

## **ABSTRACT**

ZIWEI, ZHANG. A Cross-cultural Study of Young Consumers' Eco-friendly T-shirts Purchase Behavior. (Under the direction of Dr. Lori Rothenberg).

Due to climate changes in the world, environmental concerns have been popular among consumers. The textile and apparel industry, as one of the most polluting industries, has gained a lot of attention in recent years. Different countries play different roles in the textile and apparel industry. For example, China is the world's largest textile producer and exporter. America provides a large market for eco-friendly apparel products. Young Chinese and American consumers were selected for the current study.

The research consisted of two parts. In both parts, differences between young Chinese and American consumers were tested. In the first part, the Theory of Planned Behavior, which has been widely used and successfully tested in marketing research, was used to hypothesize the effect of several factors (environmental knowledge, Altruism, environmental concern, personal norm, interpersonal influence, perceived risks, money availability, and store accessibility) identified in the literature on consumer purchase intention. The purpose of the second part of the study was to assess the trade-offs consumers make when they intend to buy a T-shirt. We employed a discrete choice design to test consumer preference for three attributes (eco-friendly or not, country of origin, and price) of eco-friendly T-shirts.

In total, 703 (482 from China and 221 from America) valid responses were analyzed. The analysis was also divided into two parts. Linear regression and conjoint analysis were used to analyze the data. The results showed that Chinese consumers were significantly higher in attitude and subjective norm towards purchasing eco-friendly T-shirts. American consumers were found to have higher perceived behavior control. There were no other significant differences between Chinese and American consumers. The conjoint analysis suggested that eco-friendly was the

most dominant attribute for Chinese consumers while American consumers were more conscious about the price of T-shirts. Implications for researchers and managers are presented along with directions for future research.

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A Cross-cultural Study of Young Consumers' Eco-friendly T-shirts Purchase Behavior

by  
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## **DEDICATION**

*To my parents and friends for their constant support and unconditional love.*

## **BIOGRAPHY**

Ziwei Zhang was born on June 27th, 1996 in Jilin, China. In the year of 2018, she graduated from bachelor's degree in Textile Design in Donghua University, Shanghai, China. In August 2017, she joined 3+X program in Textile/Apparel Technology and Management at Wilson College of Textiles, North Carolina State University. She pursues her thesis research in consumer behavior of eco-friendly apparel products.

Ziwei has a keen interest in brand management, consumer behavior, fashion, sustainability, and market research. She aims to pursue her career in research and fashion where she can utilize her professional experience and diverse skills and make an impact to the fashion industry.

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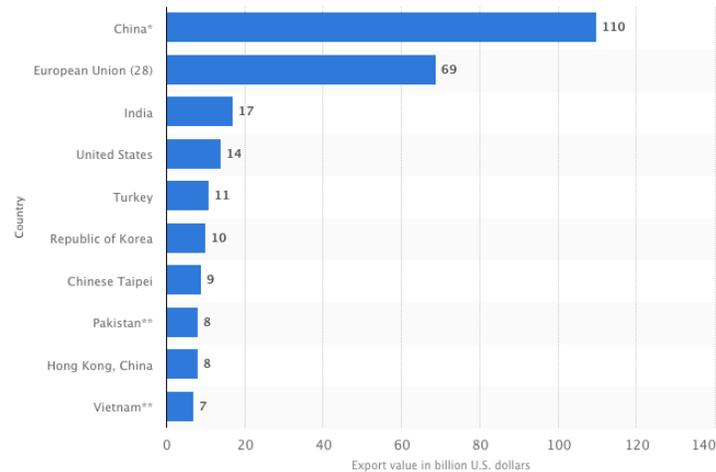
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## CHAPTER 1. INTRODUCTION

### **Organic apparel/sustainability**

Concern for the environment is becoming popular among consumers due to climate changes around the world (Bong Ko & Jin, 2017). Environmental problems have gained attention in the textile and apparel industry, one of the most polluting industries in the world (Ozek, 2017; Shen, Li, Dong, & Perry, 2017). Sustainable fashion appears to be a new hot topic in the fashion world, but the word has existed since the 1940s (Henninger, Alevizou, & Oates, 2016). Sustainable fashion is also called eco-fashion, the purpose of which is to ‘increase the value of local production and products, to prolong the life cycle of materials, to increase the value of timeless garments, to reduce the amount of waste, and to reduce the harm to the environment.’ (Gurova & Morozova, 2018, pg. 14). Purchasing ‘eco-friendly apparel products’ is referred to as a sustainable purchase behavior. This concept is widely used by apparel brands, including H&M, Zara, Patagonia, and even Louis Vuitton, as a method to attract consumers (Shen et al., 2017). The textile and apparel industry appears to be making strides in sustainability.

However, the textile industry is one of the biggest contributors to environmental pollution and China and the United States are significant players. China is the largest textile producer and exporter in the world. In 2017, textile exports reached approximately 110 billion US dollars, which was 37.2% of the global market share (see Figure 1). There were many reasons for this including cheap labor and the availability of materials. In 2017, textile exports from the United States were approximately 14 billion U.S. dollars and ranked 4th, after China, the European Union, and India (Top 10 textile exporting countries, 2018). Together, the Chinese and American textile industries pose a formidable threat to the environment.



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**Figure 1.** Textile exporters worldwide in 2017 (Top 10 textile exporting countries.2018).

Although concern for the environment has become popular among consumers, this has not resulted in a large change in their purchasing behaviors. A large barrier to the purchase of eco-friendly products is the limited knowledge about green apparel consumption. The level of knowledge varies depending on the economic development status and culture of a country (Bong Ko & Jin, 2017). However, generally consumers worldwide are considering the environment more when shopping. In fact, 55% of consumers across 60 countries were willing to pay more for sustainable goods according to a report in 2014 (industry\_report, 2019). According to a 2017 Nielsen report of more than 3000 people in 60 countries, 66% of the respondents would pay more for sustainable brands (Ozek, 2017).

In the United States, the market share of sustainable products has grown greatly (Bong Ko & Jin, 2017). Sustainability has become very attractive and every American family practices some form of it. According to a study in 2013, 71% of Americans had already considered environmental issues when shopping, resulting in the green market accounting for 253 billion US dollars. In a more recent survey, 88% of American respondents claimed that taking care of the

environment is very important (industry\_report, 2019). This differs from China, the world's largest developing country.

China is facing great environmental challenges as a consequence of its rapidly growing economy (Bong Ko & Jin, 2017). Sustainable production and consumption are part of China's 13th Five-Year Plan (From 2016-2020). According to a report based on 9370 consumers in 10 cities in China released by the Chain Store and Franchise Association, 70% of Chinese consumers understood the benefit of sustainable consumption and 30% strongly believed that daily sustainable consumption could improve the environment. More than 70% of consumers were willing to pay 10% more for sustainable products and services than those that were not sustainable. Sustainable consumption is becoming a necessity for Chinese consumers who want to improve their lives (Xinhua News Agency, 2017).

### **1.1. Rationale**

As China has been the largest textile producer and exporter in the world and its' consumers are increasingly more conscious of the environment, it is important to study Chinese consumers' purchasing behavior of eco-friendly products. The United States provides a large market for eco-friendly apparel products, so analyzing consumers in the two countries could be of significance. In addition, there is a limited amount of research comparing Chinese and American consumers. Therefore, this study could contribute to the elimination of a gap in the literature.

This cross-cultural analysis of eco-friendly behavior uses the Theory of Planned Behavior as a foundation. The theory is widely used in marketing research. The current study uses survey methodology including a discrete choice design on country of origin. There are only a few studies employing a discrete choice design on country of origin. The conjoint portion of this

study contributes to the literature by testing country of origin, eco-friendliness and pricing of a T-shirt.

Through this research, we could gain a deeper understanding of consumer behavior toward eco-friendly products and attitudes toward country of origin. Finally, we can see the applicability of the Theory of Planned Behavior in cross-cultural market research.

## **1.2. Significance**

Nowadays there is a great deal of research on sustainability in the textile industry, but very little compares consumers from different countries (Chan & Lau, 2002; Chang & Watchravesringkan, 2018), and even less narrows it down to certain products (Rothenberg & Matthews, 2017). Fundamentally, this thesis provides a basic recognition of consumer purchase intention and actual purchasing behavior toward eco-friendly T-shirts for both Chinese and American consumers. Further, this research digs deeper to study the motivations of the intention with the use of the Theory of Planned Behavior. Finally, the study compares the intention and behavior of Chinese and American consumers and points out the differences with possible reasons.

Currently, sustainability is a hot topic around the world, but mainly in the developed countries for the textile and apparel industry. This concept will soon be popular in developing countries such as China. From a practical perspective, the study may provide help to marketers in recognizing how to gain consumer trust and support in carrying out sustainable movements in the textile and apparel industry in both China and the United States.

### **1.3. Purpose of Study**

The purpose of this study is twofold. The first purpose is to compare the purchase intention and behavior of Chinese and American consumers toward eco-friendly T-shirts. The second purpose is to explore the tradeoffs people make if purchasing eco-friendly T-shirts. The first part of the study uses the Theory of Planned Behavior (TPB) to explain consumer purchase intention. The TPB consists of three factors (Attitude, Subjective Norm, Perceived Behavior Control) that are used to explain consumer Purchase Intention. This research proposes to verify the significant antecedents to these factors found in previous studies. According to previous studies, there are three factors that may influence consumer Attitude: Environmental Knowledge, Environmental Concerns, and Altruism. The study utilizes two factors from previous studies that might influence Subjective Norm: Personal Norm, and Interpersonal Influence. Three factors may impact Perceived Behavior Control: Perceived Risks, Money Availability and Store Accessibility.

The purpose of the second part of the study is to assess the trade-offs consumers make when they intend to buy a T-shirt. This part of the research is a conjoint study. It explores consumers' purchase intentions when presented with different T-shirts. The T-shirts differ in the eco-friendliness, country of origin, and the price.

### **1.4. Research Questions**

Research Questions Part I:

1. Are there differences between Chinese and American consumers in terms of Attitude towards purchasing eco-friendly T-shirts?
2. Are there differences between Chinese and American consumers in terms of Subjective Norm of purchasing eco-friendly T-shirts?

3. Are there differences between Chinese and American consumers in terms of Perceived Behavior Control of purchasing eco-friendly T-shirts?

4. Are there differences between Chinese and American consumers in terms of Purchase Intention on purchasing eco-friendly T-shirts?

5. Are there differences between Chinese and American consumers in terms of Purchase Intention of eco-friendly T-shirts?

6. Are there differences between Chinese and American consumers on Actual Behavior of purchasing eco-friendly T-shirts?

#### Research Questions Part II:

1 What tradeoffs do Chinese consumers make if purchasing eco-friendly T-shirts?

2. What tradeoffs do American consumers make if purchasing eco-friendly T-shirts?

## CHAPTER 2. LITERATURE REVIEW

### 2.1. Sustainability

#### 2.1.1. Sustainable Fashion

Sustainability is an increasingly hot topic in the fashion apparel industry and a new concern in consumers' minds. As suggested by Lang and Armstrong (2018), fashion and sustainability do not have to be contradictions. In fact, it has been found that fashion leaders are curious and want information about sustainable fashion when shopping (Cho & Workman, 2014). The concept of sustainability is one of the most effective ways to attract fashion consumers in the unstable, changing, and competitive environment of apparel sales (Ciasullo, Maione, Torre, & Troisi, 2017; Shen, Wang, Lo, & Shum, 2012). For sustainability to be a successful sales strategy, consumers must be given information on companies' sustainable actions. The fashion industry is expected to provide a more transparent information on sustainable fashion using promotions, which will not only increase profits but also educate and stimulate consumers' awareness of the environment while shopping (Ozek, 2017).

Henninger et al. (2016) explored 'sustainable fashion' from the consumers' perspective. It seems that the consumers are more likely to define sustainability at the sourcing or production process level, where micro-organizations and experts in local production and sourcing are important. Furthermore, the transparency of sourced materials, traceability of the production process, and social aspects such as safe working conditions and fair wages are important images for companies to build. Consumers find it difficult to accept sustainable fashion as mainstream fashion on the street, although they admit that it is important. In fact, some brands such as H&M have already established a sustainability profile. But sustainability should not be seen just as a

short-term benefit for individuals, but also as contributing to the long-term well-being of the whole world (Chang & Watchravesringkan, 2018). Sustainable fashion is ethical fashion.

Ethical fashion was defined by Joergens (2006) as ‘fashionable clothes that incorporate fair trade principles with sweatshop-free labor conditions while not harming the environment or workers by using biodegradable and organic cotton.’ (pg. 361). Previous studies have shown that people consider sustainability when making an apparel purchase. The greenness of Green Products, as suggested by Chan and Lau (2002), lies in the reduction of the actual or potential harm they cause to society and the environment.’(pg. 18).

#### 2.1.2. Environmental Knowledge, Awareness, and Values

Knowledge, which is seen as an epistemic value by Cho and Workman (2014) shapes beliefs. Researchers claim that Chinese post-90s are aware of environmental issues, but have only a medium-level knowledge of sustainability in the apparel industry. This is tied closely to their awareness. For example, de Lenne and Vandenbosch (2017) discovered that people found it hard to recognize sustainable brands. Without knowledge and awareness, people will have a difficult time valuing and practicing sustainability.

Consumers’ knowledge about sustainability has a great influence on their attitudes and intention to buy sustainable products (Bong Ko & Jin, 2017; Su, (Tu) Watchravesringkan, & Zhou, 2018). But even if people are aware of ethical issues such as sweatshops in the fashion industry, it will not influence them when shopping (de Lenne & Vandenbosch, 2017; Joergens, 2006). Consumers from Frankfurt, Germany, and Manchester, England showed little knowledge of working conditions in developing countries due in large part to low media coverage of the issue. Hill & Lee (2012) pointed out that consumers do think that industries should head towards sustainability and that retailers and manufacturers should be more responsible. However, it is

important to educate consumers because they tend to define sustainable apparel simplistically due to their limited understanding (Hill & Lee, 2012).

Chan and Lau (2002) stated that Chinese consumers have less understanding of sustainability compared to westerners due to differences in culture and economic status. For example, westerners are more aware of the pricing of sustainable apparel. They assume sustainable apparel may cost more than regular ones, but this is based on their beliefs rather than actual buying experiences (Beatty & Ferrell, 1998; Ciasullo et al., 2017; Henninger et al., 2016; Hill & Lee, 2012). In Ciasullo et al.'s (2017) research, most Westerners were willing to pay only 20% more for sustainable apparel than non-sustainable apparel products.

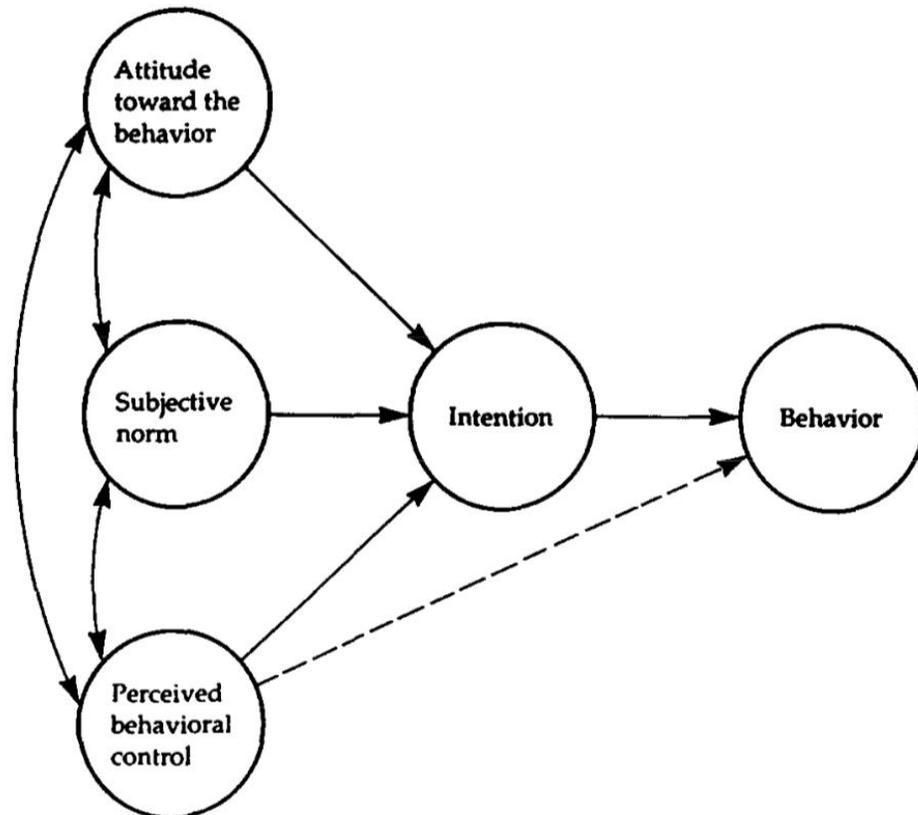
### 2.1.3. Eco-friendly T-shirts

Many researchers are studying shopping behaviors surrounding sustainable products and use apparel as the product of interest. Several researchers limited their studies to a specific item. A T-shirt is a unisex fabric shirt named after the T shape of its body and sleeves. It is a common product that people buy for daily wear and can be decorated using processes such as screen-printing, tie dye, heat transfer vinyl, etc (Responsibly made radically transparent., n.d.). There are many terms used to describe an environmentally friendly product and they have changed over time.

Terms such as 'biodegradable', 'sustainability', and 'organic' were used from 1959 to 2008 to describe environmentally friendly. The term we choose to use to describe the t-shirt in this research is 'eco-friendly', which is consistent with current research on consumers' terminology (Rothenberg & Matthews, 2017; Whitson, Ozkaya, & Roxas, 2014; H. Hyllegard, Paff Ogle, & Yan, 2014). According to Holzer (2018), 'eco-friendly' products refer to products that contribute to green living or practices that help conserve resources like water and energy'.

These products do not contribute to air, water and land pollution and do no harm to the environment.

## 2.2. Part I: Purchase Intention and Behavior



**Figure 2.** Theory of Planned Behavior (Ajzen, 1991)

The Theory of Planned Behavior (TPB) (see Figure 2) is a psychological theory proposed by Icek Ajzen (Ajzen, 1991) to enhance the predictive power of the Theory of Reasoned Actions (TRA) (Ajzen, 1985). Attitude and Subjective Norm were part of the TRA and the TPB introduced Perceived Behavioral Control, which originates from the self-efficacy theory. The TPB utilizes beliefs to predict and verify behavior and has been known as a robust model for examining a behavior with voluntary control (Bong Ko & Jin, 2017). It has been successfully applied in researches in marketing (Chan & Lau, 2002; Chen & Tung, 2014; Su et al., 2018) and

sustainability (Han, Meng, & Kim, 2017; López-Mosquera & Sánchez, 2012) to help with predicting consumer behavior. The TPB proposes three independent determinants of purchase intention, which are Attitude, Subjective Norm, and Perceived Behavior Control (Ajzen, 1991). These will be described more thoroughly in later sections of the literature review. According to ``positive influence on intention to perform the behavior.

However, there are many determinants that indirectly influence purchase intention and behavior (Chen & Tung, 2014). Behavioral beliefs are the results of the evaluation of the outcomes of the behavior and form the attitude toward the behavior. Normative beliefs are normative expectations of others and provide motivation to comply with these expectations resulting in subjective norms. Control beliefs are factors that may facilitate or impede performance of the behavior and the perceived power of these factors form perceived behavior control (Ajzen, 2006). The components used to evaluate the beliefs in this research will be discussed in the following sections.

In this study, we will compare TPB for Chinese and American consumers.

### 2.2.1. Attitude

Attitude refers to the attitude toward the behavior. It measures the degree of favorable or unfavorable evaluation or appraisal of the behavior in question (Ajzen, 1991).

#### 2.2.1.1. Environmental Knowledge and Environmental Concerns

Consumer environmental knowledge was discussed above. Environmental concern is a determining factor in whether consumers make environmentally friendly purchasing decisions. Chen and Tung (2014) used the TPB when studying consumers' intention to use green hotels in Taiwan and found that environmental concern had a positive effect on attitude, subjective norm,

and perceived behavior control for Chinese consumers. Bong Ko & Jin (2017) found environmental knowledge enhanced consumer attitude toward purchasing green products in both America and China. That is to say, when consumers had more knowledge about sustainability, they were more environmentally conscious and avoided doing harm to the environment with their shopping decisions. Therefore, we developed the following hypothesis:

**H1a.** Consumers' knowledge of sustainability has a positive influence on attitude.

**H1b.** Consumers' environmental concern has a positive influence on attitude.

#### 2.2.1.2. Altruism

Altruism is the concern about the welfare of society and others. In this study, it is the concern about the environmental consequences of purchasing behaviors. Environmental problems can be created by anyone and one person's behavior could influence the others (Barbarossa & De Pelsmacker, 2016; Reimers, 2017; Teng, Wu, & Liu, 2015). It is claimed that valuing the environment is a broad concern for all people and that their value of nature is the antecedent of green purchase behavior (2016). Therefore, the altruism of a person may influence his/ her decision while purchasing. Actually, it is claimed that altruism is an antecedent to attitude (Nias, 1983). Based on Reimers's (2017) findings, altruism could significantly and positively influence overall attitude towards purchasing environmentally responsible clothing. Teng, Wu, & Liu's (2015) research also found that altruistic has a positive effect on attitude towards visiting green hotels in Taiwan. As a consequence, H1c is developed as follows:

**H1c.** Consumers' altruism has positive influence on attitude.

### 2.2.2. Subjective Norm

Subjective norm is a social factor referring to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991).

#### 2.2.2.1. Personal Norm

Personal norm is defined as the ‘moral obligation to perform or refrain from specific actions’ (Han et al., 2017, pg. 296; Schwartz & Howard, 1981, pg. 191). It was initially used in the value-belief-norm (VBN) theory developed by Stern, Dietz, Abel, Guagnano, and Kalof (1999). The VBN theory is another theory that can help with exploring environmentally friendly behavior. While the TPB focuses more on self-interest and rational choice, the VBN theory digs more into values and moral norms (López-Mosquera & Sánchez, 2012). In research on emerging bicycle tourism of Chinese consumers, subjective norm had a positive and significant influence on personal norm. We will test the influence of Personal Norm on Subjective Norm of both Chinese and American consumers.

**H2a.** Personal norm has a positive influence on consumers’ subjective norm.

#### 2.2.2.2. Interpersonal Influence

Consumer susceptibility to interpersonal control is linked with traits and personalities across people (Bearden, Netemeyer, & Teel, 1989). Several articles have mentioned the importance of interpersonal (social) influence on consumers. People with whom consumers would like to maintain relationships have the greatest impact on their purchasing behavior, rising above even their own taste (Ciasullo et al., 2017; Lee, H., Kumar, & Kim, 2010; Lee, K., 2008). People’s feelings, behaviors, and thoughts are influenced by the presence of others in all situations (Ciasullo et al., 2017). People with low self-confidence will listen to others’ opinions

to gain social approval (Cox & Bauer, 1964). Peer influence was also proven to be significantly related to congruence between the consumers' favorite apparel brand and their self-concept (Rhee & Johnson, 2012).

**H2b.** Interpersonal influence has a positive influence on consumers' subjective norm.

### 2.2.3. Perceived Behavior Control

Perceived behavior control is the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles (Ajzen, 1991).

#### 2.2.3.1. Perceived Risks

There are many perceived risks that might influence consumers' purchase intention and actual behavior. Su, Watchravesringkan, and Zhou (2018) pointed out that measurement of perceived risks should include all aspects of risks including financial risk, performance risk, psychological risk, social risk, and fashion risk. According to their research, the risk of wasting money, performance risk and fashion risk show great negative influence on attitude, while the psychological risk, purchasing cost, and social risk do not show significant influence on the attitude of Chinese consumers. In this research, we will assess all the effect of perceived risks on perceived behavior control.

**H3a.** Perceived risks have a negative influence on perceived behavior control.

#### 2.2.3.2. Money Availability and Store Accessibility

Money availability was adopted as an 'Exogenous Situational Variable' by Beatty and Ferrell (1998). The influence of money availability is described as the 'facilitator' to impulse buying. It was shown that the more available money an individual thought she/he had, the more

likely he/she would make an impulse purchase. It can also positively influence perceived behavior control (Chang & Watchravesringkan, 2018). We tested if this would work for regular purchase behavior by testing the influence of money availability on perceived behavior control.

Perceived accessibility refers to the accessibility of the stores that carry eco-friendly T-shirts. It was demonstrated by Chang and Watchravesringkan (2018) that the higher the perceived accessibility of the stores, the higher the perceived behavior control of the products. It was also shown that with all other factors being equal, ease of accessibility to store had a positive influence on consumer preference for the store (Thang & Tan, 2003). As a consequence, H3b and H3c are developed as below:

**H3b.** Perceived money availability has a positive influence on perceived behavior control.

**H3c.** Perceived store accessibility has a positive influence on perceived behavior control.

#### 2.2.4. Behavioral Intention and Actual Purchase Behavior

To measure purchase intention of consumers, three items were a from the theory (Ajzen, 1991; Bong Ko & Jin, 2017; Chang & Watchravesringkan, 2018; Chen & Tung, 2014; Han et al., 2017).

Based on Bong Ko and Jin's (2017) study, it was hypothesized that the three determinants (attitude, subjective norm, PBC) would influence purchase intention in both countries but at different levels. In the U.S., subjective norm would influence purchase behavior the most, followed by PBC, and then attitude. In China, subjective norm would influence the most, followed by attitude, and then PBC.

Studies show that the attitude toward purchasing behavior can successfully predict consumer behavior as seen in studies on Chinese consumers by Chen and Tung (2014) and Han et al. (2017) and in Chang and Watchravesringkan's (2018) study on American consumers.

Kang, Liu, and Kim (2013) verified the same relationship with both American and Chinese consumers. Chan and Lau (2014) found that Americans' attitude had a stronger influence on purchase intention than Chinese consumers' (2002). But Bong Ko & Jin's (2017) had the reverse finding, which was that Chinese consumers' attitude had a stronger influence on purchase intention than American consumers'. So H4 is described as below:

**H4.** Attitude has a positive influence on consumers' eco-friendly T-shirts purchase intention.

Subjective norms were shown to have a strong influence on purchase intention. This was supported by research on Chinese consumers (Chen & Tung, 2014; Han et al., 2017; Kang et al., 2013) and on American consumers (Han et al., 2017). Kang, Liu, and Kim (2013) verified this in a survey of American and Chinese consumers. It was also found that subjective norms had a stronger influence on purchase intention on Chinese consumers than American consumers (Chan & Lau, 2002). The outcome of Bong Ko and Jin's (2017) research was that subjective norm had a stronger influence on purchase intention for American consumers than Chinese consumers. So we hypothesis as below:

**H5.** Subjective norm has a positive influence on consumers' eco-friendly T-shirt purchase intention.

Perceived behavior control also appears to predict purchase intention. It was found that perceived behavior control significantly and positively influenced consumer intention for both Chinese consumers (Chang & Watchravesringkan, 2018; Chen & Tung, 2014; Han et al., 2017) and American consumers (Chang & Watchravesringkan, 2018). Chan and Lau's (2002) and Bong Ko and Jin's (2017) finding was that behavior control had a stronger influence on the purchase intention of American consumers than Chinese consumers. Only one study found no

significant relationship between perceived behavior control and purchase intention (Kang et al., 2013). This leads to the following hypothesis.

**H6.** Perceived behavior control has a positive influence on consumers' eco-friendly T-shirts purchase intention.

However, the intention of purchasing sustainable apparel will not necessarily lead to the actual behavior. Beatty and Ferrell (1998) found that there is a gap between consumers' purchasing intention and actual purchase behavior. But there are still studies support the claim. It has been confirmed that purchase intention has a positive influence on purchase behavior of energy efficient household appliances (Nguyen, Lobo, & Greenland, 2017). Chang and Watchravesringkan (2018) also found a positive influence of purchase intention on the actual purchasing behavior of sustainable apparels, leading to the following hypothesis.

**H7.** Consumers' eco-friendly T-shirts purchase intention has a positive influence on actual purchase behavior.

### **2.3. Part II: Trade Offs**

Eco-friendly was discussed earlier in the literature review, as was purchase intention. The third variable introduced in the second part of this study is country of origin.

The country of origin (COO) of a product has a considerable influence on consumer intention and purchasing behavior. It is said that 'brands derive a substantial proportion of their equity from their country of origin' (Herz & Diamantopoulos, 2013, pg.95). For marketing perspective, the Country of Origin (COO) effect refers to marketers and consumers associating brands with countries and making buying decisions based on the country of origin of the product (Juneja, n.d.). According to a previous study (Herz & Diamantopoulos, 2013), people were more likely to express their rational country-specific associations (CSA) (beliefs and knowledge to a

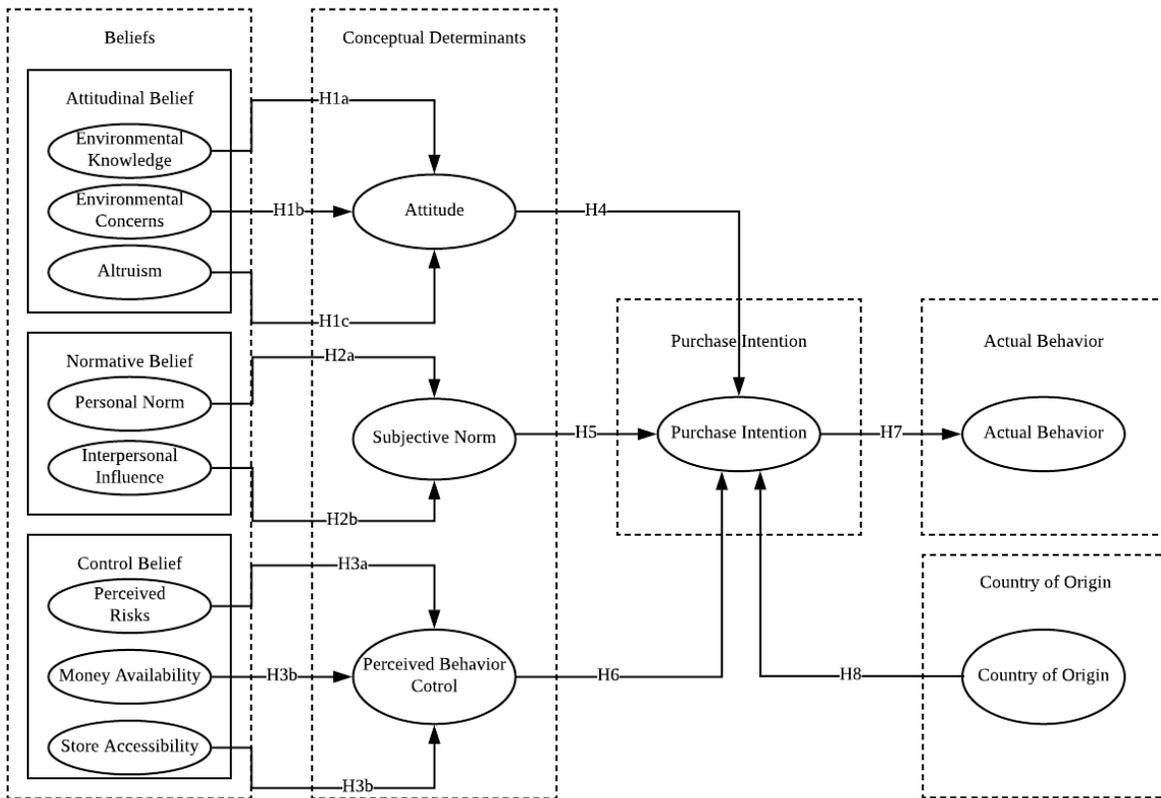
country) verbally, but reveal emotional CSAs (personal experiences and affect to a country) nonverbally. Lee et al. (2010) found that Indian consumers preferred American brands over domestic brands based on their perceptions of the country. Consumers in Australia preferred underwear made in Australia or USA instead of China, the potential reasons being people preferred apparel made in developed countries over those made in a developing country, or developing countries were perceived 'not having high levels of technological development' (Jin Lee, Phau, & Roy, 2013, pg. 73).

However, the definition of COO is different to different people. Country of origin was divided by Rashid, Barnes, and Warnaby (2016) into country of manufacturing, country of parts, country of design, and country of brand origin. In this research, since we would like to explore consumer concern about the COO, the country of origin refers to local versus foreign brand (Lee, Kumar, & Kim, 2010). So H8 is developed as below:

**H8.** Chinese consumers would prefer foreign brands while American consumers prefer local brand for eco-friendly T-shirts.

## **2.4. Theoretical Framework**

Figure 3 provides a summary of the complete framework tested in the current study. It encompasses both Part I and Part II. This framework will be used to compare Chinese and American consumers.



**Figure 3.** Theoretical Framework

## **CHAPTER 3. METHODOLOGY**

### **3.1 Data Collection**

This study seeks to explore Chinese and American consumers' intention and actual behavior of purchasing eco-friendly T-shirts. For this purpose, the survey was initially developed in English, then translated into Chinese. Collection of the survey utilized convenience sample. The survey was conducted at one university in the United States and one in China. College students ages 18-35 responded to the survey. With professors' permission, this survey was distributed in their classes. Other responses were collected through social networks and email.

### **3.2. Part I: Purchase Intention and Behavior - Measures**

#### 3.2.1. Attitudes

A series of 7-point bipolar items were widely used in previous research on TPB to measure attitude toward behavior (Chan & Lau, 2002; de Lenne & Vandenbosch, 2017; Han, Meng, & Kim, 2017; Lang & Armstrong, 2018). There was always a statement followed by bipolar items labeled: bad/good, foolish/wise, and unpleasant/pleasant.

In this research, the statement is 'I think paying more money to buy eco-friendly T-shirts is...'. On the two sides of the 7-point bipolar scales, the words were bad/good, foolish/wise, unpleasant/pleasant, worthless/valuable, harmful/beneficial. The composite reliability of these questions was 0.97 in Han. et al. (2017), 0.94 in Chen and Tung (2014), 0.92 in Lang and Armstrong (2018).

### 3.2.1.1. Environmental Knowledge

To measure consumers' general environmental knowledge in the apparel industry, we adopted the questions about sustainability knowledge developed by Su et al. (2018). In Bong Ko & Jin's research, they fail to analyze the Chinese and American consumers separately because of the lack of the supported evidence of invariance test. However, in our research, we want to tell the differences of Chinese and American consumers by analyzing the two groups of consumers together, and put country as an indicator variable.

**Table 1.** Environmental Knowledge items

Item	Statement
EK1	I am informed about environmental issues (e.g., eco-fashion, environmental impact of clothing manufacturing) in the apparel manufacturing business.
EK2	I am informed about child labor/sweatshop issues in the apparel manufacturing business.
EK3	I am knowledgeable about social equity issues (e.g., working conditions of factory workers, fair wage for factory workers) in the apparel business.
EK4	I understand the environmental impact of apparel products across the supply chain.
EK5	I am knowledgeable about apparel brands that sell environmentally-friendly or socially responsible apparel products.
EK6	I know more about environmentally or socially-responsible apparel business than the average person.

### 3.2.1.2. Environmental Concern

The questions for general environmental concerns are from the article by Chen and Tung (2014). They used the questions to measure consumer's intention to visit green hotels. The reliability of the scale is 0.95 according to Chen and Tung (2014).

**Table 2.** Environmental Concern items

Item	Statement
EC1	I am extremely worried about the state of the world's environment and what it will mean for my future.
EC2	Mankind is severely abusing the environment.
EC3	When humans interfere with nature it often produces disastrous consequences.
EC4	The balance of nature is very delicate and easily upset.
EC5	Humans must live in harmony with nature in order to survive.
EC6	I think environmental problems are very important.
EC7	I think environmental problems cannot be ignored.
EC8	I think we should care about environmental problems.

### 3.2.1.3. Altruism

Five determinants including alleviating eco-problems, saving resources, higher price, social responsibility, and high risk were generated by Chan & Lau (2002) to measure salient attitudinal beliefs. Since perceived price and risk are measured separately in this study, alleviating eco-problems, saving resources, and social responsibility formed one scale labeled 'Altruism'. Instead of general environmental questions, questions in this section specifically measured the consumers' perception of eco-friendly T-shirts.

**Table 3.** Altruism items

Item	Statement
SR1	Purchasing eco-friendly T-shirts can alleviate environmental problems.
SR2	Purchasing eco-friendly T-shirts can save natural resources.
SR3	Purchasing eco-friendly T-shirts is socially responsible.

### 3.2.2. Subjective Norm

Generally, there are two to three questions used in studies to measure subjective norm (Han et al., 2017). The statements are phrased as “Most people who are important to me think I should...”, or “People whose opinions I value would prefer me to...” (Bong Ko & Jin, 2017; Chan & Lau, 2002; Han et al., 2017; Lang & Armstrong, 2018). In this research, we adopted two questions for measuring people’s subjective norms regarding the purchase of eco-friendly T-shirts. The reliability coefficient has been reported 0.94 in Han et. al’s article (2017), 0.95 in Chen and Tung’s (2014) article, 0.93 in Lang and Armstrong’s (2018) article.

**Table 4.** Subjective Norm items

Item	Statement
SN1	Most people who are important to me believe I should buy eco-friendly T-shirts.
SN2	Most people who are important to me have a positive attitude toward eco-friendly T-shirts.

#### 3.2.2.1. Personal Norm

The items for measuring personal norm are derived from a study of bicycle tourism (Han et al., 2017). The reliability coefficient is 0.94 in this study.

**Table 5.** Personal Norm items

Item	Statement
PR1	I feel personally obliged to purchase in an environmentally way, such as buying eco-friendly T-shirts.
PR2	Regardless of what other people do, because of my own values/principles I feel that I should behave in an environmentally friendly way while purchasing.
PR3	I feel a moral obligation to take the environmental problems caused by pollution into account when making purchasing choices.
PR4	I feel morally obliged to purchase eco-friendly.

### 3.2.2.2. Interpersonal Influence

The questions used in testing interpersonal influence are from the article by Bearden et al., (1989). After summarizing a great number of studies and a series of experiments Bearden et al., developed 12 items (four informational and eight normative) to effectively measure interpersonal influence. The scale has a reported reliability of 0.86 with adolescents.

**Table 6.** Interpersonal Influence items

Item	Statement
II1	I rarely purchase apparel in a new style until I am sure my friends approve of them.
II2	It is important that others like the products and brands I buy.
II3	When buying products, I generally purchase those brands that I think others will approve of.
II4	If other people can see me using a product, I often purchase the brand they expect me to buy.
II5	I like to know what brands and products make good impressions on others.
II6	I achieve a sense of belonging by purchasing the same products and brands that others purchase.
II7	If I want to be like someone, I often try to buy the same brands that they buy.
II8	I often identify with other people by purchasing the same products and brands they purchase.
II9	To make sure I buy the right product or brand, I often observe what others are buying and using.
II10	If I have little experience with a product, I often ask my friends about the product.
II11	I often consult other people to help choose the best alternative available from a product class.
II12	I frequently gather information from friends or family about a product before I buy.

### 3.2.3. Perceived Behavior Control

Questions generated to measure perceived behavior control are phrased as “Whether or not I ..... is completely up to me.” The items measure the degree of control of the respondent

(Bong Ko & Jin, 2017; Chan & Lau, 2002; Han et al., 2017; Lang & Armstrong, 2018). The reliability of the scale is 0.93 according to Han et al. (2017), 0.80 according to Chen and Tung (2014), and 0.76 according to Lang & Armstrong (2018).

**Table 7.** Perceived Behavior Control items

Item	Statement
PBC1	Whether or not I will purchase eco-friendly T-shirts for personal use is entirely up to me.
PBC2	I have complete control over the number of eco-friendly T-shirts that I will buy for personal use.
PBC3	Whether or not I will purchase eco-friendly T-shirts for personal use is completely within my control.

### 3.2.3.1. Perceived Risks

A combination of 14 questions are employed to measure consumer perceived financial risk, performance risk, psychological risk, social risk, and fashion risk were developed by Su et al. (2018) and Xu, Chi, & Su (2018). We used these to measure the influence of these risks on the purchase intention of both Chinese and American consumers.

**Table 8.** Perceived Risks items

Item	Statement
PR1	I am worried about what others will think of me when I purchase eco-friendly T-shirts.
PR2	I am worried that my friends might think I look weird or funny in the eco-friendly T-shirts.
PR3	I will not feel comfortable wearing the eco-friendly T-shirts in public.
PR4	I will feel the eco-friendly T-shirts I purchased might be outdated.
PR5	I will feel the eco-friendly T-shirts I purchased might not be the latest style.
PR6	I will feel that the eco-friendly T-shirts I purchased might not be in fashion.
PR7	The quality of the eco-friendly T-shirts will be unsatisfactory.

**Table 8.** (continued)

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PR8	The quality of the eco-friendly T-shirts will be poor.
PR9	The life cycle of the eco-friendly T-shirts will not be long.
PR10	The eco-friendly T-shirts that I purchased will not look good on me.
PR11	It will be difficult for me to be able to match the eco-friendly T-shirts with my current clothing.
PR12	Purchasing eco-friendly T-shirts will not match my own personal image.
PR13	It will cost so much for me to purchase the eco-friendly T-shirts.
PR14	It will cost a lot to manage and keep the eco-friendly T-shirts in good shape.

---

### 3.2.3.2. Money Availability

The Money availability questions used were developed by Beatty and Ferrell (1998). There were originally two kinds of ‘availability’ mentioned by the authors for travel shopping - time availability and money availability. Since we did not have a concern about time, we used just the items about money availability. The composite reliability of this scales is 0.72 according to Beatty and Ferrell (1998).

**Table 9.** Money Availability items

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Item	Statement
MA1	I think I can afford to make any eco-friendly purchase if I want.
MA2	I feel that I have enough extra money so that I can splurge a little if I find something I really like.
MA3	I am on a tight budget while on this shopping trip.

---

### 3.2.3.3. Store Accessibility

Questions for store accessibility are derived from two articles. The first item measured the location of an apparel store in Chang and Watchravesringkan (2018) who predicted consumer

sustainable apparel purchase behavior. The second item measured the ease to get to a store carrying eco-friendly T-shirts (Thang and Tan,2003).

**Table 10.** Store Availability items

Item	Statement
SA1	I feel that locations of the apparel stores, carrying eco-friendly T-shirts, are close to me.
SA2	It is easy to get to apparel stores carrying eco-friendly T-shirts.

### 3.2.4. Purchase Intention

To explore the purchase intention of eco-friendly T-shirts, we adopted a series of questions from Chen and Tung’s (2014) and Han et al.’s (2017) research of exploring consumers’ intention to visit green hotels. Han et al. (2017) reported a reliability coefficient of 0.96 for this scales and Chen and Tung (2014) reported a reliability coefficient of 0.89.

**Table 11.** Purchase Intention items

Item	Statement
PI1	I am willing to purchase eco-friendly T-shirts.
PI2	I plan to purchase eco-friendly T-shirts.
PI3	I will purchase eco-friendly T-shirts.

### 3.2.5. Actual Behavior

Questions to measure the actual purchase behavior are from Nguyen, Lobo, & Greenland’s study (Nguyen et al., 2017) on energy efficient household appliances. According to their study, the reliability coefficient for the scale is 0.73.

**Table 12.** Actual Behavior items

Item	Statement
AB1	I buy eco-friendly T-shirts.

**Table 12.** (continued)

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AB2	I switch to other brands of T-shirts that are eco-friendlier.
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### **3.3. Part II: Tradeoffs – Conjoint Analysis**

A discrete choice design was used in Part II. A discrete choice design is a type of conjoint study. Conjoint analysis is a survey-based multivariate technique that enables marketers to profile the consumer decision process with respect to products and brands (Keller, 2013). It is widely used in quantitative market research. The main idea of conjoint research is to figure out the most important factors or features of a product. Instead of just directly asking people their most preferred features, conjoint questions ask people to choose from several product profiles. Each product profile is a combination of different features of a product (What is conjoint analysis?, n.d.). In this research, we explored the features of country of origin, product price, and eco-friendliness. We utilized JMP Pro 13.2.0 to create the conjoint design.

**Table 13.** Attributes and Attribute Levels

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Attributes	Level
Eco-friendly	Yes
	No
Country of Origin	Foreign
	Local
Price	\$15
	\$25

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## CHAPTER 4. RESULTS

### 4.1. Demographics

In total, 223 responses were collected from the U.S. and 556 responses were collected from China. After excluding incomplete responses and respondents who were not ages 18-35, 221 responses from the U.S. and 482 responses from China were used. The demographic descriptions of the final sample are reported in Table 14.

There were 703 respondents in total, 524 (74.54%) were female while 179 (25.46%) were male respondents. Most of the respondents fell into the age range of 18-24 for both Chinese (82.78%) and American (94.57%) samples. For education background, there were 219 (45.44%) undergraduate students, 74 (15.35%) graduate students, and 11(2.28%) Ph.D. students in the Chinese sample. In the American sample, there were 201(90.95%) undergraduate students, 14 (6.34%) graduate students, and 5 (2.26%) Ph.D. students. Most Chinese respondents were not working (66.39%), 22.2% worked full time, and 11.41% worked part time, while most American respondents worked part time (62.9%), 33.48% were not working, and 3.62% worked full time. Monthly discretionary income is the amount of an individual's income that is left for spending, investing, or saving after paying taxes and paying for personal necessities, such as food, shelter and clothing every month (Kagan, 2018). For the total sample, 35.85% respondents had less than \$100 in discretionary income, 25.32% respondents had \$100-200, 14.37% respondents had \$201-300, 7.11% respondents had\$301-400, and 17.35% respondents had more than 400 dollars.

**Table 14.** Demographic Information

Demographic Variables	Total		China		US	
	n	%	n	%	n	%
<b>Gender</b>						
Female	524	74.54	335	69.50	189	85.52
Male	179	25.46	147	30.50	32	14.48
<b>Age</b>						
18-24	608	86.49	399	82.78	209	94.57
25-29	44	6.26	35	7.26	9	4.07
30-35	51	7.26	48	9.96	3	1.36
<b>Education Background</b>						
Undergraduate	420	59.74	219	45.44	201	90.95
Graduate	88	12.52	74	15.35	14	6.34
Ph.D.	16	2.28	11	2.28	5	2.26
Other	179	25.46	178	36.93	1	0.45
<b>Work Status</b>						
Not working	394	56.05	320	66.39	74	33.48
Part time	194	27.60	55	11.41	139	62.90
Full time	115	16.36	107	22.20	8	3.62
<b>Monthly Discretionary Income</b>						
Less than \$100	252	35.85	178	36.93	74	33.48
\$100-\$200	178	25.32	114	23.65	64	28.96
\$201-\$300	101	14.37	66	13.69	35	15.84
\$301-\$400	50	7.11	37	7.68	13	5.88
\$400+	122	17.35	87	18.05	35	15.84

## 4.2. Part I: Purchase Intention and Behavior - Factor analysis and Regression

### 4.2.1. Factor Analysis

Factor analysis was used to test the underlying structure of our model using JMP Pro 13.0. Table 15 shows the 12 factors that were identified, of which 11 were interpretable. Using a minimum loading value of 0.3, multiple questions loaded on each factor with the exception of question MA\_3. Based on the results, we made some changes to the model. The questions for purchase intention and actual behavior were recognized as one factor, so we merged them together and named the factor ‘Behavioral Intention’. Questions for perceived behavior control and money availability were recognized as one factor, so we put the questions for money availability (except for MA\_3, the question is deleted) with the questions for perceived behavior control and kept that as perceived behavior control as originally conceived in the Theory of Planned Behavior. In the same way, questions for personal norm were added to subjective norm. The new conceptual model is shown in Figure 4.

**Table 15.** Rotated Factor Loadings

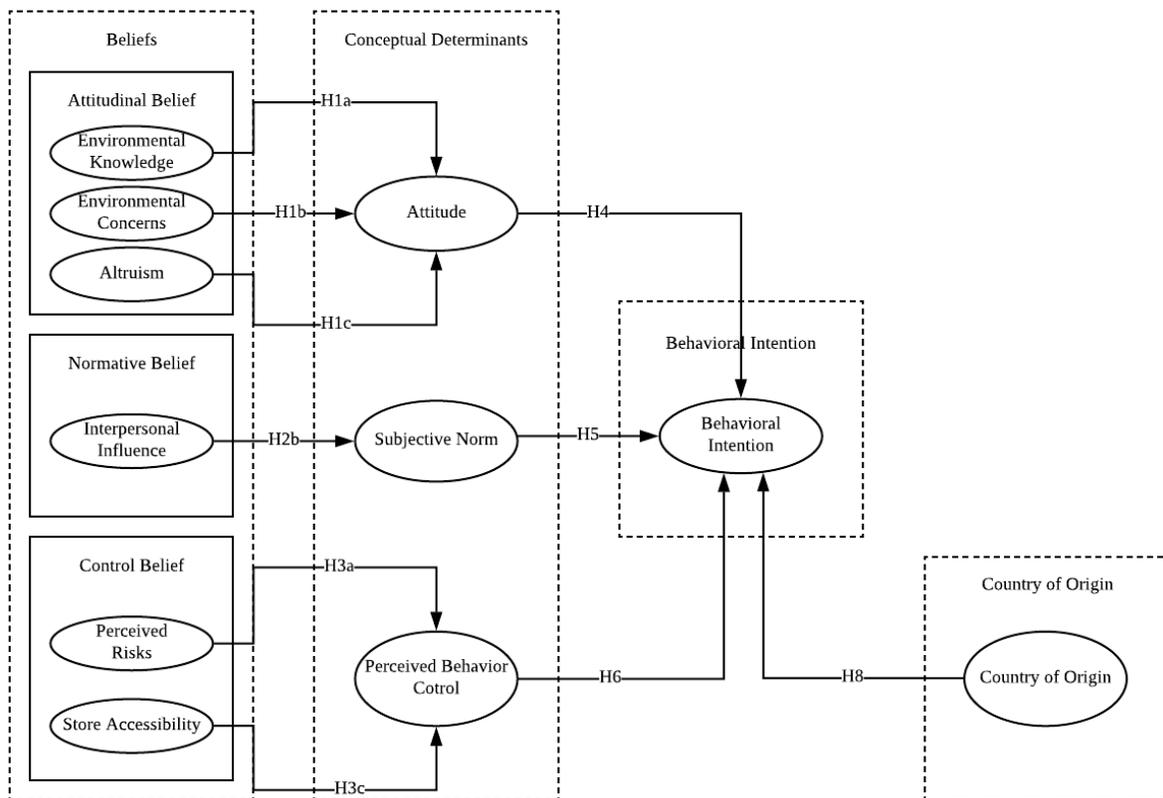
	PR	EC	II	Attitude EK	BI	PBC+MA	PN+SN	II	Altruism SA	Factor 12		
PR_11	<b>0.861</b>	-0.017	0.165	0.018	-0.061	0.027	-0.002	0.002	0.033	0.009	0.007	-0.001
PR_10	<b>0.857</b>	-0.051	0.173	0.050	-0.071	-0.016	-0.003	0.001	0.011	-0.005	0.019	0.038
PR_6	<b>0.826</b>	-0.020	0.240	0.009	-0.036	0.025	-0.013	0.080	0.027	0.006	-0.020	0.023
PR_8	<b>0.823</b>	-0.099	0.153	0.042	-0.032	0.085	0.012	-0.033	0.019	-0.026	0.082	-0.040
PR_7	<b>0.823</b>	-0.047	0.137	0.030	-0.059	0.070	0.036	0.031	0.037	-0.019	0.031	-0.014
PR_5	<b>0.819</b>	-0.048	0.259	-0.003	-0.046	0.025	-0.002	0.070	0.037	0.008	0.038	0.019
PR_12	<b>0.808</b>	-0.074	0.202	-0.013	-0.032	0.000	0.006	0.010	-0.001	-0.016	0.105	0.028
PR_4	<b>0.804</b>	-0.093	0.271	0.044	-0.026	0.054	-0.023	0.084	-0.025	0.037	0.104	0.020
PR_9	<b>0.789</b>	-0.036	0.119	0.030	-0.048	0.032	0.045	-0.029	0.054	-0.033	0.045	-0.038
PR_3	<b>0.764</b>	-0.033	0.304	0.058	-0.081	0.102	-0.037	0.118	-0.059	0.030	0.158	0.027

**Table 15.** (continued)

PR_2	<b>0.712</b>	0.015	0.367	0.080	-0.071	0.069	-0.064	0.132	-0.020	0.044	0.175	0.046
PR_14	<b>0.640</b>	0.004	0.117	-0.066	0.032	0.013	0.079	-0.044	0.127	0.034	0.028	-0.037
PR_1	<b>0.592</b>	-0.018	0.395	0.099	-0.017	0.153	-0.006	0.153	-0.009	0.087	0.171	0.031
PR_13	<b>0.507</b>	0.030	0.034	-0.107	0.126	-0.100	0.110	-0.090	0.155	0.015	0.012	-0.069
EC_7	-0.068	<b>0.862</b>	-0.004	0.099	0.087	0.031	0.129	0.116	0.064	0.090	-0.029	-0.300
EC_6	-0.101	<b>0.850</b>	0.011	0.082	0.101	0.040	0.127	0.092	0.050	0.055	-0.045	-0.220
EC_8	-0.092	<b>0.826</b>	0.006	0.091	0.112	0.040	0.148	0.094	0.089	0.102	-0.031	-0.321
EC_5	-0.034	<b>0.786</b>	0.047	0.086	0.035	0.070	0.157	0.135	0.036	0.106	-0.037	0.009
EC_3	-0.055	<b>0.773</b>	0.081	0.066	0.100	0.039	0.103	0.096	0.081	0.071	-0.001	0.441
EC_2	-0.109	<b>0.745</b>	-0.020	0.073	0.199	0.037	0.128	0.039	0.084	0.065	-0.011	0.292
EC_4	-0.078	<b>0.686</b>	0.124	0.078	0.110	0.105	0.108	0.058	0.066	0.144	0.020	0.280
EC_1	-0.084	<b>0.567</b>	0.021	0.171	0.240	0.206	0.119	0.192	0.094	0.145	-0.042	0.088
MA_3	0.171	0.253	0.058	-0.041	0.053	0.053	0.213	0.130	0.223	0.073	0.075	0.010
II_4	0.348	0.005	<b>0.795</b>	0.065	-0.084	0.100	0.009	0.084	0.054	0.001	0.039	0.036
II_3	0.304	0.062	<b>0.789</b>	0.068	-0.091	0.086	0.005	0.065	0.053	0.060	0.013	-0.010
II_2	0.286	0.014	<b>0.775</b>	0.053	-0.070	0.077	0.054	0.077	0.046	0.131	0.025	-0.051
II_6	0.310	0.040	<b>0.727</b>	0.030	0.016	0.010	-0.035	0.008	0.134	0.002	0.071	0.003
II_7	0.317	-0.004	<b>0.686</b>	0.033	0.037	0.013	-0.022	0.026	0.192	0.005	0.067	-0.010
II_5	0.249	0.211	<b>0.637</b>	0.042	-0.065	0.091	0.052	0.142	0.177	0.037	-0.039	0.020
II_8	0.346	-0.021	<b>0.606</b>	0.062	0.107	-0.024	-0.016	-0.031	0.152	0.024	0.126	0.039
II_9	0.255	0.041	<b>0.590</b>	0.012	0.070	0.036	0.042	0.026	0.323	-0.007	-0.001	0.066
II_1	0.307	0.011	<b>0.577</b>	0.077	-0.042	0.137	0.041	0.114	0.021	0.069	0.028	-0.050
Att_4	0.004	0.117	0.033	<b>0.824</b>	0.034	0.135	0.041	0.061	0.056	0.126	0.014	-0.015
Att_5	0.001	0.145	0.047	<b>0.817</b>	-0.007	0.047	0.073	0.024	0.030	0.076	0.011	-0.009
Att_2	0.028	0.128	0.059	<b>0.810</b>	0.030	0.130	0.013	0.164	0.024	0.081	0.080	0.020
Att_1	0.037	0.093	0.070	<b>0.805</b>	0.042	0.140	0.044	0.181	-0.002	0.055	0.048	-0.001
Att_3	0.026	0.021	0.091	<b>0.773</b>	0.060	0.197	0.042	0.112	0.010	0.089	0.058	0.016
EK_4	-0.077	0.136	-0.067	0.045	<b>0.823</b>	0.073	0.114	0.033	0.079	0.000	0.014	0.028
EK_3	-0.081	0.116	-0.044	-0.006	<b>0.809</b>	0.053	0.093	0.028	0.100	0.061	-0.005	0.027
EK_2	-0.069	0.188	-0.017	0.009	<b>0.775</b>	0.020	0.070	-0.035	0.081	0.110	-0.007	0.065

**Table 15.** (continued)

EK_5	0.009	-0.018	0.025	0.038	<b>0.701</b>	0.163	0.046	0.057	0.003	-0.029	0.164	-0.014
EK_1	-0.100	0.192	-0.031	0.048	<b>0.681</b>	0.058	0.124	-0.012	0.059	0.019	0.020	-0.035
EK_6	0.022	0.046	0.009	0.027	<b>0.680</b>	0.166	0.081	0.101	0.005	-0.059	0.090	-0.047
PI_2	0.044	0.161	0.119	0.180	0.135	<b>0.823</b>	0.169	0.134	0.060	0.110	0.055	0.019
PI_3	0.064	0.181	0.078	0.151	0.123	<b>0.798</b>	0.165	0.191	0.066	0.113	0.046	0.033
PI_1	-0.040	0.212	0.068	0.188	0.175	<b>0.680</b>	0.240	0.099	0.097	0.166	-0.022	-0.032
AB_1	0.169	-0.078	0.110	0.181	0.146	<b>0.539</b>	-0.072	0.217	-0.035	0.048	0.307	0.011
AB_2	0.110	-0.048	0.066	0.187	0.197	<b>0.527</b>	0.006	0.196	0.041	0.070	0.251	-0.006
PBC_2	-0.022	0.245	-0.026	0.032	0.190	0.083	<b>0.854</b>	0.091	0.058	0.061	0.018	0.028
PBC_3	-0.007	0.255	-0.028	0.037	0.139	0.092	<b>0.790</b>	0.111	0.055	0.090	-0.007	-0.015
PBC_1	-0.027	0.251	-0.008	0.092	0.171	0.107	<b>0.714</b>	0.113	0.119	0.124	-0.023	-0.008
MA_2	0.197	0.133	0.084	0.068	0.070	0.197	<b>0.351</b>	0.043	0.125	0.040	0.156	0.025
MA_1	0.152	0.052	0.119	0.110	0.121	0.216	<b>0.327</b>	0.112	0.035	0.057	0.228	-0.018
PN_3	0.065	0.357	0.151	0.243	0.057	0.300	0.179	<b>0.665</b>	0.110	0.114	0.047	0.018
PN_2	0.012	0.274	0.097	0.282	0.130	0.345	0.240	<b>0.631</b>	0.048	0.099	0.030	0.001
PN_1	0.054	0.279	0.141	0.249	0.030	0.315	0.162	<b>0.629</b>	0.095	0.145	0.008	0.006
PN_4	0.080	0.326	0.191	0.280	0.029	0.247	0.157	<b>0.615</b>	0.109	0.124	0.066	0.061
SN_1	0.200	0.232	0.253	0.235	0.086	0.301	0.037	<b>0.376</b>	-0.007	0.129	0.149	-0.066
SN_2	0.066	0.279	0.171	0.174	0.200	0.269	0.167	<b>0.324</b>	0.113	0.077	0.107	-0.137
II_10	0.050	0.148	0.244	0.030	0.119	0.098	0.129	0.034	<b>0.774</b>	0.015	-0.055	-0.009
II_11	0.086	0.151	0.308	0.079	0.126	0.062	0.111	0.093	<b>0.761</b>	0.016	-0.009	0.020
II_12	0.142	0.126	0.327	0.043	0.103	0.042	0.067	0.070	<b>0.699</b>	0.077	0.053	-0.006
Altr_2	0.033	0.286	0.117	0.221	0.033	0.196	0.139	0.125	0.047	<b>0.796</b>	0.042	-0.012
Altr_1	0.048	0.299	0.128	0.232	0.005	0.192	0.131	0.144	0.002	<b>0.701</b>	0.050	0.036
Altr_3	-0.010	0.360	0.077	0.233	0.091	0.196	0.194	0.133	0.122	<b>0.590</b>	0.001	-0.010
SA_1	0.295	-0.054	0.118	0.091	0.146	0.195	0.101	0.075	0.014	0.039	<b>0.783</b>	-0.002
SA_2	0.366	-0.083	0.118	0.104	0.159	0.187	0.053	0.014	-0.027	0.017	<b>0.764</b>	0.008



**Figure 4.** New conceptual framework

#### 4.2.2. Simple Linear Regression and Multiple Linear Regression

This study utilized regression to test the model. Regression analysis is the part of statistics that investigates the relationship between two or more variables related in a nondeterministic fashion (Devore, 2017, pg.488).

The variables in this research were created by summing scores by factor. and then computing the average score. This is one of the most commonly used methods to represent the score for a factor. Also, the average score is useful when comparing factors when there are different numbers of items per factor (DiStefano, Zhu, & Mindrila, 2009). This research utilized the method introduced above to interpret the score of every factor.

SPSS Version 24 and JMP pro 13 were used in this section to analyze data.

The Chinese and American samples were analyzed together. Linear regression was employed for testing the hypotheses H1 to H7, with each hypothesis tested separately. To test whether there were significant differences between Chinese and American consumers, Country was included as an independent variable in every linear regression analysis. Since country is a categorical variable, it will only influence the intercept of the regression. There were two reasons why we did not analyze the samples separately.: Firstly, since the model assumes equal slopes and the same constant error term variance for each type of country, the common slope can best be estimated by pooling the two types of countries. Second, there are more degrees of freedom for MSE in one regression, which makes other inferences more precise (Neter, 1996, pg. 460).

Table 16 shows the combined ANOVA results for each regression, though which we can say that for every dependent variable we have, one or more independent variables significantly influence it.

**Table 16.** Analysis of Variance for complete data

Dependent Variables	DF	F Ratio	Prob>F
Attitude	4, 698	43.8195	<.0001*
Subjective Norm	2, 700	67.9421	<.0001*
PBC	3, 699	18.5882	<.0001*
Behavioral Intention	4, 698	126.539	<.0001*

#### 4.2.2.1. Attitude

The multiple linear regression for attitude is shown in Table 17 and Figure 5. The model predicts 19.61% of the variance in attitude (adj. R Square=0.1961) (Cronbach's Alpha = 0.92). For H1, Environmental Knowledge ( $p=.015<0.05$ ) (Cronbach's Alpha = 0.89) and Altruism

( $p < .0001$ ) (Cronbach's Alpha = 0.73) has significant influence on attitude. Environmental Concern ( $p = .145 > 0.05$ ) (Cronbach's Alpha = 0.94) does not have a significant influence on attitude. This means that H1a and H1c were supported, but H1b was rejected. Also, Country had a significant influence on attitude, which indicates that consumers from different countries have different reactions. The regression equations are as follows:

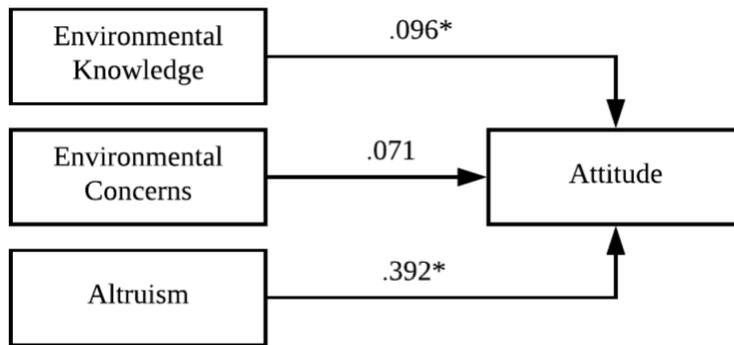
$$\text{Attitude} = 2.668 + 0.226 + 0.096 * \text{EK} + 0.392 * \text{R} + 0.071 * \text{EC} \quad (1)$$

$$\text{Attitude} = 2.668 - 0.226 + 0.096 * \text{EK} + 0.392 * \text{R} + 0.071 * \text{EC} \quad (2)$$

Formula (1) is for the Chinese sample, and formula (2) is for the American sample. This means the Chinese sample is 0.226 above the average while American consumers are below the average.

**Table 17.** Regression for Attitude

Dependent Variable	Independent Variables	Standardized Coefficients		
		Beta	t	Sig.
Attitude	Environmental Knowledge	.096	2.45	.015*
	Environmental Concerns	.071	1.46	.145
	Altruism	.392	8.67	.000*
	Country[China]	.226	4.11	.000*



**Figure 5.** Regression for Attitude

#### 4.2.2.2. Subjective Norm

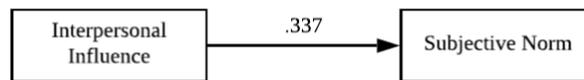
For H2, interpersonal influence ( $p < 0.0001$ ) (Cronbach's Alpha = 0.91) had a positive and significant influence on subjective norm (Cronbach's Alpha = 0.91), so H2b was supported. Country ( $p = .001 < 0.05$ ) had a significant influence on subjective norm. Formulas (3) and (4) show the equations for Chinese and American consumers, respectively. This model explained 16.01% of the variance in Subjective Norm.

$$SN = 3.569 + 0.170 + .337 * II \quad (3)$$

$$SN = 3.569 - 0.170 + .337 * II \quad (4)$$

**Table 18.** Regression for Subjective Norm

Dependent Variables	Independent Variables	Standardized Coefficients		
		Beta	t	Sig.
Subjective Norm	Interpersonal Influence	.337	9.03	.000*
	Country [China]	.170	3.28	.001*



**Figure 6.** Regression for Subjective Norm

#### 4.2.2.3. Perceived Behavior Control

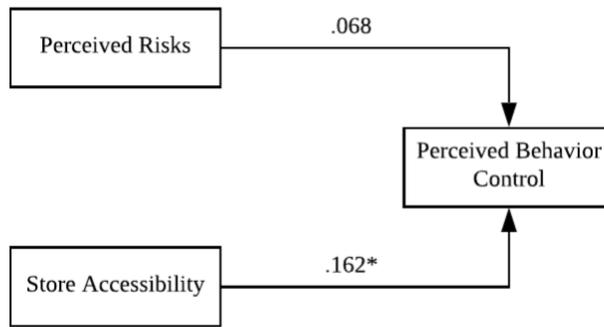
The regression analysis for Perceived Behavior control tested H3. The model predicted 6.99% of the variance in Perceived Behavior Control (Cronbach’s Alpha = 0.85). From Table 19 and Figure 7, we can see that Store Accessibility (Cronbach’s alpha = 0.91) had a positive and significant ( $p < 0.0001$ ) influence on Perceived Behavior Control, which means that H3c was supported. Perceived risks ( $p = 0.068 > 0.05$ ) (Cronbach’s alpha = 0.96) did not have a significant influence on Perceived Behavior Control. This means H3a was not supported. Country ( $p < 0.0001$ ) had a significant influence on Perceived Behavior Control. Equation (5) shows the prediction formula for the Chinese sample, and equation (6) represents the regression for the American sample.

$$PBC = 4.417 - 0.180 - 0.068 * PR - 0.162 * SA \quad (5)$$

$$PBC = 4.417 + 0.180 - 0.068 * PR - 0.162 * SA \quad (6)$$

**Table 19.** Regression for Perceived Behavior Control

Dependent Variables	Independent Variables	Standardized	t	Sig.
		Coefficients Beta		
PBC	Perceived Risks	.068	1.83	.068
	Store Accessibility	.162	5.39	.000*
	Country [China]	-.180	-3.32	.000*



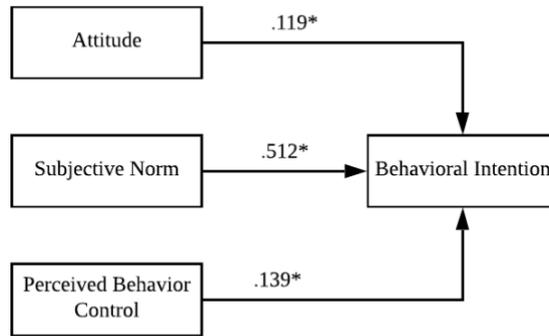
**Figure 7.** Regression for Perceived Behavior Control

#### 4.2.2.4. Behavioral Intention (previously Purchase Intention and Purchase Behavior)

Behavioral Intention was originally conceived as two separate constructs, but our factor analysis found the to be one factor. The regression analysis for behavioral intention tested H4, H5, and H6, and explains 41.70% of the variance in Behavioral Intention (Cronbach’s alpha = 0.87). From Table 20 and Figure 8, Attitude ( $p=0.0002<0.05$ ), Subjective Norm ( $p<0.0001$ ), and Perceived Behavior Control ( $p=0.0001<0.05$ ) all have a positive and significant influence on Behavioral Intention. As a consequence, H4, H5, and H6 are all supported, also verifying the Theory of Planned Behavior. Country ( $p=0.339>0.05$ ) was not a significant influence on Purchase intention.

**Table 20.** Regression for Behavioral Intention

Dependent Variables	Independent Variables	Standardized Coefficients Beta	t	Sig.
Behavioral Intention	Attitude	.119	3.78	.0002*
	Subjective Norm	.512	13.47	.000*
	Perceived Behavior Control	.139	3.86	.0001*
	Country [China]	-.040	0.96	.339



**Figure 8.** Regression for Behavioral Intention

#### 4.2.3. Indirect Effect

In addition to the direct effects, the indirect effect of every independent variable on behavioral intention were also calculated for the model. The indirect coefficients were calculated by multiplying the path coefficients. The only indirect effect that appeared to possibly be important (wasn't tested as statistically significant) was (4), which linked Interpersonal Influence to Behavior Intention through Subjective Norm. The coefficient was 0.173. The entire results are listed below:

$$(1)EK \rightarrow \text{Attitude} \rightarrow BI = (.096*)(.119*) = .011$$

$$(2)\text{Altruism} \rightarrow \text{Attitude} \rightarrow BI = (.392*)(.119*) = .047$$

$$(3)EC \rightarrow \text{Attitude} \rightarrow BI = (.071)(.119*) = .008$$

$$(4)II \rightarrow SN \rightarrow BI = (.337*)(.512*) = .173$$

$$(5)PR \rightarrow PBC \rightarrow BI = (.068)(.139*) = .009$$

$$(6)SA \rightarrow PBC \rightarrow BI = (.162*)(.139*) = .023$$

### 4.3. Part II: Tradeoffs - Conjoint Analysis

Conjoint analysis is a survey-based statistical technique that is used in market research to help determine how people value different attributes of a product or service (Wikipedia contributors, 2019a). Several choices are presented to the respondents, and every choice describes a combination of the attributes. In a discrete choice study, respondents choose the most attractive version of a product out of two that are presented. By analyzing the responses, researchers are able to estimate the value of each product or service attribute. The result may be of great significance in estimating market share or revenue.

JMP Pro 13 is used for the conjoint analysis.

The outcomes of conjoint analysis for the Chinese and American data are introduced below. For the purpose of comparing the two samples, the data were analyzed separately.

#### 4.3.1. Chinese Data

Below are the tables of results for the Chinese data.

**Table 21.** Attributes, levels and marginal utility estimates for Chinese data

Attribute	Relative Importance	Level	Marginal Utility
Eco-friendly	0.78	Yes	0.85
		No	-0.85
Country of Origin	0.18	Foreign	-0.20
		Local	0.20
Price	0.03	\$15	0.38
		\$25	-0.38

**Table 22.** Effect likelihood ratio tests for Chinese data

Attribute	L-R ChiSquare	DF	Prob>ChiSq
Eco-friendly	1456.53	1	<.0001*
Country of Origin	78.66	1	<.0001*
Price	356.36	1	<.0001*

**Table 23.** Ranks and desirability indices for T-shirts of Chinese data

Rank	Eco-friendly	Country of Origin	Price	Desirability
1	Yes	Local	\$15	0.961
2	Yes	Foreign	\$15	0.831
3	Yes	Local	\$25	0.712
4	Yes	Foreign	\$25	0.584
5	No	Local	\$15	0.418
6	No	Foreign	\$15	0.029
7	No	Local	\$25	0.302
8	No	Foreign	\$25	0.085

#### 4.3.2. American Data

Below are the tables of results for the American data.

**Table 24.** Attributes, levels and marginal utility estimates for American data

Attribute	Relative Importance	Level	Marginal Utility
Eco-friendly	0.36	Yes	0.68
		No	-0.68
Country of Origin	0.21	Foreign	-0.39
		Local	0.39
Price	0.43	\$15	0.79

**Table 24.** (continued)

	\$25	-0.79
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**Table 25.** Effect likelihood ratio tests for American data

Attribute	L-R ChiSquare	DF	Prob>ChiSq
Eco-friendly	326.29	1	<.0001*
Country of Origin	115.53	1	<.0001*
Price	652.98	1	<.0001*

**Table 26.** Ranks and desirability indices for T-shirts of American data

Rank	Eco-friendly	Country of Origin	Price	Desirability
1	Yes	Local	\$15	0.999
2	Yes	Foreign	\$15	0.994
3	No	Local	\$15	0.740
4	Yes	Local	\$25	0.629
5	No	Foreign	\$15	0.378
6	Yes	Foreign	\$25	0.278
7	No	Local	\$25	0.040
8	No	Foreign	\$25	<0.001

The importance of each attribute can be seen in Table 21 for the Chinese sample, and Table 24 for the American sample. Here we can see the marginal utilities, which show the desirability or preference for the level of the attribute. ‘The relative importance of the attributes were calculated by taking the difference between the highest and lowest utility for each attribute, summing the differences across all of the attributes and dividing each attribute’s difference by the total and multiplying by 100, which meant the relative importance of all of the attributes

summed to 100 percent' (Jegethesan, Sneddon, & Soutar, 2012, pg. 282). From Table 21, we can tell that Eco-friendly or not played the most important role (0.78) in Chinese consumers' minds, followed by Country of Origin (0.18), then Price (0.03). In contrast, we can see from Table 24 that American consumers focus most on Price (0.43), followed by Eco-friendly or not (0.36), and then Country of Origin (0.21).

The Effect Likelihood Ratio tests for the Chinese and American samples can be seen in Table 22 and Table 25. The two tables show that Eco-friendly, Country of Origin, and Price are all statistically significant for these two samples.

Knowing the rank of desirability for the combination of attributes can also be helpful (Rothenberg & Matthews, 2017). From Table 23 and Table 26, the T-shirt that was most likely to be purchased by both Chinese consumers and American consumers was Eco-friendly, Local brand T-shirt at the price of \$15. But because the importance of the attributes was different for the two samples, the rank of the desirability was different. There were eight possible combinations of attribute levels in our research and the four t-shirts most preferred by Chinese consumers were:

1. Eco-friendly, Local brand T-shirt at the price of \$15,
2. Eco-friendly, Foreign brand T-shirt at the price of \$15,
3. Eco-friendly, Local brand T-shirt at the price of \$25, and
4. Eco-friendly, Foreign brand T-shirt at the price of \$25.

The four preferred T-shirts by American consumers were:

1. Eco-friendly, Local brand T-shirt at the price of \$15,
2. Eco-friendly, Foreign brand T-shirt at the price of \$15,
3. Not Eco-friendly, Local brand T-shirt at the price of \$15, and

4. Eco-friendly, Local brand T-shirt at the price of \$25.

It can be concluded that Chinese consumers attached more importance to Eco-friendly, while American consumers saw Price as a more vital attribute when choosing T-shirts. In addition, hypothesis 8 which states that Chinese consumers prefer foreign brands eco-friendly T-shirts while American consumers prefer local brand eco-friendly T-shirts was supported.

#### 4.4. Summary of Hypothesis Test

Table 27 shows the summary of the results for the hypotheses 1-8.

**Table 27.** Summary of results for H1-H8

Hypotheses	Statement of the hypothesis	Result
H1a	Consumers' knowledge of sustainability has a positive influence on attitude.	Supported
H1b	Consumers' environmental concern has a positive influence on attitude.	Rejected
H1c	Consumers' sense of Altruism has positive influence on attitude.	Supported
H2a	Personal norm has a positive influence on consumers' subjective norm.	-
H2b	Interpersonal influence has a positive influence on consumers' subjective norm.	Supported
H3a	Perceived risks have a negative influence on perceived behavior control.	Rejected
H3b	Perceived money availability has a positive influence on perceived behavior control.	-
H3c	Perceived store accessibility has a positive influence on perceived behavior control.	Supported
H4	Attitude has a positive influence on consumers' eco-friendly T-shirts purchase intention.	Supported
H5	Subjective norms have a positive influence on consumers' eco-friendly T-shirts purchase intention.	Supported

**Table 27.** (continued)

H6	Perceived behavior control has a positive influence on consumers' eco-friendly T-shirts purchase intention.	Supported
H7	Consumers' eco-friendly T-shirts purchase intention has a positive influence on actual purchase behavior.	Supported
H8	Chinese consumers would prefer foreign brands while American consumers prefer local brand for eco-friendly T-shirts.	Rejected

## **CHAPTER 5. DISCUSSION AND CONCLUSION, LIMITATION AND FUTURE STUDY**

This research used the Theory of Planned Behavior to predict young consumers' eco-friendly T-shirt purchase behavior. There is a limited number of cross-cultural studies on eco-friendly purchase behavior, thus this research contributes to the literature by analyzing Chinese and American consumers' responses and comparing the differences between them with the framework of the TPB. The following sections include discussion and conclusions, limitations and suggestions for future study.

### **5.1. Discussion**

The framework based on the TPB was used in the study to predict consumer purchase intention of eco-friendly T-shirts. It was hypothesized that three factors (i.e. Environmental Knowledge, Environmental Concern, and Altruism) affected Attitude, two factors (i.e. Personal Norm, Interpersonal Influence) affected Subjective Norm, and three factors (i.e. Perceived Risks, Money Availability, and Store Accessibility) affected Perceived Behavior Control. Factor analysis and regression were used to test the hypotheses constructed using the TPB based framework, then the framework was reconstructed according to the result of the analysis. Also, Country of Origin was hypothesized to influence consumer purchase intention. A discrete choice section of the survey was used to examine which features of a T-shirt were most likely to influence a consumer's purchase intention. A discrete choice model was designed with the factors of Price, Eco-friendly or not, and Country of Origin. The questionnaire was written in English, then translated into Chinese under the supervision of a Chinese professor.

Responses on the questionnaire were collected at a university in China through WeChat, while questionnaires were distributed in the U.S. in classes at a large research intensive

university in the Southeast. Overall, 221 valid responses from American students and 485 valid responses from Chinese students were analyzed.

The analysis was divided into two parts. The first part was the analysis of the data pertaining to the TPB. This was done with factor analysis and regression. The second part was the analysis of the discrete choice model, in which Chinese and American consumers were analyzed separately.

#### 5.1.1. Part I: Discussion of factor analysis and regression

To test the framework based on the Theory of Planned Behavior and the factors found in the literature, factor analysis and linear regression analysis were employed.

According to the results of the factor analysis, not all of the hypothesized constructs in the framework exist. Subjective Norm and Personal Norm were hypothesized to be separate constructs but are not according to the results of the factor analysis. Likewise, Perceived Behavior Control and money availability are one factor as are Purchase Intention and Actual Behavior. Country is applied as an indicator variable to test if there is a difference between Chinese and American consumers. We will discuss the result of every dependent variable in the following sections.

##### 5.1.2.1. Attitude

Environmental Knowledge and Altruism have a positive and significant influence on Attitude towards the purchase behavior of eco-friendly T-shirts. This finding agrees with the findings of Bong Ko and Jin (2017) and Chan and Lau (2002). Environmental Concern has a significant effect on Attitude, which is different from Chen & Tung's (2014) finding that Environmental Concern has a positive influence on Attitude. What's more, Country is a

significant indicator, which means that Chinese consumers and American Consumers differ on Attitude. Chinese consumers have a more positive attitude toward the purchase of eco-friendly T-shirts, which corresponds to the results of the discrete choice analysis.

#### 5.1.2.2. Subjective Norm

Personal Norm and subjective norm are one factor, treated as Subjective Norm in this research study. Interpersonal Influence has a significant positive impact on Subjective Norm. Han et al.'s (2017) finding was that Personal Norm had a significant influence on Subjective Norm. However, this research shows that consumers view them as the same thing. Country is also a significant factor influencing Subjective Norm, with Chinese consumers higher on subjective norm than American consumers.

#### 5.1.2.3. Perceived Behavior Control

Store Accessibility is the only factor that significantly influences PBC. We did not find that Perceived Risks has a significant influence on PBC. The reason might be that not all kinds of perceived risks were included in our questions. Su, Watchravesringkan, and Zhou's (2018) found that risk of wasting money, performance risk and fashion risk show great negative influence on attitude, while psychological risk, purchasing cost, and social risk do not show significant influence on the attitude of Chinese consumers. According to our results, American consumers have more perceived behavior control than Chinese consumers.

#### 5.1.2.4. Behavioral intention

In this part, we found no differences between Chinese and American consumers when testing the entire framework of the Theory of Planned Behavior. Attitude, Subjective Norm, and Perceived Behavior Control are all significant influences on Behavioral Intention, which is the

combination of purchase intention and actual behavior. What's more, consumers in different countries act no differently. This indicates that Chinese and American consumers are the same in behavioral intention toward eco-friendly T-shirts.

#### 5.1.2. Part II: Discussion of Tradeoffs

The results of this study show that Eco-friendly, Country of Origin, and Price are all significant factors influencing the purchase intention for both Chinese and American consumers.

For Chinese consumers, Eco-friendly is the most significant factor that influenced their purchase intention of T-shirts, followed by Country of Origin, then Price. In contrast, for American consumers, the most significant factor is Price, followed by Eco-friendly, and lastly, Country of Origin. This indicates that Chinese consumers are more environment-conscious consumers while American consumers are more price-conscious consumers. This is somewhat surprising because China is one of the world's most polluted countries (Smith, 2017). The result is different from Chan & Lau's (2002) finding that Chinese consumers were far less environmentally conscious than Americans. However, the results are consistent with the findings of D'Angelo that Americans say they are eco-friendly but due to many limitations, they do not lead eco-friendly lives (D'Angelo, 2016).

According to the results, both Chinese and American consumers are most likely to purchase T-shirts with local brands. This finding contradicts Jin, Phau, and Roy's (2013) finding that people prefer to buy apparel made in developed countries rather than developing countries. One of the possible reasons for this contradiction is that China is a developing country with intense development and great acceptance of new thoughts. Besides, Chinese consumers have been greatly influenced by western thoughts throughout their lives, so they are more likely to be more environmentally conscious than the young American young consumers of the same age.

Another possible reason is that we utilized T-shirt as the representative apparel product in this study. American consumers might not see it as important to act sustainably when purchasing T-shirts, but do see it as important on other products. They just think the price is the most important attribute for T-shirts.

## **5.2. Implications**

This research contributes to the literature on consumer behavior, eco-friendly products, and country of origin.

The results of the regression analysis show that American and Chinese consumers do not have significant differences in terms of 'behavioral intention'. Chinese consumers have a more positive attitude on purchasing eco-friendly T-shirts and a higher subjective norm than American consumers. Meanwhile, American consumers have a more positive perceived behavior control of purchasing eco-friendly T-shirts. The discrete choice analysis contradicts our hypothesis that both Chinese and American consumers prefer local brands to foreign brands. Also, eco-friendliness and price are significant influences on the purchase intention of T-shirts.

In terms of managerial implications, this study provides marketing managers a deeper understanding of the consumer decision making process and their preference for eco-friendly products. Sustainability has been an intense topic in the textile and apparel industry and a popular business strategy used to attract consumers. From this study, managers could estimate the most attractive combinations of attribute levels of a T-shirt that would be the best seller for Chinese or American young consumers. In this study, the most attractive combination was an Eco-friendly, local brand T-shirt at the price of \$15. This research also provides inside understanding of the consumer decision making process, which enables marketing managers to find opportunities for improvement. For American consumers who are less likely to have

positive subjective norm on the purchase behavior, managers could try to attract the friends and families of the target consumers. Then, to make American consumers more positive attitude on the purchase behavior, managers could bring out more promotions, to enhance the consumers' environmental knowledge or make them feel purchasing their products is an altruistic behavior. Also, provide Chinese consumers opportunities for higher perceived behavior control, such as by providing higher store accessibility.

### **5.3. Limitations of the Study and Suggestions for Future Study**

The research includes some limitations. First, the research used a convenience sample. The vast majority of the Chinese sample was composed of students from one Chinese university and distributed from WeChat. The American sample consisted of students from a university program where they are taught courses that could make them more knowledgeable about the concepts of eco-friendly and sustainability compared to the average young consumer. Second, the Chinese sample size was larger than the American sample. It would have been better if more responses could have been collected in the U.S. Thirdly, the definition of 'Eco-friendly T-shirt' is defined as 'T-shirts that contribute to green living or practices that help conserve resources like water and energy'. However, the definition of eco-friendly products vary among people and industries.

This research provides supporting evidence for the use of the Theory of Planned Behavior for explaining the purchase behavior towards eco-friendly T-shirts. Future studies could delve deeper into the specifics about the concept of eco-friendly in the textile and apparel industry. This study used the T-shirt as the target products and a representative of apparel products. The results might be different if another apparel product were used. Also, this study

targeted young consumers' (18-35) eco-friendly T-shirts purchase behavior and future studies could target older consumers, who also have strong apparel purchasing power.

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## APPENDICES

**Appendix A. IRB Form for Approval of Surveying**

Dear Ziwei Zhang:

Date: November 9, 2018

IRB Protocol 14344 has been assigned Exempt status

Title: A Cross-cultural Study of Young Consumers' Eco-friendly T-shirts Purchase Behavior

PI: Rothenberg, Lori Fay

The research proposal named above has received administrative review and has been approved as exempt from the policy as outlined in the Code of Federal Regulations (Exemption: 46.101. Exempt b.2, b.4). Provided that the only participation of the subjects is as described in the proposal narrative, this project is exempt from further review. This approval does not expire, but any changes must be approved by the IRB prior to implementation.

This committee complies with requirements found in Title 45 part 46 of The Code of Federal Regulations. For NCSU projects, the Assurance Number is: FWA00003429.

Any changes to the protocol and supporting documents must be submitted and approved by the IRB prior to implementation.

If any unanticipated problems or adverse events occur, they must be reported to the IRB office within 5 business days by completing and submitting the unanticipated problem form on the IRB website: <http://research.ncsu.edu/sparcs/compliance/irb/submission-guidance/>.

Any unapproved departure from your approved IRB protocol results in non-compliance. Please find information regarding non-compliance here: [http://research.ncsu.edu/sparcs-docs/irb/non-compliance\\_faq\\_sheet.pdf](http://research.ncsu.edu/sparcs-docs/irb/non-compliance_faq_sheet.pdf).

Please let us know if you have any questions.

\*\*\*\*\*

Jennie Ofstein  
NC State IRB Office  
919.515.8754 (email is best)

- [ncsuirboffice@ncsu.edu](mailto:ncsuirboffice@ncsu.edu) (Exemptions, Renewals, Amendments, eIRB issues, and Letters related concerns)
- [irb-coordinator@ncsu.edu](mailto:irb-coordinator@ncsu.edu) (Expedited, Full Board, Reliance Agreement related concerns)
- [irb-director@ncsu.edu](mailto:irb-director@ncsu.edu) (Participant Concerns, Non-compliance issues, Training/Talk Requests, Just In Time Requests, complex questions, open positions and the hiring process, all other issues)

Special Note: Between October 1, 2018 and January 31, 2019 the IRB office will be working diligently on meeting your needs, but please note we are in transition regarding staffing in our office (hiring and training). As a result, normal requests are expected to take a longer amount of time to finalize. If you have an urgent request, please email one of the addresses above as noted and we will prioritize your work as appropriate. You are more likely to reach the IRB office via email during this time.

## **Appendix B. English Version of the Survey**

### **IRB Consent Form CONSENT TO ACT AS A HUMAN PARTICIPANT**

Project Title: A Cross-cultural Study of Young Consumers' Eco-friendly T-shirts Purchase Behavior

Project Directors: Ziwei Zhang, Dr. Lori Rothenberg

#### **What is the study about?**

This is a research project. Consumers now are increasingly concerned with environmental problems, thus caring about eco-friendly issues in the apparel industry. This research is going to investigate the influence of factors such as knowledge about environmental problems, social influence, and perceived risks on elements from the Theory of Planned Behavior, thus influencing eco-friendly T-shirts purchasing intention and actual behavior. Country of Origin is another hot topic in the study of textile and apparel management. To explore the factors that will influence Country of Origin on the consumers' purchase behavior, this research utilizes questions about eco-friendly and price of the T-shirts.

#### **Why are you asking me?**

We are asking you to participate because you have been identified as a consumer who potentially buys eco-friendly T-shirts.

#### **What will you ask me to do if I agree to be in the study?**

You will be asked to complete a survey that will take approximately 10 minutes to complete.

#### **Is there any audio/video recording?**

No, there will be no audio/video recording

#### **What are the dangers to me?**

The Institutional Review Board at North Carolina State University has determined that participation in this study poses minimal risk to participants. There is a slight risk of a breach of confidentiality. Measures that will be implemented to minimize this risk are described in the confidentiality section below. Questions, concerns or complaints about this project or benefits or risks associated with being in this study can be answered by Ziwei Zhang at [zzhang57@ncsu.edu](mailto:zzhang57@ncsu.edu) and Dr. Lori Rothenberg at [lfrothen@ncsu.edu](mailto:lfrothen@ncsu.edu). This study has been approved by the NCSU IRB. For questions concerning participant rights, please contact the NCSU IRB Office at [irb-director@ncsu.edu](mailto:irb-director@ncsu.edu) or by phone at 1-919-515-4514.

#### **Are there any benefits to me for taking part in this research study?**

There are no direct benefits to participants of this study.

Are there any benefits to society as a result of me taking part in this research?

Your participation may help on analysis of consumer behavior of eco-friendly T-shirts.

#### **Will I get paid for being in the study? Will it cost me anything?**

There are no costs to you or payments made for participating in this study.

**How will you keep my information confidential?**

The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored securely in a password protected computer. No reference will be made in oral or written reports which could link you to the study. You will NOT be asked to write your name on any materials so that no one can match your identity to the answers that you provide.

**What if I am a NCSU student?**

Participation in this study is not a course requirement and your participation or lack thereof, will not affect your class standing or grades at NC State.

What if I want to leave the study?

You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, it will not affect you in any way. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identifiable state.

**What about new information/changes in the study?**

If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

**Voluntary Consent by Participant:**

By clicking on the button below, you acknowledge that you are at least 18 years of age, have read this information, and agree to participate in this research described to you in this document.

Thank you for participating in this survey. We are interested in learning more about young consumers' shopping behavior as it relates to apparel products, especially regarding the apparel category of T-shirts. Your assistance is greatly appreciated, and it will take you about 8-10 minutes to finish the questionnaire. While we greatly appreciate your participation in completing this survey, your participation is completely voluntary.

## SECTION A

---

This section includes various attributes one might choose for a T-shirt. With this in mind, think of the best combination of attributes you would desire for a t-shirt that best meets your needs. You will be shown several pairs of t-shirt choices. For each pair of t-shirt choices, select the one you're most likely to purchase at the given price (if you dislike both, pick the one you dislike less).

Q1. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Not Eco-friendly, Foreign Brand - \$15
- T-Shirt #2: Eco-friendly, Foreign Brand - \$25

Q2. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Not Eco-friendly, Local Brand - \$25
- T-Shirt #2: Not Eco-friendly, Foreign Brand - \$15

Q3. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Not Eco-friendly, Local Brand - \$15
- T-Shirt #2: Eco-friendly, Foreign Brand - \$25

Q4. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Not Eco-friendly, Foreign Brand - \$25
- T-Shirt #2: Eco-friendly, Foreign Brand - \$15

Q5. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Eco-friendly, Local Brand - \$15
- T-Shirt #2: Not Eco-friendly, Foreign Brand - \$25

Q6. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Not Eco-friendly, Local Brand - \$25
- T-Shirt #2: Eco-friendly, Foreign Brand - \$15

Q7. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Not Eco-friendly, Foreign Brand - \$25
- T-Shirt #2: Not Eco-friendly, Local Brand - \$15

Q8. Which of the following would you be more likely to purchase? Choose only ONE T-Shirt.

- T-Shirt #1: Eco-friendly, Local Brand - \$25
- T-Shirt #2: Not Eco-friendly, Foreign Brand - \$15

## SECTION B

This section includes statements about your knowledge and attitudes toward the environment. Please indicate your level of agreement with each statement. (-3= Strongly disagree, -2= Disagree, -1= Somewhat disagree, 0= Neither agree nor disagree, 1= Somewhat agree, 2= Agree, 3= Strongly Agree)

### Q9. How do you feel about paying more money to buy eco-friendly T-shirts?

	-3	-2	-1	0	1	2	3	
Bad								Good
Foolish								Wise
Unpleasant								Pleasant
Worthless								Valuable
Harmful								Beneficial

Statement	-3	-2	-1	0	1	2	3
I am informed about environmental issues (e.g., eco-fashion, environmental impact of clothing manufacturing) in apparel manufacturing business.							
I am informed about child labor/sweatshop issues in apparel manufacturing business.							
I am knowledgeable about social equity issues (e.g., working conditions of factory workers, fair wage for factory workers) in apparel business.							
I understand the environmental impact of apparel products across the supply chain.							
I am knowledgeable about apparel brands that sell environmentally-friendly or socially responsible apparel products.							
I know more about environmentally or socially-responsible apparel business than the average person.							
I am extremely worried about the state of the world's environment and what it will mean for my future.							
Mankind is severely abusing the environment.							
When humans interfere with nature it often produces disastrous consequences.							
The balance of nature is very delicate and easily upset.							
Humans must live in harmony with nature in order to survive.							
I think environmental problems are very important.							
I think environmental problems cannot be ignored.							

I think we should care about environmental problems.							
--	--	--	--	--	--	--	--

### SECTION C

This section includes some statements regarding your attitudes about eco-friendly T-shirts. Please indicate your level of agreement with each statement.

Statement	-3	-2	-1	0	1	2	3
Purchasing eco-friendly T-shirts can alleviate environmental problems.							
Purchasing eco-friendly T-shirts can save natural resources.							
Purchasing eco-friendly T-shirts is socially responsible.							
I feel personally obliged to purchase in an environmentally friendly way, such as buy eco-friendly T-shirts.							
Regardless of what other people do, because of my own values/principles I feel that I should behave in an environmentally friendly way while purchasing.							
I feel a moral obligation to take the environmental problems caused by pollution into account when making purchasing choices.							
I feel morally obliged to purchase eco-friendly products.							

### SECTION D

This section includes some statements about your general shopping behaviors. Please indicate your level of agreement with each statement.

Statement	-3	-2	-1	0	1	2	3
I rarely purchase apparels in a new style until I am sure my friends approve of them.							
It is important that others like the products and brands I buy.							
When buying products, I generally purchase those brands that I think others will approve of.							
If other people can see me using a product, I often purchase the brand they expect me to buy.							
I like to know what brands and products make a good impression on others.							
I achieve a sense of belonging by purchasing the same products and brands that others purchase.							
If I want to be like someone, I often try to buy the same brands that they buy.							

I often identify with other people by purchasing the same products and brands they purchase.							
To make sure I buy the right product or brand, I often observe what others are buying and using.							
If I have little experience with a product, I often ask my friends about the product.							
I often consult other people to help choose the best alternative available from a product class.							
I frequently gather information from friends or family about a product before I buy							

## SECTION E

This section contains statements about the potential risks associated with purchasing eco-friendly T-shirts. Please indicate your level of agreement with each statement.

Statement	-3	-2	-1	0	1	2	3
Whether or not I will purchase eco-friendly T-shirts for personal use is entirely up to me.							
I have complete control over the number of eco-friendly T-shirts that I will buy for personal use.							
Whether or not I will purchase eco-friendly T-shirts for personal use is completely within my control.							
Most people who are important to me believe I should buy eco-friendly T-shirts.							
Most people who are important to me have a positive attitude toward eco-friendly T-shirts.							
I am worried about what others will think of me when I purchase eco-friendly T-shirts.							
I am worried that my friends might think I look weird or funny in the eco-friendly T-shirts.							
I will not feel comfortable wearing the eco-friendly T-shirts in public.							
I will feel the eco-friendly T-shirts I purchased might be outdated.							
I will feel the eco-friendly T-shirts I purchased might not be the latest style.							
I will feel that the eco-friendly T-shirts I purchased might not be in fashion.							
The quality of the eco-friendly T-shirts will be unsatisfactory.							
The quality of the eco-friendly T-shirts will be poor.							
The life cycle of the eco-friendly T-shirts will not be long.							

The eco-friendly T-shirts that I purchased will not look good on me.							
It will be difficult for me to be able to match the eco-friendly T-shirts with my current clothing.							
Purchasing eco-friendly T-shirts will not match my own personal image.							
It will cost too much for me to purchase the eco-friendly T-shirts.							
It will cost a lot to manage and keep the eco-friendly T-shirts in good shape.							

## SECTION F

This section includes statements about the availability and accessibility of eco-friendly T-shirts to you. Please indicate your level of agreement with each statement.

Statement	-3	-2	-1	0	1	2	3
I think I can afford to make any eco-friendly purchase if I want.							
I feel that I have enough extra money so that I can splurge a little if I find something I really like.							
I am on a tight budget while shopping.							
I feel that locations of the apparel stores, carrying eco-friendly T-shirts, are close to me.							
It is easy to get to apparel stores carrying eco-friendly T-shirts.							

## SECTION G

This section includes statements about whether you intend to purchase or have purchased eco-friendly T-shirts. Please indicate your level of agreement or frequency with each statement.

Statement	-3	-2	-1	0	1	2	3
I am willing to purchase eco-friendly T-shirts.							
I plan to purchase eco-friendly T-shirts.							
I will purchase eco-friendly T-shirts.							
I buy eco-friendly T-shirts.							
I will switch to other brands of T-shirts that are more eco-friendly.							

## SECTION H

This section includes some questions regarding your household. Please select the answer that best reflects your current situation.

Your gender:

- Male
- Female

Your age:

- Under 18
- 18-24
- 25-29
- 30-35
- Over 35

Your Ethnic Background:

- Caucasian
- African-American
- Asian
- Hispanic
- Other (please specify): \_\_\_\_\_

Your Education Background:

- Undergraduate
- Graduate
- Ph. D
- Other: \_\_\_\_\_

Your Work Status:

- Not working
- Part time
- Full time

Monthly Discretionary Income (amount of income left over per month for spending):

- Less than \$100
- \$100-\$200
- \$201-\$300
- \$301-\$400
- \$400+

## Appendix C. Chinese Version of the Survey

### IRB 受试者同意书

项目名称：青年消费者环保 T 恤购买行为的跨文化研究

项目负责人：Ziwei Zhang, Dr. Lori Rothenberg

#### 这项研究关于什么？

消费者现在越来越关注环境问题，因此更关注服装行业的环保问题。本研究拟从计划行为理论的调查出发，探讨环境问题、社会影响、风险知觉等测量项目对其造成的影响，进而影响环保 T 恤的购买意向与实际行为。原产国是纺织品和服装管理研究的另一个热门话题。为了探讨原产国对消费者购买行为的影响，本研究采用了原产国、是否环保和 T 恤价格的联合问题进行调查。

#### 为什么要我参与这项研究？

我们希望您参加，因为您已被确定为可能购买环保 T 恤的消费者。

#### 这项研究需要我做什么？

您将被要求完成一项大约需要 10 分钟的调查。

#### 有录音/录像吗？

不，没有音频/视频录制

#### 参与这项研究，我会承担任何风险吗？

北卡罗来纳州立大学的机构审查委员会保准确定参与本研究对参与者的风险最小。存在违反保密规定的轻微风险，下面的保密部分描述了为实现风险最小化而采取的措施。有关该项目的问题，疑虑或投诉，或与本研究相关的利益或风险，可以通过 [zzhang57@ncsu.edu](mailto:zzhang57@ncsu.edu) 和 [lfrothen@ncsu.edu](mailto:lfrothen@ncsu.edu) 回答。该研究已获得 NCSU IRB 的批准。有关参与者权利的问题，请联系 NCSU IRB 办公室，电子邮件：[irb-director@ncsu.edu](mailto:irb-director@ncsu.edu) 或致电 1-919-515-4514。

参加这项研究对我有什么好处吗？

本研究的参与者没有直接的好处。

参与这项研究，对社会是否有任何好处？

您的参与可能有助于分析环保 T 恤的消费者行为。

参加本研究我会获得报酬吗？有任何花销么？

您无需支付任何费用或参与此项研究的费用。

您如何保密我的信息？

研究记录中的信息将在法律允许的最大范围内保密。数据将安全地存储在受密码保护的计算机中。不会在口头或书面报告中提及您可能将您与研究联系起来。我们不会要求您在任何材料上写下您的姓名，以便没有人能够将您的身份与您提供的答案相匹配。

如果我是学生，会对我的成绩产生影响吗？

参加本研究并无课程要求，您的是否参与研究不会影响您在北卡罗来纳州的课程或成绩。

如果我想中途退出这项研究怎么办？

您有权在任何时候拒绝参加或退出，不受处罚。如果你退出，它不会以任何方式影响你。

如果您选择退出，您可以要求销毁任何已收集的数据，除非其处于可识别状态。

研究中的新信息/变化怎么样？

如果可获得与您的研究有关的重要新信息，这些信息可能与您继续参与的意愿有关，则将向您提供此信息。

参与者的自愿同意：

通过单击下面的按钮，您确认您已年满 18 岁，已阅读此信息，并同意参与本文档中描述的此研究。

感谢您参与本次调查。我们的研究致力于更多地了解年轻消费者的购物行为，完成调查问卷大约需要 8-10 分钟的时间，我们非常感谢您参与完成此调查，您是否参与这项调查完全是自愿的。

## 第一部分

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此部分将提供给您 T 恤的各种属性供您选择。考虑到这一点，请选择最适合您需求的 T 恤的最佳属性组合。您将看到几对 T 恤。对于每对 T 恤选择，选择您最有可能以给定价格购买的 T 恤（如果您对同一组的两个 T 恤都不满意，请选择您相对喜欢的那个）。

Q1 您更有可能购买以下哪款 T 恤？

- T 恤 # 1：不环保，外国品牌 - 15 美元
- T 恤 # 2：环保，外国品牌 - 25 美元

Q2. 您更有可能购买以下哪款 T 恤？

- T 恤 # 1：不环保，本地品牌 - 25 美元
- T 恤 # 2：不环保，外国品牌 - 15 美元

Q3. 您更有可能购买以下哪款 T 恤？

- T 恤 # 1：不环保，本地品牌 - 15 美元
- T 恤 # 2：环保，外国品牌 - 25 美元

Q4. 您更有可能购买以下哪款 T 恤？

- T 恤 # 1：不环保，外国品牌 - 25 美元
- T 恤 # 2：环保，外国品牌 - 15 美元

Q5. 您更有可能购买以下哪款 T 恤？

- T 恤 # 1：环保，本地品牌 - 15 美元
- T 恤 # 2：不环保，外国品牌 - 25 美元

Q6. 您更有可能购买以下哪款 T 恤？

○T 恤 # 1：不环保，本地品牌 - 25 美元

○T 恤 # 2：环保，外国品牌 - 15 美元

Q7. 您更有可能购买以下哪款 T 恤？

○T 恤 # 1：不环保，外国品牌 - 25 美元

○T 恤 # 2：不环保，本地品牌 - 15 美元

Q8. 您更有可能购买以下哪款 T 恤？

○T 恤 # 1：环保，本地品牌 - 25 美元

○T 恤 # 2：不环保，外国品牌 - 15 美元

## 第二部分

本部分包括有关您对于环境的知识和态度的陈述。请选择您对每项陈述的同意程度。（-3 =非常不同意，-2 =不同意，-1 =有点不同意，0 =不同意也不反对，1 =有点同意，2 =同意，3 =非常同意）

Q9. 我认为花费更多钱购买环保 T 恤是.....

	-3	-2	-1	0	1	2	3	
不好的								好的
不明智的								明智的
不愉快的								愉快的
无用的								有价值的
有害的								有利的

陈述	-3	-2	-1	0	1	2	3
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我了解服装制造业的环境问题（例如，生态时尚，服装制造的环境影响）。							
我了解服装制造业的童工/血汗工厂（指工人劳动条件差，工作时间长，工资低的工场或工厂）问题。							
我了解服装业的社会公平问题（例如工厂工人的工作条件，工厂工人的平均工资）。							
我了解服装产品在整个供应链中对环境的影响。							
我对销售环保服装的品牌非常熟悉。							
我比其他人更了解环保或有社会责任感的服装企业。							
我非常担心世界环境的状况，以及它对我的未来意味着什么。							
人类正在严重滥用自然资源。							
当人类过度干扰自然环境时，往往会产生灾难性的后果。							
自然界的平衡是非常微妙并容易被破坏的。							
为了生存，人类必须与自然和谐相处。							
我认为环境问题非常重要。							
我认为环境问题不容忽视。							
我认为我们应该关心环境问题。							

### 第三部分

本部分包含一些关于您对环保 T 恤的态度的陈述。请选择您对每项陈述的同意程度。

陈述	-3	-2	-1	0	1	2	3
购买环保 T 恤可以缓解环境问题。							
购买环保 T 恤可以节省自然资源。							
购买环保 T 恤是一种对社会负责任的表现。							

我个人觉得有必要环保购物，例如购买环保 T 恤。							
不管别人怎么做，因为我自己的价值观和原则，我会坚持环保消费。							
在做出购买选择时，我觉得在道德上有义务将污染造成的环境问题考虑在内。							
我觉得道德上有义务购买环保产品。							

#### 第四部分

本部分包含一些有关您的一般购物行为的陈述。请选择您对每项陈述的同意程度。

陈述	-3	-2	-1	0	1	2	3
除非得到朋友的认可，我很少购买新的风格的服装。							
其他人喜欢我购买的产品和品牌对我来说是非常重要的。							
在购买产品时，我通常会购买我认为其他人会赞同我购买的品种。							
如果其他人可以看到我使用某产品，我经常购买他们认可的品种。							
我想知道哪些品牌和产品会给别人留下好印象。							
我通过购买其他人购买的相同产品和品牌来实现归属感。							
如果我想成为某个人，我经常尝试购买和他购买的相同品牌或产品。							
我经常通过购买和他人相同的产品和品牌来获得他人认同。							
为了确保我购买正确的产品或品牌，我经常观察其他人购买和使用的产品。							

如果我对某个产品没什么购买经验，我经常咨询我的朋友。							
我经常咨询其他人，以帮助我从众多产品类别中选择最佳产品。							
在购买某产品之前，我经常从朋友或家人那里收集一些有关这个产品的信息。							

## 第五部分

本部分包含有关购买环保 T 恤的潜在风险的陈述。请选择您对每项陈述的同意程度。

陈述	-3	-2	-1	0	1	2	3
我是否会购环保 T 恤的决定完全取决于我。							
我完全能控制我将购买的环保 T 恤的数量。							
我是否会购买环保 T 恤完全在我的掌控之中。							
大多数对我很重要的人都认为我应该购买环保 T 恤。							
大多数对我很重要的人对环保 T 恤持积极态度。							
我很在意别人对我购买环保 T 恤这一行为的看法。							
我担心我的朋友可能会觉得我穿着我购买的环保 T 恤看起来很奇怪或滑稽。							
在公共场合穿着环保 T 恤我会感到很不自在。							
我会觉得我购买的环保 T 恤可能已经过时了。							
我会觉得我购买的环保 T 恤可能不是最新的款式。							
我会觉得我购买的环保 T 恤可能不时尚。							
我认为环保 T 恤的质量不令人满意。							
我认为环保 T 恤的质量会很差。							

我认为环保 T 恤的生命周期不会太长。							
环保 T 恤对我来说不太好看。							
我很难将环保 T 恤与现在的服装相搭配。							
购买环保 T 恤不符合我个人的形象。							
购买环保 T 恤对我来说是非常昂贵的。							
购买后，我将需要花费很多来护理环保 T 恤。							

### 第六部分

本部分包括有关环保 T 恤的可用性和可及性的陈述。请选择您对每项陈述的同意程度。

陈述	-3	-2	-1	0	1	2	3
我认为如果我愿意，我有能力购买任何环保产品。							
我觉得我有足够的额外资金，所以如果我找到我真正喜欢的东西，我可以稍微挥霍一下。							
在购物中我预算紧张，我会很谨慎的消费。							
我觉得销售环保 T 恤服装店的位置离我很近。							
很容易到达销售环保 T 恤的服装店。							

### 第七部分

本部分包括有关您是否打算购买或购买环保 T 恤的陈述。请在每项陈述中选择您的同一程度或频率。

陈述	-3	-2	-1	0	1	2	3
我愿意购买环保 T 恤。							
我打算购买环保 T 恤。							

我会购买环保 T 恤。							
我 ( -3 =从不; 3 =总是 ) 购买环保 T 恤。							
我 ( -3 =从不; 3 =总是 ) 选择购买更环保的其他品牌的 T 恤。							

## 第八部分

本部分包含有关您家庭的一些问题。请选择最能反映您当前情况的选项。

您的性别:

- 男
- 女

您的年龄:

- 18 岁以下
- 18-24 岁
- 25-29 岁
- 30-35 岁
- 超过 35 岁

国籍:

- 中国
- 美国
- 其他 (请说明): \_\_\_\_\_

您的教育背景:

- 大学本科
- 研究生
- 博士
- 其他: \_\_\_\_\_

您的工作状态 t:

- 不工作
- 兼职
- 全职

每月可自由支配收入 ( 每月剩余可用于消费的收入 ):

- 少于 100 美元
- 100-200 美元
- 201-300 美元
- 301-400 美元
- 超过 400 美元