESS	KNOWLEDGE	.573**	0.000	YES	moderate	There is a moderate positive correlation between students' awareness level and knowledge level who have not yet taken HUME 112.
	PRACTICES	.417**	0.000	YES	moderate	There is a moderate positive correlation between awareness level and practices of students who have not yet taken HUME 112.
KNOWLEDGE	PRACTICES	.341**	0.001	YES	weak	A weak positive correlation exists between knowledge level and practices of students who have not yet taken HUME 112.

Significant if p-value is less than 0.05

On the other hand, it was found that there is a weak positive correlation between the knowledge level and practices of students who have not yet taken the HUME 112 course; this means that when their level of knowledge increases, their practices also increase but only to a small degree. With this, the practice of an individual is dependent on his/her level of knowledge.

**Students who have taken the HUME 112: Sustainability Science course**

Table 5 indicates the relationship between the second cohort’s awareness level, knowledge level, attitudes, and practices toward sustainable fashion to each other. Variables that were found to have a significant relationship to each other are: 1) awareness and knowledge; and 2) awareness and practices. It was found that there is a moderate positive correlation between awareness level and knowledge level of students who have taken the HUME 112 course. When the level of awareness increases, the level of knowledge also increases. This means that an individual is knowledge level depends on his/her level of awareness.

Aside from this, it was found that there is a weak positive correlation between awareness level and practices of the students who have taken the HUME 112 which simply denotes that when their level of awareness increases, their practices also increase but only to a small degree. This implies that the practice of an individual is dependent on his/her level of awareness only to a certain degree. On the other hand, it was found that there is no correlation between the knowledge level and practices of students who have taken the HUME 112 course which indicates that their practice towards sustainable fashion is not based or dependent on their level of knowledge on sustainable fashion.

This proves that great knowledge on something does not always translate into positive action [12]. The students may need to know how to practice sustainable fashion in their everyday lives rather than only having the knowledge on the effects of fast fashion and the definition and forms of sustainable fashion (cognitive vs. affective). Furthermore, this is supported by another study by Jamilah et al. [13], where it was also emphasized that having a high level of knowledge towards Sustainable Development Goals (SDGs) did not ensure a high level of practice among the students.

**Table 5.** Relationship of respondent’s (Students who have not yet taken the HUME 112: Sustainability Science course) awareness, knowledge, attitudes, and practices to each other

VARIABLES	Mann-Whitney U	p-value	Significant ?	Interpretation
AWARENESS	4430.000	0.000	YES	Since the p-value <0.05, there is a significant difference in the awareness level between students who took HUME 112 course and who did not.
KNOWLEDGE	5080.000	0.000	YES	Since the p-value <0.05, there is a significant difference in the knowledge level between students who took HUME 112 course and who did not.
ATTITUDE	6237.000	1.000	NO	Since the p-value >0.05, there is no significant difference in attitude between students who took HUME 112 course and who did not.
PRACTICES	6155.000	0.842	NO	Since the p-value >0.05, there is no significant difference in practices between students who took HUME 112 course and who did not.

Significant if p-value is less than 0.05

### 3.5 Comparison Between the Awareness, Knowledge, Attitude, and Practices of the Students who have not yet taken HUME 112 (Sustainability Science) course and the Students who have finished the HUME 112 on Sustainable Fashion

Table 6 shows the comparison of the awareness, knowledge, attitudes, and practices towards sustainable fashion of the students from the first and second cohorts.

It was found that there is a significant difference in the awareness level between the students who took the HUME 112 course and those who did not, since the p-value is  $<0.05$ . This indicates that the awareness level on sustainable fashion of students who took the HUME 112 course is higher than that of students who did not take the HUME 112 course.

Similarly, for the knowledge section, it was found that there is also a significant difference in the knowledge level between the students who took the HUME 112 course and the students who did not, since the p-value is  $<0.05$ . This suggests that students who took the HUME 112 course have a higher level of knowledge towards sustainable fashion than those who did not. Meanwhile, for the attitudes, since the p-value is  $>0.05$ , there is no significant difference in the attitude between the students who took the HUME 112 course and the students who did not take the course. This is because both cohorts have favorable attitudes towards sustainable fashion regardless of whether or not they have taken the HUME 112 course. This is supported by the results of a new Pew Research Center survey stating that Generation Z has high levels of engagement regarding issues of climate change, exhibited in their active engagement regarding discourse on climate change online and offline [14]. Lastly, for the practices towards sustainable fashion, since the p-value is  $>0.05$ , there is also no significant difference in the practices between the students who took the HUME 112 course and the students who did not take the course.

Despite this, it is important to note that based on the students' responses, the second cohort's level of practice is still slightly higher (3.30 moderate) than the first cohort (3.13 moderate). This reveals that the students' actual practice of sustainable fashion in their everyday lives is not only entirely based on their high level of awareness and knowledge towards sustainable fashion. It can still be affected by many factors such as economic status, location of residence, access to clothing and/or accessories stores, and personal lifestyle. Another factor that is crucial to point out is that compared to awareness and knowledge which can be easily monitored for a short period, attitudes and practices are observable on a long-term basis since there is a behavioral dimension embedded.

**Table 6.** Comparison of the awareness, knowledge, attitudes, and practices of students who have not yet taken the HUME 112: Sustainability Science course and students who have finished the HUME 112: Sustainability Science course on sustainable fashion

VARIABLES	Mann-Whitney U	p-value	Significant ?	Interpretation
AWARENESS	4430.000	0.000	YES	Since the p-value $<0.05$ , there is a significant difference in the awareness level between students who took HUME 112 course and who did not.
KNOWLEDGE	5080.000	0.000	YES	Since the p-value $<0.05$ , there is a significant difference in the knowledge level between students who took HUME 112 course and who did not.
ATTITUDE	6237.000	1.000	NO	Since the p-value $>0.05$ , there is no significant difference in attitude between students who took HUME 112 course and who did not.
PRACTICES	6155.000	0.842	NO	Since the p-value $>0.05$ , there is no significant difference in practices between students who took HUME 112 course and who did not.

Significant if p-value is less than 0.05

## 4 Conclusion

The student's attendance to Hume 112 (Sustainability Science) course and topics contributed to their behavior towards sustainable fashion. Those who have taken (cohort 2) Hume 112 have a higher awareness level (95%, high) as compared to those who have not attended (cohort 1) the course (77%, high). Similarly, for their knowledge, it is evident that the respondents from the second cohort is higher, as they acquired a higher number of correct answers to each questions asked. Thus, this proves that HUME 112 course significantly increases one's knowledge on sustainable fashion.

For the relationship of variables for the first cohort, most of the relationships between two variables including awareness and knowledge, awareness and practices, and knowledge and practices had a significant relationship with each other. Meanwhile, for the second cohort, the variables of awareness and knowledge and awareness and practices had a significant relationship with each other. On the other hand, there is no correlation between the knowledge level and practices of students from second cohort which indicates that their practice towards sustainable fashion is not based or dependent on their level of knowledge on sustainable fashion.

For the comparison between the awareness level, knowledge level, attitude, and practices between the two cohorts on sustainable fashion, the results showed that there is a significant difference in the awareness level between the two cohorts. This indicates that the awareness level on sustainable fashion of students who took the HUME 112 course is higher than that of students who did not take the HUME 112 course. Similarly, for the knowledge section, there is also a significant difference in the knowledge level between the students from both cohorts, suggesting that students who took the HUME 112 course had a higher level of knowledge towards sustainable fashion than those who did not. Meanwhile, for the attitudes, there is no significant difference in the attitude between the students from the two cohorts because both cohorts have favorable attitude towards sustainable fashion regardless of whether or not they have taken the HUME 112 course. For the practices towards sustainable fashion, there is also no significant difference in the practices between the two cohorts. This implies that a high level of awareness and knowledge on sustainable fashion does not automatically lead to frequent practice of sustainable fashion because there are still many factors that can affect an individual's practice, such as economic status, location of residence and access to clothing and/or accessories stores, and personal lifestyle.

## 5 Recommendations

Based on the conclusions of this study, the following are the researcher's recommendations for the DSDS faculty and staff, policymakers, fashion brands/companies, and future researcher:

### 5.1 For DSDS faculty and staff

Results showed that the students who have not taken the HUME 112 (Sustainability Science) course showed only a moderate level of awareness on the environmental and social impacts of fast fashion while the students who have taken the HUME 112 (Sustainability Science) course showed a high level of awareness. In addition, the knowledge level of the students who have taken the HUME 112 course is higher than those who have not yet taken the course. Moreover, it was also found out that the variables of awareness and practices (for both cohorts) and knowledge and practices (only for the first cohort) have a significant relationship with each other which indicates that their level of practice will increase once they are more aware and knowledgeable about sustainable fashion. Therefore, it is crucial that we conduct an intensive information, education and communication campaign on sustainable fashion and ultimately include sustainable fashion in the course guide of HUME 112: Sustainability Science. Some example topics on sustainable fashion that the respondents are interested in knowing more about in the future include definition, history, importance,

environmental and social impacts of fast fashion and sustainable fashion, manufacturing process and distribution of both fast fashion and sustainable fashion industries, green marketing, forms and practices of sustainable fashion, and lastly sustainable fashion brands and fast fashion brands in the Philippines. Lastly, it is also important to include sustainable fashion in the course guide of HUME 112: Sustainability Science. The results showed that some respondents are misinformed about what brands are sustainable and what brands are just greenwashing their consumers.

## 5.2 For Policymakers

It is recommended that the government take action regarding this issue by implementing programs to raise awareness and knowledge on the effects of fast fashion on our society and to the environment and the importance of supporting local, sustainable fashion brands. This can be done through active distribution of information via different channels such as social media platforms like Facebook, Instagram and TikTok since these platforms are heavily used by consumers of all ages nowadays, especially students, interactive websites and news outlets. Aside from this, it is also recommended to integrate the issues of fast fashion and sustainable fashion into the curriculum of different schools, colleges, and universities. Impacts of fast fashion and sustainable fashion should be taught to students as early as high school to improve their level of awareness, knowledge, attitude and practice towards sustainable fashion and ultimately, their level of concern and action towards protecting the environment. Moreover, the government should also push for crafting policies that support sustainable fashion, such as policies that will give tax incentives to local fashion brands and businesses to encourage them to work more sustainably and strive to make sustainable fashion more affordable and accessible for everyone. Lastly, the government should also make laws to set and implement strict regulations for big fast fashion companies and hold them accountable for exploiting garment workers and damaging the environment.

## 5.3 For Fashion Brands/Companies

It is recommended that all fashion companies and producers, whether local or international, start to be accountable in informing their consumers regarding the effects of fast fashion. It is also recommended that producers make an effort to reuse all clothes that have reached its end of life into manufacturing new clothes to reduce textile waste piling up in landfills and the environment. Lastly, increasing their transparency is also a must. This can be illustrated by releasing sustainability reports open for the public to review at any given time.

## 5.4 For Future Studies

To improve this study, the researcher would like to recommend to future researcher to use complete enumeration in selecting the respondents to represent the whole population and have a wide range and variety of responses. Aside from this, it is also crucial to look more into other factors that affect the practices of students towards sustainable fashion, as this can help formulate action plans for improving individual and collective practice towards sustainable fashion. Lastly, further research on awareness, knowledge, attitudes and practices (AKAP) on sustainable fashion of other populations such as students from other colleges of UPLB and other students outside UPLB, would be beneficial since most of the respondents were from the College of Human Ecology where students are more environmentally-conscious since they have courses on sustainability science and other environment-related courses. By doing so, differences in the results could be compared.



## References

- [1] Fashion. (2022). <https://www.statista.com/outlook/dmo/ecommerce/fashion/worldwide#:~:text=Revenue%20in%20the%20Fashion%20market,US%24768.70bn%20in%202023>.
- [2] The problem with fast fashion. (2019). *Battered Women Support Services*. <https://www.bwss.org/fastfashion/>
- [3] Bick, R., Halsey, E., & Ekenga, C. C. (2018). The global environmental injustice of fast fashion. *Environmental Health*, 17, 1–4. <https://doi.org/https://doi.org/10.1186/S12940-018-0433-7>
- [4] YouGov. (2021). Fast fashion: A third of filipinos have thrown away clothing after wearing it just once. <https://ph.yougov.com/en-ph/news/2017/12/06/fast-fashion/>
- [5] Fletcher, K. (4). Sustainable fashion and textiles design journeys (2nd). <https://www.routledge.com/Sustainable-Fashion-and-Textiles-Design-Journeys/Fletcher/p/book/9780415644563>
- [6] What is sustainable fashion + why does it matter? (2021). *The Conscious Edit*. <https://www.consciouslifeandstyle.com/what-is-sustainable-fashion/>
- [7] Fleming, J. H. (2016). Millennials are starting to spend more. *Gallup*. <https://news.gallup.com/businessjournal/191837/millennials-starting-spend.aspx>
- [8] Joung, H.-M. (2014). Fast-fashion consumers' post-purchase behaviours. *International Journal of Retail & Distribution Management*, 42(8), 688–697. <https://doi.org/https://doi.org/10.1108/IJRDM-03-2013-0055>
- [9] Jobog, R. (2019). *Awareness, knowledge, attitudes and practices of selected freshmen students on responsible clothing consumption at the college of human ecology* [Bachelor's Thesis]. University of the Philippines Los Baños.
- [10] Okoli, G. N., Reddy, V. K., Lam, O. L., Abdulwahid, T., Askin, N., Thommes, E., Chit, A., Abou-Setta, A. M., & Mahmud, S. M. (2021). Interventions on health care providers to improve seasonal influenza vaccination rates among patients: A systematic review and meta-analysis of the evidence since 2000. *Family Practice*, 38(4), 524–536. <https://doi.org/https://doi.org/10.1093/FAMPRA/CMAA149>
- [11] Wood, J. (2022). How gen z's sustainability concerns are influencing others. *World Economic Forum*. <https://www.weforum.org/agenda/2022/03/generation-z-sustainability-lifestyle-buying-decisions/>
- [12] Mahat, H., Hashim, M., Nayan, N., Saleh, Y., Haron, S. M. S., et al. (2017). Sustainable consumption practices of students through practice oriented approach of education for sustainable development. *Int. J. Acad. Res. Bus. Soc. Sci*, 7(6), 703–720. <https://doi.org/10.6007/IJARBSS/v7-i6/3031>
- [13] Ahmad, J., Mustafa, H., Abd Hamid, H., & Wahab, J. A. (2011). Pengetahuan, sikap dan amalan masyarakat malaysia terhadap isu alam sekitar. *Akademika*, 81(3), 103–115.
- [14] Gen z, millennials stand out for climate change activism, social media engagement with issue. (2021). *Pew Research Center*. <https://www.pewresearch.org/science/2021/05/26/gen-z-millennials-stand-out-for-climate-change-activism-social-media-engagement-with-issue/>