

**Determinants of Consumers' Sustainable Disposal Behavior of Clothing Items: An
Application of Triandis's Theory of Interpersonal Behavior (TIB)**

by

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Abstract

The purpose of this study was to investigate the personal and situational factors that influence consumers' sustainable clothing disposal behavior. The conceptual research framework was developed by adopting theoretical elements from the Theory of Interpersonal Behavior. Data were collected through an online survey with a national convenience sample of 304 participants living in the U.S. Simple and multiple linear regression analyses were used to test the hypothesized relationships among variables. Four out of seven proposed hypotheses were supported. The results confirmed that consumers' attitudes toward green clothing and affect towards sustainable clothing disposal behavior positively predict their sustainable disposal intention of clothing items, while perceived social pressure does not. The results also revealed that perceived convenience significantly influences sustainable clothing disposal behavior. Consumers' sustainable disposal intention and recycling habits significantly predict their sustainable clothing disposal behavior, while perceived convenience has no moderating effect upon these relationships. The findings imply that people who are already habitual of recycling household items are more likely to dispose clothing items in a sustainable manner. The findings also suggest that it is possible to increase participation in sustainable clothing disposal practices by improving the convenience (e.g., introducing more accessible clothing drop off facilities). The findings can be a useful guide to the researchers and marketers of apparel in formulating coordinated future efforts to increase consumers' engagement in sustainable clothing consumption.

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Table of Contents

Abstract	i
Acknowledgements	ii
List of Tables	v
List of Figures	vi
CHAPTER 1 INTRODUCTION	1
Problem Statement	4
Purpose of the Study	6
Definition of Terms	7
CHAPTER 2 LITERATURE REVIEW	9
Theoretical Framework	9
Literature Review and Hypotheses	12
Clothing Disposal Behavior.....	12
Environmentally Sustainable Clothing Disposal Behavior	14
Environmental Attitude towards Green Clothing.....	15
Environmental Attitude towards Green Clothing and Sustainable Disposal Intention of Clothing	16
Perceived Social Pressure	17
Affect towards Sustainable Clothing Disposal Behavior	19
Sustainable Disposal Intention of Clothing Items and Environmentally Sustainable Clothing Disposal Behavior.....	21
Recycling Habits.....	21
Perceived Convenience.....	23
Conceptual Model	25
CHAPTER 3 METHODS	26
Research Design	26
Sample and Sampling Procedure.....	26
Data Collection Procedure	27
Study Instruments.....	28
Data Analysis	37
CHAPTER 4 RESULTS	38
Demographic Characteristics	38

Factor Analysis and Reliability	40
Exploratory Factor Analysis	40
Reliability of Scales	44
Correlation among the Constructs	45
Test of Hypotheses	47
Summary of Findings	51
CHAPTER 5 DISCUSSION AND CONCLUSIONS	53
Discussion of Findings	53
Theoretical Implications.....	59
Managerial Implications.....	62
Limitations and Recommendations.....	64
Conclusions	65
REFERENCES	66
Appendix A. INFORMATION LETTER.....	78
Appendix B. CONSUMER SURVEY	80

List of Tables

Table 3.1 Survey instruments: Measurement Items for Variables, Anchor Points, and Sources .	32
Table 4.1 Demographic Characteristics of the Study Sample (N = 304).....	39
Table 4.2 EFA Result of Scales	42
Table 4.3 Scale Reliability Results	45
Table 4.4 Pearson Correlation Coefficients among Variables.....	46
Table 4.5 Environmental Attitude towards Green Clothing (H1), Perceived Social Pressure (H2), and Affect towards Sustainable Clothing Disposal Behavior (H3) Positively Influence Consumers' Sustainable Disposal Intention of Clothing Items: Stepwise Multiple Regression Analysis Report for Predicting Sustainable Disposal Intention of Clothing Items	48
Table 4.6 Sustainable Disposal Intention of Clothing Items (H4), and Recycling Habits (H5) Positively Influence Environmentally Sustainable Clothing Disposal Behavior: Simple Regression Analysis Report for Predicting Environmentally Sustainable Clothing Disposal Behavior.....	49
Table 4.7 The Higher the Consumers' Perceived Convenience, the Stronger the Positive Relationship is between Their Sustainable Disposal Intention of Clothing Items and Environmentally Sustainable Clothing Disposal Behavior (H6): Multiple Regression Analysis Report for H6.....	50
Table 4.8 The Higher the Consumers' Perceived Convenience, the Stronger the Positive Relationship is between Their Recycling Habits and Environmentally Sustainable Clothing Disposal Behavior (H7): Multiple Regression Analysis Report for H7	51
Table 4.9 Overview of Hypotheses Results	52

List of Figures

Figure 1. Triandis's (1977) Model of Interpersonal Behavior (TIB).....	12
Figure 2. Conceptual proposed research model.....	25

CHAPTER 1 INTRODUCTION

The human consumption pattern is one of the leading factors of global environmental impacts. The harmful consequences of environmental problems in recent decades have caused many people to think about reshaping their conventional consumption practices (Moon et al., 2013). As environmental issues have grown in importance, green consumerism has started gaining momentum (Moon et al., 2013). Green or sustainable consumption involves the purchasing of green products as well as the disposal of products in an environmentally friendly manner (Joung & Park-Poaps, 2013). Green products are those that impose the least possible adverse impact on natural environments during their entire life cycle (Moon et al., 2013). Both purchase and disposal behaviors play an important role in consumers' green product consumption.

Environmentally sustainable clothing consumption or green clothing consumption can be described as clothing consumption behavior, including purchasing, using, maintaining, and discarding of clothing items that are produced through processes which consume fewer natural resources and create less pollution and waste (Connell & Kozar, 2014). Sustainable clothing consumption as an aspect of consumer behavior involves pre-purchase, purchase, and post-purchase components (Jacoby et al., 1977). Environmentally sustainable clothing purchase behavior includes the purchasing of clothing items that are made from environmentally preferable fibers (e.g., organic cotton) or clothing manufactured using environmentally sound processes (Connell & Kozar, 2014). Clothing disposal behavior is the final component of sustainable consumption behavior, concerning whether clothing is reused, recycled, or simply discarded or destroyed (Bianchia & Birtwistle, 2010).

Consumer behavior research, mainly regarding clothing, is primarily focused on buying behavior (Mugge et al., 2010). However, it is crucial to investigate all phases of the consumption cycle, that is, from purchase through usage and to the disposal of purchased items (Mugge et al., 2010). De Coverly et al. (2008) emphasized the importance of consumers' disposal behavior in understanding the whole consumer behavior process. Current literature (e.g., Paul et al., 2016; Sreen et al., 2018) is mostly centered on capturing the behavioral measure of purchasing green apparel. Focusing on only consumers' green purchase behavior while disregarding their disposal practices does not depict the whole scenario of sustainable apparel consumption. Thus, the present study especially focused on investigating the antecedents of sustainable clothing disposal behavior.

Globally, about 150 billion garments are produced per year, while 2.5 billion pounds of clothing end up in landfills (Farra, 2016). On average, individual Americans buy 70 items per year, which are 60% more as compared to 20 years ago (Rudenko, 2018). The number of clothes Americans trash per year has been doubled over the last 20 years, which equates to about 68 pounds per person annually, generating a huge amount of textile waste (Claudio, 2007). The practice of green product purchasing may influence consumers to switch from regular to green clothing, but it will not help to solve the mass disposal problem of unwanted clothing items. For instance, a consumer may purchase green clothing but dispose of them more frequently in an unsustainable manner (e.g., throw away as trash) than regular clothing items. Thus, it is imperative to analyze all the components of clothing consumption, especially purchase and disposal behavior, to achieve the goal of sustainable consumption.

According to the report of the United States Environmental Protection Agency (US EPA), the volume of post-consumer textile waste has increased to 40% (from 9.5 million tons in

2000 to 16.03 million tons in 2015), and the volume is expected to rise further (US EPA, 2018). The US EPA also reports that textile waste constitutes about 5% of the total solid waste in U.S. landfills, and the numbers are continuously increasing (US EPA, 2018). The primary source of textile waste is discarded clothing (US EPA, 2018). The growing volume of textile waste in landfills is a matter of concern due to synthetic textile materials such as nylon, acrylic, and polyester, which decompose slowly (Yee et al., 2016). Clothing items made from synthetic fibers take 30 to 40 years to degrade, resulting in the increasing piles of waste in landfills (International Wool Textile Organization, n.d.). Additionally, the decomposition of natural fibers may produce acid leachate, methane, nitrogen gases, and hydrogen sulfide (Li et al., 2010; Webner et al., 2016). Textile waste is generally not considered toxic as compared to the pollution problem caused by batteries, tires, and light bulbs (Webner et al., 2016). In general, municipalities do not consider textile waste as an issue in waste management; hence they do not collect them, leaving the collection to charity organizations and private companies (Webner et al., 2016). For that reason, the textile waste remains as a resource that is not as easily recyclable as aluminum cans, glass, or plastic. Besides, textile waste recycling stations are not as readily available as aluminum or plastic recycling bins (Koch & Domina, 1999). Unavailability of such clothing recycling facilities makes consumers throw their used clothes in the waste stream (Laitala, 2014). By not collecting textile waste, municipalities overlook the degree of willingness of the consumer to bring unwanted clothing to recycling stations or donation depots and thus, a high volume of textiles end up in landfills (Domina & Koch, 2001; Ha-Brookshire & Hodges, 2009; Morgan & Birtwistle, 2009; Webner et al., 2016).

The disposal stage of consumer behavior has gained attention in the arena of contemporary consumer behavior research due to the rise of a throwaway culture stemming from

excessive consumption of clothing items (Yee et al., 2016). However, the number of studies is still limited, which has explored the disposal behavior of clothing items. Prior studies found a positive association between consumer environmental attitudes and clothing disposal patterns (Koch & Domina, 1997; Morgan & Birtwistle, 2009; Shim, 1995). Additionally, consumer awareness of the environment has a strong influence on disposal methods such as recycling (Morgan & Birtwistle, 2009). Although several conceptual models generally assume that attitudes influence behavior (Fishbein & Ajzen, 1975), positive attitudes toward the environment are not always transformed into actual green behavior (Vermeir & Verbeke, 2008). Consumers' positive attitude toward green clothing does not necessarily conclude that they would conform to environmentally friendly disposal behavior. The bulk of the municipal solid waste, including textile waste, continues to rise despite the concern of U.S. consumers about the environment (US EPA, 2009). Therefore, a comprehensive study investigating the main drivers that lead consumers to engage in sustainable clothing disposal practices is needed.

Problem Statement

Clothing can be considered as consumers' most frequently purchased non-food product (Moon et al., 2013). A culture of increased levels of clothing consumption has continued to evolve in the U.S. for decades (Joung, 2014). A short fashion life cycle and low prices are key drivers of consumer encouragement to purchase more clothing items (Birtwistle & Moore, 2007). The fast-fashion trends make fashion styles quickly obsolete leading to frequent disposal of unnecessary clothing (Yee et al., 2016). As a result, textile waste in landfills and environmental pollution increases (Joung & Park-Poaps, 2013).

Consumers dispose of unwanted clothing in many ways, such as donation, resale, swap, pass-on, reuse, recycle, and throw away (Jacoby et al., 1977; Joung, 2014). Throwing away no-

longer-needed clothing items is the most common disposal practice among consumers (Joung, 2014). Conversely, sustainable disposal practices include donations to charitable organizations, such as The Salvation Army or Goodwill, using recycling facilities or passing onto friends and family (Goworek et al., 2012). Ultimately, the avenue of disposal is influenced by the final condition of the clothing items (Bianchi & Birtwistle, 2012; Joung, 2014). In the end, the mean of clothing disposal is ultimately a choice made by individual consumers (Webner et al., 2016). Therefore, textile waste is a matter of consumer affair.

Past studies regarding consumers' clothing disposal behavior have focused on the role of knowledge and attitudinal variables in encouraging such practices (Connell & Kozar, 2014). Other research has investigated the impact of situational factors, such as convenience and accessibility (i.e., the proximity of textile recycling stations and donation depots) on clothing disposal behavior (Domina & Koch, 2001; Ha-Brookshire & Hodges, 2009; Morgan & Birtwistle, 2009; Laitala, 2014; Webner et al., 2016). However, the majority of the past research has focused on these personal and situational factors separately. Studies that consider both internal subjective factors (e.g., attitude, habit) and external contextual factors (e.g., convenience, institutional constraints, and social practices) as predictors of consumers' sustainable clothing disposal behavior are limited. Previous research in the recycling domain has shown that prior experience of recycling or habit plays a vital role in influencing recycling behavior (Ittiravivongs, 2012; Knussen & Yule, 2008). Knussen and Yule (2008) suggest that habit needs to be considered as a notable factor in influencing the disposal practice of household waste. No study has thus far examined whether recycling habits influence consumers' choice to manage unwanted clothing items. Although evidence for the significant role of affect (e.g., emotion) as a predictor of pro-environmental behavior is well established, a review of extant

research reveals no investigation on the influence of affect in consumers' environmentally sustainable clothing disposal behavior (de Miranda Coelho et al., 2016; Müller et al., 2009; Vining & Ebrero, 2002). In addition, social pressure also influences adopting pro-environmental behavior, such as participation in recycling (Botetzagias et al., 2015; Chu et al., 2013; Khan et al., 2019). However, there is relatively little research examining the role of social pressure on sustainable clothing disposal behavior. Further, the critical role of perceived convenience also needs to be studied. The influence of perceived convenience is crucial is that despite holding positive attitudes toward sustainable clothing disposal behavior, consumers' final decisions of actually engaging in it could have been affected by perceived convenience. Therefore, to achieve a comprehensive understanding, there is a need for considering both personal (e.g., attitude, emotion) and situational factors (e.g., convenience) while explaining sustainable clothing disposal behavior.

Purpose of the Study

The overarching purpose of this study is to comprehensively understand the decision-making mechanism of consumers' sustainable clothing disposal behavior. In addition to attitudinal and contextual variables, the study is intended to explore the influence of recycling habits and affect (i.e., emotion) on sustainable clothing disposal practices. The specific objectives of this study are:

1. To investigate the influence of environmental attitude towards green clothing on sustainable disposal intention of clothing items;
2. To explore the influence of perceived social pressure on sustainable disposal intention of clothing items;
3. To examine the influence of the affective component (i.e., emotion) on sustainable

disposal intention of clothing items;

4. To investigate the influence of recycling habits on sustainable clothing disposal behavior;
5. To examine how perceived convenience influences the relationship between recycling habit and environmentally sustainable clothing disposal behavior; and
6. To explain how perceived convenience influences the relationship between sustainable clothing disposal intention and environmentally sustainable clothing disposal behavior.

These relationships are explored using Triandis's (1977) Theory of Interpersonal Behavior (TIB). The TIB is a framework used for explaining the pattern of specific behavior as a result of internal (e.g., intended, habitual) responses and external facilitating conditions (e.g., convenience) in an individual's environment (Ibrahim et al., 2018). For this study, the behavior is defined as environmentally sustainable clothing disposal behavior.

Definition of Terms

Affect towards Sustainable Clothing Disposal Behavior: refers to the positive or negative emotions an individual feels at the thought of any of the following clothing disposal practices: a) giving away; b) swapping; c) donating to charities; d) dropping off to recycling bin, and e) reselling.

Environmental Attitude towards Green Clothing: refers to individuals' positive or negative evaluation of green clothing or apparel and their perception regarding the importance of green apparel to save the environment (Sreen et al., 2018).

Environmentally Sustainable Clothing Consumption: refers to "clothing consumption behavior (acquisition, storing, using, maintaining, and discarding) which is environmentally preferable to mainstream clothing consumption behavior because the

intent of engaging in the behavior is: 1) to create less pollution and waste and 2) to consume fewer natural resources” (Connell & Kozar, 2014, p. 49).

Environmentally Sustainable Clothing Disposal Behavior: consumers’ engagement in any of the following clothing disposal practices: a) giving away; b) swapping; c) donating to charities; d) dropping off to recycling bins; and e) reselling (Goworek et al., 2012).

Green Clothing: refers to clothing items that are manufactured through processes that consume fewer natural resources; and create less pollution and waste (Connell & Kozar, 2014).

Perceived Convenience: the level of ease of time, place, and execution that an individual perceives while performing any of the following clothing disposal practices: a) giving away; b) swapping; c) donating to charities; d) dropping off to recycling bins; and e) reselling (Cheng et al., 2012).

Perceived Social Pressure: refers to individuals’ perception of whether family members, close friends, neighbors, and people surrounding them think that the environmentally sustainable clothing disposal behavior should be performed or not (Limayem et al., 2004).

Recycling Habits: the extent to which performing the recycling practice of household wastes has become automatic in response as it is concerned with a lack of thinking and reasoning processes with regards to the target behavior (Robinson, 2010).

Regular or Normal Clothing: refers to clothing items produced through traditional manufacturing processes that may impose an adverse impact on natural environments.

Sustainable Disposal Intention of Clothing: refers to an individual’s conscious plan to perform any of the following clothing disposal behavior: a) giving away; b) swapping; c) donating to charities; d) dropping off to recycling bins, and e) reselling (Norum, 2017).

CHAPTER 2 LITERATURE REVIEW

This chapter provides an overview of Triandis's (1977) Theory of Interpersonal Behavior (TIB) as the framework used for guiding the research. It is followed by a review of scholarly literature for the constructs of environmental attitude towards green clothing, perceived social pressure, affect towards sustainable clothing disposal behavior, recycling habits, sustainable disposal intention of clothing items, perceived convenience, and environmentally sustainable clothing disposal behavior. Subsequently, the proposed hypotheses were developed based on the extant literature and with respect to the Triandis's (1977) TIB model constructs and their relationships. Lastly, a conceptual research model is proposed at the end of this chapter.

Theoretical Framework

The present study employs the Theory of Interpersonal Behavior (TIB) proposed by Triandis (1977) to explore consumers' environmentally sustainable clothing disposal behavior. Triandis's (1977) Theory of Interpersonal Behavior (TIB) belongs to a school of cognitive models like Ajzen and Fishbein's (1975) Theory of Reasoned Action (TRA) and Ajzen's (1991) Theory of Planned Behavior (TPB) (Milhausen et al., 2006; Robinson, 2010). Theory of Reasoned Action (TRA) presumes that the key predictor for human behaviors is an individual's intention to perform a specific behavior or act. Additionally, the normative component, such as social norms, also contributes to whether the individual will perform the behavior or not (Ajzen & Fishbein, 1975). The TRA was later revised and expanded to the Theory of Planned Behavior (TPB). In the Theory of Planned Behavior (TPB), the intention is the only psychological antecedent for behavior that is shaped by three determinants: attitudes towards the behavior, subjective norms, and perceived behavioral control (Groening et al., 2018). The TPB has been subjected to an extended critique and argued to have less explanatory power, especially in a pro-

environmental behavior context (Groening et al., 2018). Researchers argue that human behavior is extremely complex and can be conceived as a function of processes and characteristics internal to the individual, such as attitudes, values, habits, and personal norms (Egmond & Bruel, 2007). Behavior is also embedded in collective and social decision-making contexts and other contextual factors that are external to the individual (Egmond & Bruel, 2007). Both the TRA and TPB focus on the cognitive aspect of behavior. Neither of the theories accounts for the contextual or habitual factors involved in the behavior. To overcome the internal-external dichotomy in behavioral psychology literature, Triandis (1977) proposed the Theory of Interpersonal Behavior (TIB). Alongside both the internal (e.g., attitudes, affect) and external (e.g., social pressure, convenience) factors, this integrated model incorporates habit as a critical component while predicting behavior (Limayem et al., 2004).

According to Triandis (1977), the probability that a particular behavior will occur is determined by three factors: *behavioral intention, habit, and facilitating conditions*. The *intention* is a function of social, affective, and cognitive factors. The *social factors* refer to the pressure of others and society that exert an important influence on an individual to perform a given behavior (Meng et al., 2019). In particular, for this study, the social factors are the social pressure and expectation that cause an individual to dispose of his or her clothing items in an environmentally friendly manner. The *affective factors* include the emotions elicited by the thought of the behavior (Triandis, 1977). Specifically, this refers to the emotional responses that individuals have when they engage in any of the following clothing disposal actions such as a) giving away to family members and friends; b) swapping; c) donating to the charity shop; d) dropping off to recycling bins; and e) reselling. The *cognitive factors* reflect how an individual evaluates the possible consequences of engaging in the behavior (Triandis, 1977). The present

study accounts for environmental attitudes towards green clothing as the cognitive component of the TIB model. In particular, this means how an individual evaluates green clothing or apparel regarding the importance of green apparel to save the environment (Sreen et al., 2018).

The second antecedent of behavior is *habit*, which is a form of automatic and routine responses to a situation that has a strong influence on predicting behavior (Triandis, 1977). Triandis (1977) argued that behavior in any situation is a function of partly the intention and partly of the habitual responses. When a behavior is new and unlearned, the behavioral intention component is solely responsible for the behavior (Triandis, 1977). On the other hand, when the behavior is old, well-learned, and has been performed numerous times, the behavior is then under the control of the habit component. The relationship between intention and behavior is altered by the level of habit or the strength of previous behavior in producing the target behavior (Robinson, 2010; Triandis, 1977).

Finally, Triandis (1977) argued that an individual's decision to engage in a behavior is also influenced by *facilitating conditions*. Facilitating conditions are the situational constraints and conditions in the environment that influence an individual's ability to perform or prevent the intended behavior (Teo, 2010; Triandis, 1977). Therefore, at any level of habit or behavioral intention, the absence or presence of facilitating conditions will have an impact on whether the behavior will be performed or not (Robinson, 2010). Relevant to this study is consumers' perceived Convenience that influences an individual's perception of ease or difficulty at performing sustainable clothing disposal practices (Teo, 2010). Therefore, considering the TIB model, it can be stated that consumers' sustainable clothing disposal behavior is a combined function of their disposal intention, which is a function of environmental attitude towards green clothing, social factors, and affect towards sustainable consumption; and habitual responses. This

behavior is moderated by the level of ease of time, place, and execution that one perceives when performing clothing disposal behavior. The disposal intention depends on three components: environmental attitude towards green clothing, social factors, and affect towards sustainable consumption.

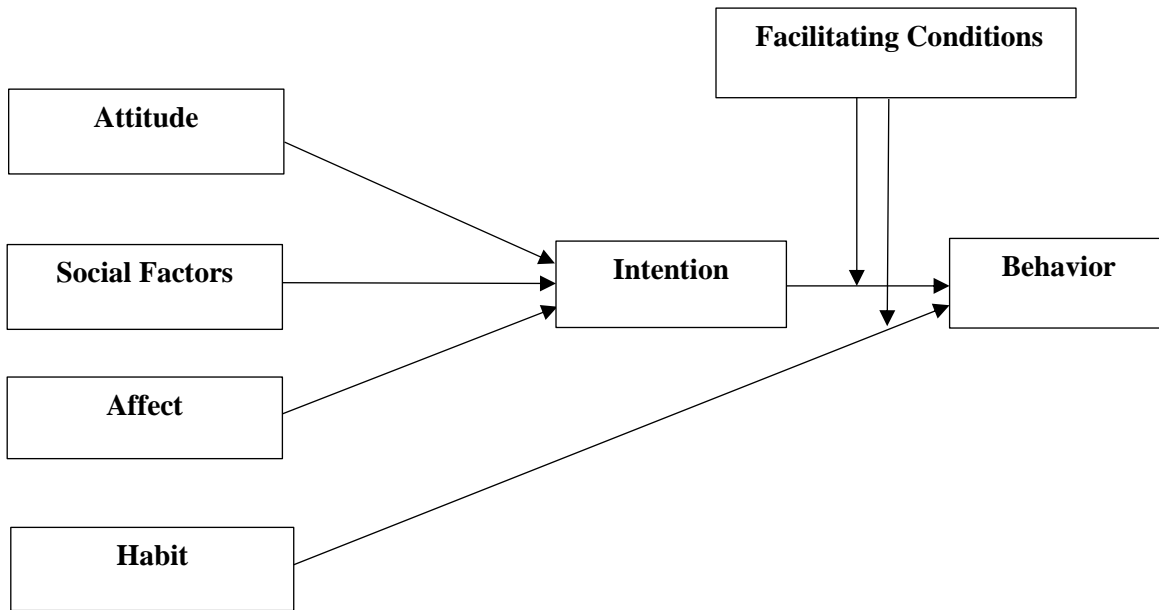


Figure 1. Triandis's (1977) Model of Interpersonal Behavior (TIB)

Literature Review and Hypotheses

Clothing Disposal Behavior

A consumer's clothing disposal behavior is referred to as the act of getting rid of unwanted clothing items (Yee et al., 2016). The consumer disposes of clothing items after a period of use. However, there are limited data on how long they keep using the items. A study shows that the lifetime of an apparel item in developed countries such as the USA and UK is less than three years (Ellen MacArthur Foundation, 2017). There are several reasons for consumers to get rid of their clothing—the availability of new fashions, poor fit, boredom, and signs of damage or wear (Joung, 2014). According to Jacoby et al. (1977), consumers have three general choices when discarding a clothing item: a) keeping it, b) permanent disposal, and c) temporary

disposal. Keeping includes converting clothing to use for another purpose (Laitala, 2014). The permanent disposal includes giving away to family or friends, swapping, donating to charity, selling through second-hand shops, and throwing away into recycling or garbage bins (Bianchi & Birtwistle, 2012; Domina & Koch, 1999; Joung, 2014). Temporary disposal includes loaning or renting (Laitala, 2014). Listed below are the six terms for the options of clothing disposal that are commonly found in the literature.

Binning: is the permanent discarding of clothing as trash or household waste that implies that it can no longer be used, reused, or recycled (Laitala, 2014).

Donation: is the way of giving clothes to non-profit charitable organizations. In this case, the donor does not receive any economic gain (Laitala, 2014).

Give away: is an option of clothing disposal where clothes are handed down to friends, family, neighbors, or other acquaintances (Laitala, 2014).

Selling: is the method of exchanging clothing for economic benefits. Clothes can be sold through different channels such as the Internet, garage sales, or flea markets (Laitala, 2014).

Swapping: is the way of exchanging old garments with other consumers. It can be done in an informal meeting between friends or a program with a larger number of participants (Laitala, 2014).

Reusing or Upcycling: modification of clothing items for the use of other purposes (e.g., reusing clothes as cleaning rags).

Binning or throwaway of no-longer-needed clothing was found to be the most common disposal practice among consumers because they consider it as a convenient means of disposal (Domina & Koch, 2002). Resale and reuse after modification are less preferred disposal options (Domina, 1999). Donation to charities is another common disposal practice. Consumers prefer to

either donate to charities or pass on to family or friends with clothing that is in good condition; however, damaged, or worn-out clothing items are thrown away in the trash (Domina & Koch, 2002).

Environmentally Sustainable Clothing Disposal Behavior

There are several disposal channels consumers can select to dispose of their used or unwanted clothing items. Out of the many disposal options, literature mentioned donation to charities and passing on to friends or family as a common method of sustainable clothing disposal (Bianchi & Birtwistle, 2012; Birtwistle & Moore, 2006). These two methods avoid landfill disposal, thus saving cost in the disposal process while also benefitting the needy (Hawley, 2006; Yee et al., 2016). Also, dropping off unwanted clothing items to the clothing recycling facilities is found to be a sustainable method of clothing disposal (Koch & Domina, 1999). Swapping is another sustainable clothing disposal option that allows consumers to get rid of their clothes by exchanging old garments with other consumers (Webner et al., 2016). Although selling or reselling is generally associated with monetary gain, it can also be linked to environmentally motivated resale (Shim, 1995).

The present study mainly focuses on consumers' permanent clothing disposal behavior that is environmentally friendly. It excludes reuse or upcycling, which falls under the "keep the product" (Jacoby et al., 1977) category of clothing disposal behavior. Therefore, in this study context, environmentally sustainable clothing disposal behavior takes into account consumers' engagement in any of the following clothing disposal practices: a) giving away; b) swapping; c) donation to charities; d) dropping off to recycling bin; and e) reselling (Goworek et al., 2012).

Sustainable Disposal Intention of Clothing

Triandis (1977) defined behavioral intention as individuals' conscious plan or

self-instruction that people give to themselves in order to perform a particular act or behavior. In this study, the behavioral intention element of Triandis's (1977) TIB model is reflected by consumers' sustainable disposal intention of clothing. Sustainable disposal intention of clothing refers to an individual's conscious plan to dispose of clothing items when they conclude that the item is no longer needed. Thus, based on Triandis's (1977) TIB model, sustainable disposal intention is a function of social (i.e., perceived social pressure), affective (i.e., affect towards sustainable consumption), and cognitive (i.e., environmental attitude towards green clothing) factors.

Environmental Attitude towards Green Clothing

In the study of green consumer psychology, consumer's attitude towards the act has always been considered as one of the key predictors of behavioral intention and actual behavior (Jaiswal & Kant, 2018). Attitude is a generally positive or negative evaluation by an individual towards a specific object (Fishbein & Ajzen, 1975). Attitude can conceptually be classified into general attitude and specific attitude (Jaiswal & Kant, 2018; Tan, 2011). The concept of general attitude denotes the general tendency to engage in relevant behavior of a category of attitude object (Ajzen & Fishbein, 1977; Tan, 2011). On the contrary, a specific attitude explains a single behavior on a particular attitude object (Ajzen & Fishbein, 1977; Tan, 2011). For instance, environmental attitude is a construct that evaluates the natural environment with some degree of favor or disfavor (Milfont & Duckitt, 2010). An individual's evaluation of the natural environment is holistic in that it explains how they perceive the natural environment in general. However, it does not necessarily clarify the nuances of environmental specific attitudes (e.g., environmental attitudes towards conservation and environmental attitudes towards green products or purchase). In contrast, a specific attitude such as environmental attitudes towards

green purchase is mainly concerned with one's evaluation towards the purchase decision of environmentally friendly products and the consequences of such specific behavior on environmental protection (Jaiswal & Kant, 2018).

Ajzen and Fishbein (1977) emphasized the importance of careful measurement of attitude at the same level of specificity as the behavior. According to the same authors, a specific attitude or attitude towards a specific object is a strong predictor of a single behavior. For example, environmental attitudes towards conservation will be a stronger predictor of conservation behavior than general environmental attitudes. Therefore, the study considers the concept of apparel specific environmental attitude. Specifically, the environmental attitude towards green clothing will be considered as the cognitive component of Triandis' (1977) TIB model. In general, a pro-environmental or green attitude is the result of an individual's perception of the consequences of environmental problems (Schultz, 2000). Therefore, environmental attitude towards green clothing can be defined as individuals' positive or negative evaluation towards green clothing or apparel and their perception regarding the importance of green apparel to save the environment (Sreen et al., 2018).

Environmental Attitude towards Green Clothing and Sustainable Disposal Intention of Clothing

Similar to the theory of planned behavior (TPB), Triandis (1977) proposed in his TIB model that attitudes or evaluation of potential outcomes influence an individual's intention to perform a particular behavior. Similar to the TPB model, behavioral intention acts as a mediator between attitude and behavior in the TIB model. There is evidence to support a positive relationship between environmental attitudes and intention towards clothing disposal behavior. Shim (1995) noticed that consumers with pro-environmental attitudes intend to dispose of their unwanted clothing sustainably since they perceive it as a means to reduce environmental issues

arising from merely throwing them away in the trash. Morgan and Birtwistle (2009) found a significant positive relationship between consumer awareness of the environment and sustainable disposal intention of clothing items. Consumers having a positive attitude towards the environment were found to be engaged in sustainable disposal behaviors, such as donating to charity shops; recycling and reuse (Joung & Park-Poaps, 2013; Morgan & Birtwistle, 2009; Shim, 1995); and passing on to friends and family (Bianchi & Birtwistle, 2012). Cruz-Càrdenas et al. (2016) observed that environmental attitudes lead people to dispose of less clothing outside the household. Koch and Domina (1997) perceived that environmental attitudes were strongly correlated with the intention to engage in donation and reuse of textiles. All these studies focused on studying the influence of general environment attitude on clothing disposal options. None of the studies examined the relationship between apparel specific environmental attitude and sustainable disposal intention of clothing. Environmental attitude toward green clothing will be a stronger predictor than general environmental attitudes in explaining environmentally sustainable clothing disposal behavior. As suggested by Fishbein and Ajzen (1975), a specific attitude is better than a general attitude in predicting specific behavior. Given the above-reviewed literature on the positive relationship between consumers' general environmental attitudes and clothing disposal intention, the study hypothesizes a positive relationship between environmental attitude toward green clothing and sustainable disposal intention of clothing items.

H1: Consumers' environmental attitude toward green clothing positively influences their sustainable disposal intention of clothing items.

Perceived Social Pressure

Social factors are referred to as the norms, roles, and values at the societal level that influence an individual to behave in a certain way in order to gain social approval (Triandis,

1977). Social influences are standards that serve as cues that help individuals understand how they are expected to behave in a group (Cialdini & Goldstein, 2004; Wan et al., 2014). So, individuals tend to be concerned with the perception of others when deciding whether to perform a specific behavior or not. The influence of family members, close friends, neighbors, and people surrounding an individual creates the pressure to conform to the expected behavior (Khan et al., 2019). People feel pressure while deciding to engage in an act and seek approval from the people whom they deem important to them (Khan et al., 2019). Therefore, perceived social pressure is defined as individuals' perception of whether the surrounding people important to them think that the behavior should be performed or not (Limayem et al., 2004). In the context of the present study, perceived social pressure refers to individuals' perception of whether family members, close friends, neighbors, and people surrounding them think that the environmentally sustainable clothing disposal behavior should be performed or not. Therefore, it can be stated that an individual is likely to engage in environmentally friendly clothing disposal behavior if the surrounding people expect him or her to do so.

Perceived social pressure, whether to engage in a behavior or not, influences an individual's intention (Triandis, 1980). Social pressure influences an individual's intention to engage in specific behaviors (Limayem et al., 2004). Jackson (2005) also concluded with a similar idea that social pressure plays an important role in forming intentions towards a particular behavior. In addition, social influence was found to be effective in encouraging pro-environmental behavior (Abrahamse & Steg, 2013). Previous studies on waste recycling behavior observed that social norms or social pressure are significantly correlated with residents' intention to waste recycling behavior (Botetzagias et al., 2015; Chu et al., 2013). The finding was consistent with consumers' behavior intentions towards dealing with plastic waste (Khan et al.,

2019). However, no study so far has reported the influence of perceived social pressure on sustainable disposal intention of clothing items. Since social pressure is known to influence the adoption of pro-environmental behavior, the study assumes that perceived social pressure is likely to be a significant determinant of environmentally sustainable clothing disposal intention. Thus, the study proposes the following hypothesis.

H2: Perceived social pressure positively influences consumers' sustainable disposal intention of clothing items.

Affect towards Sustainable Clothing Disposal Behavior

Triandis (1977) argued that there is an association between emotion and behavior because the thought of a particular behavior elicits emotions emerging from the possible appraisal of pleasant or unpleasant outcomes of that behavior. A behavior may be associated with pleasant stimulation, or with disgust, anxiety, or discontentment (Triandis, 1977). So, affect refers to an individual's positive or negative feelings associated with a particular behavior (Thompson et al., 1995; Triandis, 1977). Fishbein (1967) was the first to emphasize the importance of affect toward the behavior as a predictor of behavior. Besides, Ajzen (2001) stated that individuals decide to perform a behavior not just based on cognitive processes but also by affective processes. Alongside rational evaluation of consequences, the behavioral decision may depend on the relative strength of the positive or negative emotion (Ibrahim et al., 2017). Therefore, the affective component has the potential to serve as a significant predictor of intention to perform a particular behavior followed by said behavior.

In contemporary environmental psychology research, emotion is considered a fundamental part of the motivation in adopting pro-environmental behavior. Vining and Ebero (2002) argued that when an individual with pro-environmental attitudes does not perform

environmentally-friendly activities, a dissonant state accompanied by negative emotions is created. The individual seeks a way to resolve these negative feelings and eventually finds a way to act in accordance with attitudes of conservation (Vining & Ebrero, 2002). According to de Miranda Coelho et al. (2016), the intention to behave sustainably is based on emotional affiliation with nature, and fear or anxiety related to environmental risk perception. Prior research found emotions to be an important antecedent in predicting pro-environmental behavioral intention (Müller et al., 2009; Pooley & O'Connor, 2000; Vining & Ebrero, 2002). Emotions have been found to account for explaining a significant portion of the variance in sustainable behavior, such as the decision to reduce air pollution (Kals & Maes, 2002). de Miranda Coelho et al. (2016) asserted a similar conclusion regarding the influence of emotion in motivating behavioral intention towards water conservation practices.

However, the affective component has largely been ignored in sustainable apparel consumption research. Emotion related to sustainable clothing disposal behavior can be considered as of the following types: a) a sense of guilt, concerning insufficient personal sustainable behavior (de Miranda Coelho et al., 2016); b) feeling of contentment and satisfaction for being part of saving the environment by engaging in environmentally friendly clothing disposal activities; and c) annoyance emerging from individual's conflict of interest due to excessive control of pollution (de Miranda Coelho et al., 2016). These emotions imply the acceptance and rejection of values and norms regarding the importance of sustainable clothing disposal behavior to save the environment and influence the intention to engage in the behavior. Thus, the affect towards sustainable clothing disposal behavior is a potential regulator of sustainable disposal intention of clothing items. Therefore, the study proposes the following hypothesis:

H3: Consumers' affect towards sustainable clothing disposal behavior positively influences their sustainable disposal intention of clothing items.

Sustainable Disposal Intention of Clothing Items and Environmentally Sustainable Clothing Disposal Behavior

The positive relationship between behavioral intention and behavior is well established. A handful number of studies hypothesize that intentions are the precise predictors of behavior (Ajzen & Fishbein, 1975, Carrington et al., 2010; Limayem et al., 2004; Triandis, 1977). Shim (1995) found a significantly positive correlation between consumers' disposal intention and their clothing disposal behavior. Other studies on clothing disposal behavior found consistent findings regarding the strong positive relationship between intention to engage in clothing disposal behavior and the actual behavior (Bianchi & Birtwistle, 2012; Koch & Domina, 1997; Morgan & Birtwistle; 2009). Therefore, based on empirical support for the relationship between intention and behavior, the present study proposes the following hypothesis:

H4: Consumers' sustainable disposal intention of clothing positively influences their environmentally sustainable clothing disposal behavior.

Recycling Habits

Habit can be defined as learned, goal-oriented acts that become automatic responses in specific situations (Verplanken et al., 1998). According to Triandis (1977), habit is a form of automatic and routine responses to a situation that has a strong influence in predicting behavior. The intention does not solely predict a behavior; the probability of a behavior occurring also depends on how habitual the behavior has become (Moody & Siponen, 2013; Triandis, 1977). Triandis (1977) argued that when a behavior repeatedly takes place, the weight of habit factor increases, while behavioral intention decreases. In that case, habit becomes a better predictor of

behavior than behavioral intention (Triandis, 1977). Additionally, Bem (1967) asserted that individuals decide on their behavior in one area based on the observation of their other very own behavioral areas. Therefore, past behavior can influence future behavior; however, this influence is the strongest when behavior parallels closely to the previous behavior, and when that previous behavior repeatedly occurred (Traindis, 1977).

The influence of past behavior on pro-environmental behavior is well established (Boldero, 1995; Knussen & Yule, 2008; Wolfe, 2011). Boldero (1995) found that past recycling behavior was a significant predictor of future household waste recycling behavior. Knussen et al. (2004) suggested that past recycling behavior should be taken into account in order to predict future recycling behavior. Daneshvary et al. (1998) found that individuals' current waste recycling behavior has significantly influenced the support for the curbside textile-recycling policy. People decide to act sustainably to reduce environmental issues arising from the improper disposal of waste (Shim, 1995). So, the motivation for sustainable behavior is identical, be it household recycling behavior or clothing disposal behavior. Therefore, it can be stated that people who have the habit of general waste recycling might demonstrate similar types of action (i.e., recycling) when it comes to clothing disposal. Morgan and Birtwistle (2009) observed that consumers who exhibit the habit of recycling glass, paper, and plastic were more likely to donate unwanted clothing to charity shops instead of throwing it away as trash. Given the association between consumers' general recycling habits and clothing disposal behavior, the study hypothesizes that there exists a positive relationship between recycling habits and environmentally sustainable clothing disposal behavior. Therefore, the study proposes the following hypothesis:

H5: Individuals' recycling habits positively influences their environmentally sustainable clothing disposal behavior.

Perceived Convenience

Triandis (1977) argued that the presence or absence of facilitating conditions affects the likelihood of a behavior. An individual's habit or behavioral intention becomes irrelevant if the situation does not permit him or her to behave (Triandis, 1977). Individuals may have the intention to perform sustainable clothing disposal behavior; however, if the environment or situation does not support this behavior, it will probably not be executed (Osbourne & Clarke, 2006). In the present study context, perceived convenience is considered as the most relevant facilitating condition. Perceived convenience is referred to as an individual's perception of the ease of performing sustainable clothing disposal practices (Teo, 2010). Cheng et al. (2012) described perceived convenience as a level of convenience toward time, place, and execution. Time convenience refers to the extent to which an individual views that performing a particular behavior does not take much time (Cheng et al., 2012). If an individual can perform sustainable clothing disposal behavior at any time, then they feel more convenient towards time. Place convenience refers to the convenience of the location of which individual view that the behavior can be performed (Cheng et al., 2012). If an individual can perform sustainable clothing disposal behavior (e.g., recycling, reselling) at any convenient location, then they feel more convenient towards the place. Execution convenience refers to the level of ease toward the execution of a particular behavior that individuals perceive while performing that behavior (Cheng et al., 2012). Thus, if the consumers perceive that sustainably disposing of clothing items is inconvenient and time-consuming, they may no longer participate in this behavior even though they are willing to act sustainably. Conversely, if consumers find it convenient to perform without taking much time

and effort, the likelihood of them performing sustainable clothing disposal behavior may increase.

There are several ways consumers dispose of their unwanted clothing—donation, swap, resale, reuse, pass-on, and throw away (Bianchi & Birtwistle, 2012; Domina & Koch, 1999; Joung, 2014). They take the decision based on the final condition of clothing items (Joung, 2014; Bianchi & Birtwistle, 2012). Shim (1995) stated that multiple motivational factors might be linked to several disposal behaviors. Donation to charities was reported as a popular practice associated with consumers' altruistic concern (e.g., helping others) (Koch & Domina, 1997; Shim, 1995). However, Bianchi and Birtwistle (2012) found that consumers' perceived convenience induced their willingness to donate to the charity shop. They concluded with the suggestion for a doorstep collection program that might increase the frequency of donation.

Recycling and reuse were perceived as methods to lessen guilt associated with excess consumption (Armstrong et al., 2015). However, participation in clothing recycling programs is also influenced by the convenience of the action and accessibility of recycling programs (Koch & Domina, 1997; Nordlund & Garvill, 2002). Halvorsen (2008) observed that consumers' perceived convenience to recycling programs significantly increased participation in household recycling. Domina and Koch (2002) found that the reason for consumers not participating in a clothing recycling program is the unavailability of handy outlets for textile recycling. Therefore, it can be asserted that perceived convenience is a potential moderator that affects the relationship between sustainable clothing disposal intention and consumers' engagement in environmentally sustainable disposal behavior. Based on the above discussion, the following hypotheses are proposed:

H6: The higher the consumers' perceived convenience, the stronger the positive relationship is between their sustainable disposal intention of clothing items and environmentally sustainable clothing disposal behavior.

H7: The higher the consumers' perceived convenience, the stronger the positive relationship is between their recycling habits and environmentally sustainable clothing disposal behavior.

Conceptual Model

Based on the literature review and adopting theoretical elements from Triandis's (1977) Theory of Interpersonal Behavior (TIB), it can be asserted that three factors determine environmentally sustainable clothing disposal behavior: *sustainable disposal intention of clothing items, recycling habit, and perceived convenience*. Sustainable disposal intention of clothing items is a function of *environmental attitude towards green clothing, perceived social pressure, and affect towards sustainable clothing disposal behavior*. Thus, the following conceptual model is proposed:

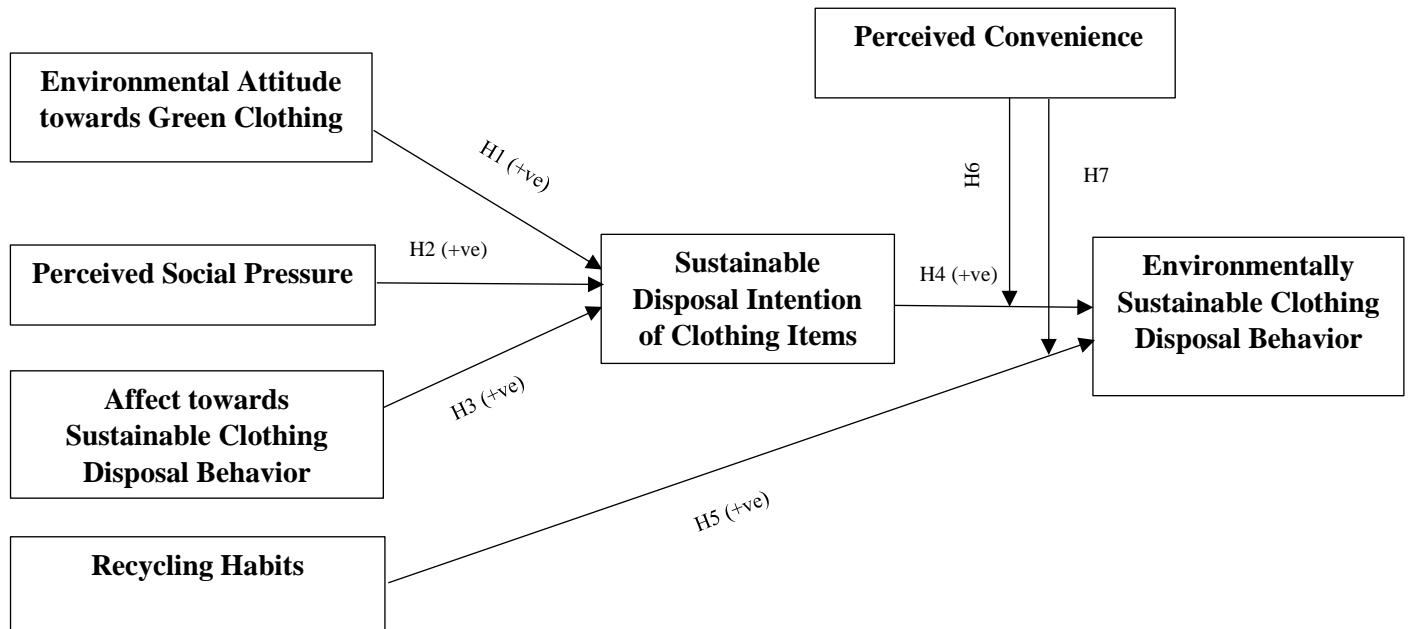


Figure 2. Conceptual proposed research model.

CHAPTER 3 METHODS

This chapter gives an overview of the research design, followed by descriptions of the sampling procedure and study instruments. The study empirically tested the hypotheses proposed in Chapter 2 using an online survey and quantitative data analysis methods.

Research Design

This study employed an online survey developed in Qualtrics to examine the relationships among variables. For H1, the environmental attitude towards green clothing served as the independent variable in this study. For H2 and H3, perceived social pressure and affect towards sustainable clothing disposal behavior served as the independent variable, respectively. For H1, H2, and H3, sustainable clothing disposal intention served as the dependent variable. For H4, recycling habits served as the independent variable, and environmentally sustainable clothing disposal behavior served as the dependent variable. For H5, sustainable clothing disposal intention served as the independent variable, and environmentally sustainable clothing disposal behavior served as the dependent variable. For H6, perceived convenience was analyzed as a moderating variable for the relationship between sustainable clothing disposal intention and environmentally sustainable clothing disposal behavior. For H7, perceived convenience served as the moderator for the relationship between recycling habit and environmentally sustainable clothing disposal behavior.

Sample and Sampling Procedure

The target population for this study was clothing consumers residing in the United States. The participants were recruited from Amazon Mechanical Turk (MTurk). MTurk is a crowdsourcing website that allows its workers (i.e., paid task completers) to perform tasks that can be done at a computer (e.g., surveys, writing) assigned by the task creators (Buhrmester et

al., 2011). Several studies verified the psychometric properties of MTurk participants' responses (Buhrmester et al., 2011, Casler et al., 2013) and confirmed that the results are consistent with traditional samples (Goodman et al., 2013).

The sample size was determined by using a rule of thumb for multiple regression and factor analysis proposed by Tabachnick and Fidell (1996), which is to assume a medium effect size ($= .15$), alpha level, $\alpha = .05$, and beta level, $\beta = .20$. Therefore, the required sample size was estimated based on desired power ($= .80$), alpha level ($= .05$), number of predictors ($= 6$), and medium effect size ($= .15$). G*Power software version 3.1.9.4 was used to calculate sample size by using the criteria as mentioned above. The software estimated the minimum required sample size to be 98. Previous apparel disposal behavior related studies used sample size ranges between 300- 500 (Bianchi & Birtwistle, 2012; Domina & Koch, 1999; Shim, 1995). Also, the general rule of thumb for factor analysis is 300 cases (Tabachnick & Fidell, 1996). Therefore, the study estimated the required sample size to be 300.

Data Collection Procedure

The research proposal, along with the details of the recruitment method, was submitted to the Institutional Review Board (IRB) at Auburn University's Human Subject Review Committee for review. Upon obtaining IRB approval, the recruitment and data collection was launched via Amazon's Mechanical Turk (MTurk).

The survey questionnaire was developed using Qualtrics, a survey tool software. The study was then administered via Amazon Mechanical Turk (MTurk). The preliminary requirements for screening participants were (1) residing within the US, and (2) 19 or older. Participants who met the preliminary requirement were able to see a survey link. By clicking the link, they were redirected to the Qualtrics survey. At first, respondents saw a letter informing

them of the purpose of the study, the time required to fill out the online questionnaire, the protection of confidentiality, and the contact information of the researchers. The respondents were subsequently asked to indicate their consent to participate in the study by clicking the “Yes, I consent” button at the bottom of the page. Next, participants were asked to indicate their level of agreement with the items for environmental attitude towards green clothing, perceived social pressure, affect towards sustainable consumption, recycling habit, sustainable clothing disposal intention, perceived convenience, and environmentally sustainable clothing disposal behavior and answer demographic questions. A thank-you note appeared after the respondents completed and submitted the survey. A unique MTurk code was generated for each participant after they finished the survey. Participants entering these codes on the MTurk page were compensated by giving \$ 0.50.

Study Instruments

The online survey questionnaire comprised of three parts: 1) screener questions, 2) measures of the seven variables identified in this study (i.e., environmental attitude towards green clothing, perceived social pressure, affect towards sustainable clothing disposal behavior, recycling habit, sustainable disposal intention of clothing items, perceived convenience, and environmentally sustainable clothing disposal behavior), and 3) demographic questions.

Environmental Attitude towards Green Clothing

To measure consumers’ environmental attitude towards green clothing, a four-item scale was adapted from Sreen et al. (2018) with a word change to reflect the context of the study. The items were adapted by replacing “green products” with “green clothing.” A five-point Likert scale with endpoints 1 = “strongly disagree” to 5 = “strongly agree” was used for all

measurement items. The Cronbach's α value for the scale was reported as .88 (Sreen et al., 2018). The item wordings are listed in Table 3.1.

Perceived Social Pressure

Perceived social pressure was measured with a three-item scale (see Table 3.1) adapted from Sidique et al. (2010). The item was changed from "My neighbors expect me to recycle household materials" to "My neighbors expect me to give away, swap, or donate unwanted clothing items" to reflect the context of the study. Similarly, the second and third items were adapted by changing "recycle household materials" to "give away, swap, donate, recycle, or resale unwanted clothing items." The internal consistency coefficient (α) for the scale was reported as .70 (Sidique et al., 2010). A 5-point Likert response scale accompanied each item from 1 = "strongly disagree" to 5 = "strongly agree".

Affect towards Sustainable Clothing Disposal Behavior

To measure affect towards sustainable clothing disposal behavior, a six-item scale was adapted (Limayem et al., 2004). The items were adapted by changing "pirate software" to "give away, swap, donate, recycle, or resale unwanted clothing items." The first item was changed from "It is wrong to pirate software" to "It is good to give away, swap, donate, recycle or resale unwanted clothing items" to reflect the context of the study. Similarly, the third item was changed from "It is unethical to pirate software" to "It is boring to give away, swap, donate, recycle or resale unwanted clothing items" that fits the study context. A Likert-type scale with five levels (1 = "strongly disagree" to 5 = "strongly agree") was employed to elicit the extent to which the respondents felt that giving away, swapping, donating, recycling or reselling unwanted clothing is good, exciting, important, amusing, wise, and valuable. The composite reliability for the scale was reported .91 (Limayem et al., 2004).

Sustainable Disposal Intention of Clothing Items

To measure consumers' sustainable clothing disposal intention, a three-item scale was adapted from Moody and Siponen (2013). To fit the context of the study, the items were adapted by changing "I intend to use the Internet at work for non-work-related purposes in the future" to "I intend to give away, swap, donate, recycle or resale my unwanted clothing items in the future." A Likert-type scale with five levels (1 = "strongly disagree" to 5 = "strongly agree") was employed. The composite reliability for the scale was reported as .97 (Moody & Siponen, 2013). The proposed item wordings are listed in Table 3.1.

Recycling Habit

To measure recycling habit, a 12-item scale was adapted from Verplanken and Orbell's (2003) Self-Report Habit Index scale. A 5-point Likert response scale accompanies each item from 1 = "strongly disagree" to 5 = "strongly agree". The composite reliability for the scale was reported as .95 (Verplanken & Orbell, 2003). The proposed item wordings are listed in Table 3.1.

Perceived Convenience

To measure perceived convenience, 15 items were developed, reflecting individuals' level of ease toward time, place, and execution in giving away, swapping, donating, recycling, and reselling of unwanted clothing items. The original scale adapted from Cheng et al. (2012) was a four-item scale. One item does not apply to the study context and hence was eliminated from the questionnaire. In this study, the sustainable clothing disposal behavior has five subconstructs, namely, a) giving away; b) swapping; c) donation to charities; d) dropping off to recycling bin, and e) reselling. To capture individuals' level of ease of time, place, and execution towards performing each of the subconstructs of sustainable clothing disposal behavior, the original four-item scale was extended to a 15-item scale. Three items per subconstruct were

developed with word changes to reflect the context of the study. For example, the item was changed from “I can learn English at any time via the mobile learning” to “I can give away my unwanted clothing to family members and friends at any time.” A five-point Likert scale with endpoints 1= “strongly disagree” to 5= “strongly agree” was used for all measurement items. The Cronbach’s α value for the scale was .93. The proposed item wordings are listed in Table 3.1.

Environmentally Sustainable Clothing Disposal Behavior

To measure environmentally sustainable clothing disposal behavior, five items reflecting giving away, swapping, donation, recycling, and reselling were developed. All the items were measured on a five-point Likert scale (1 = “strongly disagree” to 5 = “strongly agree”). The items were adopted from Bianchi and Birtwistle (2012), measuring clothing disposal behavior related to giving away, swapping clothes to friends and family members, and donating to charity. Examples of items include “I give my outdated/used/unwanted clothing to members of my family and friends” and “I swap clothing with friends and family members.” The Cronbach’s α value for the scale was .78. The example includes “I drop off my outdated/used/unwanted apparel products to clothing recycling bins to be used for other purposes.” The modified items are listed in Table 3.1.

Demographic Information

At the end of the questionnaire, the participants were asked to provide demographic information. Demographic characteristics included participants’ age, gender, educational level, race, ethnicity, annual household income, employment, and marital status. Demographic information was further analyzed to summarize the socio-economic characteristics of the sample. All the measurement items, their respective response scales, and sources for each measurement are summarized in Table 3.1.

Table 3.1

Survey instruments: Measurement Items for Variables, Anchor Points, and Sources

Measurement Items	Response Scales	Source (Reported Cronbach's α)
Environmental Attitude towards Green Clothing (4 items)		
1. Environmental protection is important to me when making clothing purchases.	1 = Strongly disagree to 5 = Strongly agree	Sreen et al., (2018) (.88)
2. I believe that green clothing helps to reduce pollution (water, air, etc.).		
3. I believe that green clothing helps to save nature and its resources.		
4. Given a choice, I will prefer green clothing over a normal clothing item.		
Perceived Social Pressure (3 items)		
1. My neighbors expect me to give away, swap, donate, recycle, or resale my unwanted clothing items.	1 = Strongly disagree to 5 = Strongly agree	Sidique et al., (2010) (.70)
2. My friends expect me to give away, swap, donate, recycle, or resale my unwanted clothing items.		
3. My family expects me to give away, swap, donate, recycle, or resale my unwanted clothing items.		

Table 3.1 (continued)

Measurement Items	Response Scales	Source (Reported Composite Reliability)
Affect toward Sustainable Clothing Disposal Behavior (6 items)		
1. It is good to give away, swap, donate, recycle, or resale my unwanted clothing items.	1 = Strongly disagree to 5 = Strongly agree	Limayem et al. (2004) (.91)
2. It is exciting to give away, swap, donate, recycle, or resale my unwanted clothing items.		
3. It is boring to give away, swap, donate, recycle, or resale my unwanted clothing items.		
4. It is amusing to give away, swap, donate, recycle, or resale my unwanted clothing items.		
5. It is wise to give away, swap, donate, recycle, or resale my unwanted clothing items.		
6. It is valuable to give away, swap, donate, recycle, or resale my unwanted clothing items.		
Sustainable Disposal Intention of Clothing Items (3 items)		
1. I intend to give away, swap, donate, recycle, or resale my unwanted clothing items in the future.	1 = Strongly disagree to 5 = Strongly agree	Moody and Siponen (2013) (.97)
2. I will give away, swap, donate, recycle, or resale my unwanted clothing items in the future.		
3. I expect to give away, swap, donate, recycle, or resale my unwanted clothing items in the future.		

Table 3.1 (continued)

Measurement Items	Response Scales	Source (Reported Composite Reliability)
Recycling Habit (12 items)		
<ol style="list-style-type: none"> 1. I recycle household waste frequently. 2. I recycle household waste automatically. 3. I do recycle household waste without having to consciously remember. 4. It makes me feel weird if I do not recycle household waste. 5. I do recycle household waste without thinking. 6. I would require an effort not to recycle household waste. 7. Recycling household waste belongs to my (daily, weekly, monthly) routine. 8. I start doing it before I realize I'm recycling household waste. 9. I would find hard not to recycle household waste. 10. I have no need to think about recycling household waste. 11. Recycling household waste is typically for 'me'. 12. I have been recycling household waste for a long time. 	<p>1 = Strongly disagree to 5 = Strongly agree</p>	<p>Verplanken and Orbell (2003) (.95)</p>

Table 3.1 (continued)

Measurement Items	Response Scales	Source (Reported Cronbach's α)
Perceived Convenience (15 items)		
<ol style="list-style-type: none"> 1. I can give away my unwanted clothing items at any time. 2. I can swap my unwanted clothing items at any time. 3. I can donate my unwanted clothing items to charity at any time 4. I can drop off my unwanted clothing items to the clothing recycling bin at any time. 5. I can resale my unwanted clothing items at any time. 6. I can give away my unwanted clothing items at convenient places. 7. I can swap my unwanted clothing items at convenient places. 8. I can donate my unwanted clothing items to charity at convenient places. 9. I can drop off my unwanted clothing items to the clothing recycling bin at convenient places. 10. I can resale my unwanted clothing items at convenient places. 11. I feel that giving away my unwanted clothing to family members and friends is convenient for me. 12. I feel that swapping clothing with family members and friends is convenient for me. 13. I feel that donating my unwanted clothing items to the charity shop is convenient for me. 14. I feel that dropping off my unwanted clothing items to the clothing recycling bin is convenient for me. 15. I feel that reselling my unwanted clothing items is convenient for me. 	<p>1 = Strongly disagree to 5 = Strongly agree</p>	<p>Cheng et al., (2012) (.93)</p>

Table 3.1 (continued)

Measurement Items	Response Scales	Source (Reported Cronbach's α)
Environmentally Sustainable Clothing Disposal Behavior (5 items)		
1. I give my outdated/used/unwanted clothing to members of my family and friends.	1 = Strongly disagree to 5 = Strongly agree	Bianchi and Birtwistle (2012) (.78)
2. I swap my outdated/used/unwanted clothing with friends and family members.		
3. I give my outdated/used/unwanted clothing to charity shops.		
4. I drop off my outdated/used/unwanted apparel products to clothing collection bins to be used for other purposes.		
5. I resale my outdated/used/unwanted clothes through the Internet, garage sales or flea markets.		

Data Analysis

Questionnaire raw data were first downloaded from Qualtrics, cleaned (e.g., removing the incomplete responses), and coded. Data were then analyzed using the IBM's Statistical Package for Social Sciences (SPSS) Version 24 software. The preliminary analysis included conducting descriptive statistics on participants' demographic information. The data were summarized using frequencies in terms of participants' age, gender, educational qualification, race, ethnicity, income, employment, and marital status. In addition, the mean and standard deviation were used to describe participants' age data. An exploratory factor analysis (EFA) was conducted on each scale, including checking the reliability and correlations of all variables and creating composite scores for each variable. Lastly, the hypothesized relationships among variables were tested through a series of simple and multiple regression analysis. All the proposed hypotheses were statistically tested with a significance level of $p \leq 0.05$. Hypotheses with $p < .05$ were supported.

CHAPTER 4 RESULTS

This chapter discusses the results and findings of the study. The chapter includes descriptions of the sample characteristics, the result of exploratory factor analysis (EFA) on each measurement scale, scale reliability report, and hypotheses test results.

Demographic Characteristics

A total of 331 respondents participated in the online survey. Among them, 304 participants finished the survey, along with passing two attention check questions. Thus, the number of valid and complete responses were 304, which met the desired sample size of the study.

The sample consisted of 168 men (55.3%) and 136 women (44.7%). The sample included individuals aged from 20 to 77 years ($M = 37.2$, $SD = 11.88$). The majority of the sample was within the age group of 20-39 (67.8%), and the rest were in the age group of 40-77 (32.2%). In terms of race, the majority of the participants were Not Hispanic or Latino (82.6%), and the rest were Hispanic or Latino (17.4%). Regarding ethnicity, most of the respondents were White (76.0%), followed by Black or African American (11.2%), Asian (8.2%). The majority of the respondents reported having completed a college degree (4 years) (47.0%), followed by graduate degree (master's, doctorate, etc.) (17.1%), some college or technical school (12.8%), associates/specialty degree (10.2%) and high school graduate (7.6%). Respondents with annual household income of \$50,000 - \$74,999 (30.5%) formed the largest group, followed by \$25,000 - \$49,999 (25.3%), \$75,000 - \$99,999 (16.4%), and less than \$25,000 (13.2%). Most of the participants were employed (73.0%), followed by being self-employed (13.2%) and currently unemployed (7.6%). In terms of marital status, mostly, the participants were either married

(52.6.9%) or single, never married (40.1%). The demographic characteristics of the sample are shown in Table 4.1.

Table 4.1

Demographic Characteristics of the Study Sample (N = 304)

Demographics	Description	<i>f</i> (%)	<i>M</i>	<i>SD</i>
Age	20-29	92 (30.3)	37.2	11.88
	30-39	114 (37.5)		
	40-49	42 (13.8)		
	50-59	33 (10.9)		
	60-69	21 (6.9)		
	70-79	2 (0.7)		
Gender	Male	168 (55.3)		
	Female	136 (44.7)		
Race	Hispanic or Latino	53 (17.4)		
	Not Hispanic or Latino	251 (82.6)		
Ethnicity	White	231 (76.0)		
	Black or African American	34 (11.2)		
	American Indian or Alaska native	7 (2.3)		
	Asian	25 (8.2)		
	Native Hawaiian or other Pacific Islander	1 (0.3)		
	Multiracial	5 (1.6)		
	Other	1 (0.3)		
Education	Some high school	2 (0.7)		
	High school graduate	23 (7.6)		
	Some college or technical school	39 (12.8)		
	Associates/specialty degree	31 (10.2)		
	College degree (4 years)	143 (47.0)		
	Some graduate school	14 (4.6)		
	Graduate degree (master's, doctorate, etc.)	52 (17.1)		
Annual Household Income	Less than \$25,000	40 (13.2)		
	\$25,000 - \$49,999	77 (25.3)		
	\$50,000 - \$74,999	93 (30.5)		
	\$75,000 - \$99,999	50 (16.4)		
	\$100,000 - \$124,999	22 (7.2)		
	\$125,000 - \$149,999	9 (3.0)		
	\$150,000 - and greater	13 (4.3)		

Employment Status	Currently unemployed	23 (7.6)
	Employed	222 (73.0)
	Self-employed	40 (13.2)
	A homemaker	12 (3.9)
	A student	2 (0.7)
	Other	5 (1.6)
Marital Status	Single, never married	122 (40.1)
	Married	160 (52.6)
	Widowed	4 (1.3)
	Divorced	14 (4.6)
	Separated	3 (1.0)
	Other	1 (0.3)

Factor Analysis and Reliability

Exploratory Factor Analysis

An exploratory factor analysis (EFA) with principal components analysis (PCA) was conducted on all the scales to explore the underlying structure of the measurement items. Given the operational definition of each construct, the current study considered all the scales as unidimensional. The study assumed that for each scale, the measurement items would fit onto a single-dimensional construct. Therefore, for factor extraction, *Fixed number of factors* option (factor to extract 1) was used. A factor loading greater than .70 was considered as a criterion to retain the items (MacCallum et al., 2001; Tabachnick & Fidell, 2007). Items with low factor loading scores (< .70) were eliminated.

EFA for the Environmental Attitude towards Green Clothing

The EFA with the four items measuring environmental attitude towards green clothing loaded onto one factor, explaining 66.49% of the total variance. All four items for the variable loaded with high loading values (> .70) from .775 to .841. See Table 4.2.

EFA for the Perceived Social Pressure

For the Perceived Social Pressure scale, the measurement items loaded onto a single factor (see Table 4.2) with factor loadings $>.70$. Perceived social pressure construct was comprised of three items that explained 73.33% of the variance with factor loading from .838 to .846.

EFA for the Affect towards Sustainable Clothing Disposal Behavior

The initial EFA with the six items measuring affect toward sustainable consumption loaded onto one factor. The EFA demonstrated that one item (“*It is boring to give away, swap, donate, recycle or resale my unwanted clothing items*”) had a negative loading score. So, the item was reverse coded to match the valence of other items of Affect toward Sustainable Clothing Disposal Behavior scale. After a subsequent EFA, Three items (“*It is exciting to give away, swap, donate, recycle or resale my unwanted clothing items*,” “*It is boring to give away, swap, donate, recycle or resale my unwanted clothing items*,” and “*It is amusing to give away, swap, donate, recycle or resale my unwanted clothing items*”) were eliminated due to having low factor loading scores ($<.70$). Finally, another EFA with the remaining three items extracted one factor explaining 66.65% of total variance with factor loading from .807 to .828. Thus, total 3 items were retained. See Table 4.2.

EFA for the Sustainable Disposal Intention of Clothing

For the Sustainable Disposal Intention of Clothing scale, the measurement items loaded onto a single factor (see Table 4.2). Sustainable disposal intention of clothing construct consisted of three items explaining 77.13% of the variance with factor loading from .871 to .889.

Table 4.2

EFA Result of Scales

Scale Items	Factor Loading
Environmental Attitude towards Green Clothing (% Variance explained =66.49 %)	
1. Environmental protection is important to me when making clothing purchases.	.775
2. I believe that green clothing helps to reduce pollution (water, air, etc.).	.823
3. I believe that green clothing helps to save nature and its resources.	.821
4. Given a choice, I will prefer green clothing over a normal clothing item.	.841
Perceived Social Pressure (% Variance explained =73.33 %)	
1. My neighbors expect me to give away, swap, donate, recycle, or resale my unwanted clothing items.	.846
2. My friends expect me to give away, swap, donate, recycle, or resale my unwanted clothing items.	.844
3. My family expects me to give away, swap, donate, recycle, or resale my unwanted clothing items.	.838
Affect toward Sustainable Clothing Disposal Behavior (% Variance explained =66.65 %)	
1. It is good to give away, swap, donate, recycle, or resale my unwanted clothing items.	.828
2. It is wise to give away, swap, donate, recycle, or resale my unwanted clothing items.	.814
3. It is valuable to give away, swap, donate, recycle, or resale my unwanted clothing items.	.807
Sustainable Disposal Intention of Clothing Items (% Variance explained =77.12 %)	
1. I intend to give away, swap, donate, recycle, or resale my unwanted clothing items in the future.	.875
2. I will give away, swap, donate, recycle, or resale my unwanted clothing items in the future.	.871
3. I expect to give away, swap, donate, recycle, or resale my unwanted clothing items in the future.	.889

Recycling Habit (% Variance explained =62.78 %)

1. I recycle household waste frequently.	.795
2. I recycle household waste automatically.	.835
3. I do recycle household waste without having to consciously remember.	.844
4. It makes me feel weird if I do not recycle household waste.	.767
5. I do recycle household waste without thinking.	.828
6. It would require an effort not to recycle household waste.	.703
7. Recycling household waste belongs to my (daily, weekly, monthly) routine.	.826
8. I start doing it before I realize I'm recycling household waste.	.817
9. I would find it hard not to recycle household waste.	.759
10. Recycling household waste is typically for 'me'.	.759
11. I have been recycling household waste for a long time.	.770

Perceived Convenience (% Variance explained =66.135 %)

1. I can give away my unwanted clothing items at convenient places.	.839
2. I can donate my unwanted clothing items to charity at convenient places.	.840
3. I can drop off my unwanted clothing items to the clothing recycling bin at convenient places.	.797
4. I feel that donating my unwanted clothing items to the charity shop is convenient for me.	.801
5. I feel that dropping off my unwanted clothing items to the clothing recycling bin is convenient for me.	.787

Environmentally Sustainable Clothing Disposal Behavior (% Variance explained =68.43 %)

1. I give my outdated/used/unwanted clothing to members of my family and friends.	.810
2. I swap my outdated/used/unwanted clothing with friends and family members.	.863
3. I resale my outdated/used/unwanted clothes through the Internet, garage sales or flea markets.	.807

Note. The table lists the factor loadings of the items retained.

EFA for the Recycling Habit

The initial EFA with the six items measuring recycling habit loaded onto one factor. One item (“*I have no need to think about recycling household waste*”) was dropped due to having

low factor loading scores ($< .70$). In a subsequent EFA, the remaining 11 items loaded onto one factor explaining 62.78% of total variance with factor loading from .703 to .844. See Table 4.2.

EFA for the Perceived Convenience

The initial EFA with the 15 items measuring perceived convenience loaded onto one factor. Ten items were dropped due to having low factor loading scores ($< .70$). In a subsequent EFA, the remaining five items loaded onto one factor explaining 66.14% of total variance with factor loading from .787 to .840. Thus, these five items were retained.

EFA for the Environmentally Sustainable Clothing Disposal Behavior

The initial EFA with the five items measuring environmentally sustainable clothing disposal behavior loaded onto one factor. Two items (“*I give my outdated/used/unwanted clothing to charity shops*” and “*I drop off my outdated/used/unwanted apparel products to clothing collection bins to be used for other purposes*”) were eliminated due to having low factor loading scores ($< .70$). A subsequent EFA with the remaining three items resulted in one factor explaining 68.42% of total variance with factor loading from .807 to .863.

Reliability of Scales

To assess the reliability (i.e., internal consistency) of the items, Cronbach’s α coefficient was calculated for each scale. Cronbach’s α values greater than .70 is considered a reliable measure (Nunnally & Bernstein, 1994; Leedy, 1997). Cronbach’s α values of all the scales were greater than .70, indicating the scale items are internally consistent (see Table 4.3).

Table 4.3

Scale Reliability Results

Scale	Cronbach's α
Environmental Attitude towards Green Clothing	.831
Perceived Social Pressure	.818
Affect towards Sustainable Clothing Disposal Behavior	.748
Sustainable Disposal Intention of Clothing Items	.851
Recycling Habits	.940
Perceived Convenience	.869
Environmentally Sustainable Clothing Disposal Behavior	.767

Correlation among the Constructs

To examine the associations among the variables, the Pearson correlation coefficient (r) was computed. A correlation coefficient (r) greater than .70 is considered as a strong association, the correlations between .30 and .70 represent a moderate association, and correlations less than .30 are considered weak (Wichers, 1975). *Affect towards sustainable clothing disposal behavior*, and *sustainable disposal intention of clothing* was strongly correlated ($r = .717$), meaning that more positive affect (i.e., emotion) will positively influence disposal intention. The correlation between *environmental attitude towards green clothing* and *sustainable disposal intention of clothing* was moderate ($r = .394$). However, *perceived social pressure* and *sustainable disposal intention of clothing* present a weak relationship ($r = .274$). Surprisingly, *environmentally sustainable clothing disposal behavior* demonstrated weak relationships with *sustainable disposal intention of clothing* ($r = .211$) and *affect towards sustainable clothing disposal behavior* ($r = .202$), respectively. The correlations among the rest of the variables were moderate, ranging between .340 and .612. The correlation among all the variables is reported in Table 4.4.

Table 4.4

Pearson Correlation Coefficients among Variables

	Environmental Attitude towards Green Clothing	Perceived Social Pressure	Affect toward Sustainable Clothing Disposal Behavior	Sustainable Disposal Intention of Clothing Items	Recycling Habits	Perceived Convenience	Clothing Disposal Behavior
Environmental Attitude towards Green Clothing	1						
Perceived Social Pressure	.455**	1					
Affect toward Sustainable Clothing Disposal Behavior	.427**	.253**	1				
Sustainable Disposal Intention of Clothing Items	.394**	.274**	.717**	1			
Recycling Habits	.463**	.415**	.369**	.377**	1		
Perceived Convenience	.453**	.246**	.575**	.621**	.405**	1	
Clothing Disposal Behavior	.397**	.490**	.202**	.211**	.340**	.393**	1

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Test of Hypotheses

The first, second, and third hypotheses were tested through stepwise multiple regression analysis. The regression model was significant ($F_{2, 301} = 165.37, p < .001$). The model revealed that environmental attitude towards green clothing and affect towards sustainable clothing disposal behavior explain a significant amount of variance in sustainable disposal intention of clothing items ($R^2 = .524$, adjusted $R^2 = .520$). The regression results are summarized in Table 4.5.

Hypothesis 1. Hypothesis 1 proposed that environmental attitude towards green clothing would positively predict sustainable disposal intention of clothing. The results show that environmental attitude towards green clothing significantly predicts sustainable disposal intention of clothing items (Std. $\beta = .107, t_{303} = 2.44, p < .05$). Thus, H1 was supported.

Hypothesis 2. Hypothesis 2 predicted that perceived social pressure would positively influence consumers' sustainable disposal intention of clothing items. The analysis shows that perceived social pressure did not significantly predict the sustainable disposal intention of clothing items (Std. $\beta = .070, t_{303} = 1.58, p = .116$). Therefore, H2 was not supported.

Hypothesis 3. Hypothesis 3 proposed that consumers' affect towards sustainable clothing disposal behavior would positively predict sustainable disposal intention of clothing items. Results revealed that consumers' affect towards sustainable consumption significantly influences their sustainable disposal intention of clothing items (Std. $\beta = .671, t_{303} = 15.26, p < .001$). Thus, H3 was supported.

Table 4.5

Environmental Attitude towards Green Clothing (H1), Perceived Social Pressure (H2), and Affect towards Sustainable Clothing Disposal Behavior (H3) Positively Influence Consumers' Sustainable Disposal Intention of Clothing Items: Stepwise Multiple Regression Analysis Report for Predicting Sustainable Disposal Intention of Clothing Items

Independent Variable	Std. β	t	R^2	ΔR^2	p
<i>Model 1</i>			.524	.520	
Environmental Attitude towards Green Clothing	.107	2.44			.015
Affect towards Sustainable Clothing Disposal Behavior	.671	15.26			.000
(Excluded variable)					
Perceived Social Pressure	.070	1.58			.116

Note. Dependent Variable: Sustainable Disposal Intention of Clothing Items

Hypotheses 4. Hypothesis 4 predicted that consumers' sustainable disposal intention of clothing items would positively influence their environmentally sustainable clothing disposal behavior. The hypothesis was tested by conducting a simple linear regression analysis. The regression model was significant ($F_{1, 302} = 14.11, p < .001$). Sustainable disposal intention of clothing significantly predicts environmentally sustainable clothing disposal behavior (Std. $\beta = .211, t_{302} = 3.76, p < .001$). Thus, H4 was supported (see Table 4.6).

Hypotheses 5. To test Hypothesis 5 (whether recycling habit predicts environmentally sustainable clothing disposal behavior), a simple linear regression was employed. Results showed that recycling habit significantly predicts environmentally sustainable clothing disposal behavior (Std. $\beta = .340, t_{302} = 6.29, p < .001$). About 11% of the variance in environmentally sustainable clothing disposal behavior was explained by recycling habit ($R^2 = .116$, adjusted $R^2 = .112$). Thus, H5 was supported. The regression results are summarized in Table 4.6.

Table 4.6

Sustainable Disposal Intention of Clothing Items (H4), and Recycling Habits (H5) Positively Influence Environmentally Sustainable Clothing Disposal Behavior: Simple Regression Analysis Report for Predicting Environmentally Sustainable Clothing Disposal Behavior

Independent Variable	Std. β	<i>t</i>	R^2	ΔR^2	<i>p</i>
<i>Model 2</i>			.045	.041	
Sustainable Disposal Intention of Clothing Items	.211	3.76			.000
<i>Model 3</i>			.116	.113	
Recycling Habits	.340	6.29			.000

Note. Dependent Variable: Environmentally Sustainable Clothing Disposal Behavior.

Hypotheses 6. To test H6 (moderating role of perceived convenience in the relationship between sustainable disposal intention of clothing items and environmentally sustainable clothing disposal behavior), multiple regression analysis was conducted. Sustainable disposal intention of clothing items, perceived convenience, and a sustainable disposal intention \times perceived convenience interaction term was entered as the independent variables in the regression model to predict environmentally sustainable clothing disposal behavior. Perceived convenience significantly predicts environmentally sustainable clothing disposal behavior (Std. $\beta = .580$, $t_{303} = 2.49$, $p < .05$). Inclusion of perceived convenience as the moderating variable makes clothing disposal intention and behavior relationship insignificant (Std. $\beta = .070$, $t_{303} = .365$, $p = .715$). On the other hand, the interaction term between sustainable disposal intention of clothing items and perceived convenience (Std. $\beta = -.252$, $t_{303} = -.689$, $p = .491$) was found to be insignificant. Therefore, perceived convenience had a significant main effect on sustainable clothing disposal behavior. However, it is not a significant moderator of the relationship between

sustainable disposal intention of clothing and environmentally sustainable clothing disposal behavior. Thus, H6 was rejected. The regression results are summarized in Table 4.7.

Table 4.7

The Higher the Consumers' Perceived Convenience, the Stronger the Positive Relationship is between Their Sustainable Disposal Intention of Clothing Items and Environmentally Sustainable Clothing Disposal Behavior (H6): Multiple Regression Analysis Report for H6

Independent Variable	Std. β	t	R^2	ΔR^2	p
			.158	.149	
Sustainable Disposal Intention of Clothing Items	.070	.365			.715
Perceived Convenience	.580	2.491			.013
Sustainable Disposal Intention \times Perceived Convenience	-.252	-.689			.491

Note. Dependent Variable: Environmentally Sustainable Clothing Disposal Behavior.

Hypotheses 7. Multiple regression analysis was employed to test H7 (moderating role of perceived convenience in the relationship between recycling habit and environmentally sustainable clothing disposal behavior). Recycling habit, perceived convenience, and a recycling habit \times perceived convenience interaction term was entered as the independent variables in the regression model to test the relationship. The model explains about 18% of the variance in environmentally sustainable clothing disposal behavior ($R^2 = .194$, adjusted $R^2 = .186$). Perceived convenience significantly predicts environmentally sustainable clothing disposal behavior (Std. $\beta = .307$, $t_{303} = 2.064$, $p < .05$). The relationship between recycling habit and clothing disposal behavior becomes insignificant when the moderator is added in the model (Std. $\beta = .219$, $t_{303} = 1.054$, $p = .293$). The interaction term between recycling habit and perceived convenience is negatively correlated with the behavior, and the relationship is not significant

(Std. $\beta = -.003$, $t_{303} = -.010$, $p = .992$). A significant main effect of perceived convenience on sustainable clothing disposal behavior is evident. However, perceived convenience was not a significant moderator of the relationship between recycling habits and environmentally sustainable clothing disposal behavior. Thus, H7 was not supported (see Table 4.8).

Table 4.8

The Higher the Consumers' Perceived Convenience, the Stronger the Positive Relationship is between Their Recycling Habits and Environmentally Sustainable Clothing Disposal Behavior (H7): Multiple Regression Analysis Report for H7

Independent Variable	Std. β	<i>t</i>	<i>R</i>²	ΔR^2	<i>p</i>
			.194	.186	
Perceived Convenience	.307	2.064			.040
Recycling Habits	.219	1.054			.293
Recycling Habits× Perceived Convenience	-.003	-.010			.992

Note. Dependent Variable: Environmentally Sustainable Clothing Disposal Behavior.

Summary of Findings

This chapter presented the results and findings from data analyses (i.e., descriptive statistics, EFA, and MLR) based on the proposed hypotheses. Overall, the statistical analysis of the data collected from the online survey platform revealed that four hypotheses were supported out of seven proposed hypotheses. The findings from the statistical analyses confirmed that consumers' environmental attitudes toward green clothing and affect towards sustainable clothing disposal behavior positively influenced their sustainable disposal intention of clothing items. Perceived social pressure was not a significant predictor of consumers' sustainable disposal intention. The results also revealed that perceived convenience significantly influences clothing disposal behavior. Consumers' sustainable disposal intention and recycling habits

positively predict their clothing disposal behavior, while perceived convenience had no moderating effect upon these relationships. The implications of these findings are discussed in Chapter 5. Table 4.9 presents an overview of the hypothesis testing results.

Table 4.9

Overview of Hypotheses Results

	Hypothesis	Result
H1	Consumers' environmental attitude toward green clothing positively influences their sustainable disposal intention of clothing items.	Supported
H2	Perceived social pressure positively influences consumers' sustainable disposal intention of clothing items.	Not Supported
H3	Consumers' affect towards sustainable clothing disposal behavior positively influences their sustainable disposal intention of clothing items.	Supported
H4	Consumers' sustainable disposal intention of clothing items positively influences their environmentally sustainable clothing disposal behavior.	Supported
H4	Individuals' recycling habits positively influences their environmentally sustainable clothing disposal behavior.	Supported
H6	The higher the consumers' perceived convenience, the stronger the positive relationship is between their sustainable disposal intention of clothing items and environmentally sustainable clothing disposal behavior.	Not Supported
H7	The higher the consumers' perceived convenience, the stronger the positive relationship is between their recycling habits and environmentally sustainable clothing disposal behavior.	Not Supported

CHAPTER 5 DISCUSSION AND CONCLUSIONS

This chapter discusses the findings of the present study in light of existing literature. Later, the theoretical and managerial implications of the results are also discussed. Lastly, the limitations of the study as well as recommendations for future research are suggested.

Discussion of Findings

The current study employed Triandis's (1977) Theory of Interpersonal Behavior (TIB) as the theoretical framework to examine the influence of attitude toward green clothing, perceived social pressure, affect (i.e., emotion) towards sustainable clothing disposal behavior, sustainable disposal intention of clothing items, recycling habits, and perceived convenience on consumers' environmentally sustainable clothing disposal behavior. The results confirmed that consumers' environmental attitudes toward green clothing and affect towards sustainable clothing disposal behavior positively predict their sustainable disposal intention of clothing items, while perceived social pressure does not. The results also revealed that perceived convenience significantly influences clothing disposal behavior. Consumers' sustainable disposal intention and recycling habits predict their clothing disposal behavior, while perceived convenience has no moderating effect upon these relationships.

The first three hypotheses addressed the relationship of three predictor variables (environmental attitude toward green clothing, perceived social pressure, and affect towards sustainable clothing disposal behavior) with sustainable disposal intention of clothing items. The results revealed that environmental attitude toward green clothing (H1) and affect towards sustainable clothing disposal behavior (H3) positively influence consumers' sustainable disposal intention of clothing items, while perceived social pressure (H2) has no significant influence on sustainable disposal intention of clothing items.

The study hypothesized a positive relationship between environmental attitude toward green clothing and sustainable disposal intention of clothing items. As expected, the environmental attitude toward green clothing is positively related to sustainable disposal intention of clothing items. The result implies that an individual who has a positive environmental attitude toward green clothing is more likely to have sustainable disposal intention of clothing items. The findings corroborate prior studies on clothing consumption behavior, which asserted that environmental attitude is a strong predictor of sustainable behavioral intention (Koch and Domina, 1997; Shim, 1995). Thus, the attitude-intention link postulated by Triandis's (1977) Theory of Interpersonal Behavior (TIB) is supported by this study.

The second hypothesis proposed that perceived social pressure would positively predict consumers' sustainable disposal intention of clothing items. The results found a non-significant impact of perceived social pressure on consumers' sustainable disposal intention. A positive correlation was found between perceived social pressure and sustainable disposal intention of clothing items; however, it was found not having substantial influence. This result is inconsistent with previous findings asserting that social pressure is significantly related to pro-environmental behavioral intention (e.g., waste recycling) (Chen & Tung, 2009; Khan et al., 2019; Wan et al., 2014). One possible reason for this could be that people are much more aware of the benefit of household waste recycling (e.g., prevent pollution, conserve natural resources, and save energy) in saving the environment than the role of engaging in environmentally friendly clothing disposal activities in protecting the environment. Hence, such behavior is not as highly expected by society as waste recycling behavior. Contrary to the societal expectation of performing waste recycling behavior, environmentally friendly clothing disposal behavior is less likely to exert

social pressure on individuals to act accordingly. Therefore, in this particular case, perceived social pressure has become a non-significant predictor.

One of the study objectives was to explore the influence of affect or emotion on environmentally sustainable clothing disposal behavior. The findings from the study imply that consumers' affect towards sustainable clothing disposal behavior is significantly and positively related to their sustainable disposal intention of clothing items (H3). The positive relationship between affect and intention in terms of clothing disposal behavior is consistent with previous findings that affect (i.e., emotion) is an important antecedent in predicting pro-environmental behavioral intention (Müller et al., 2009; Pooley & O'Connor, 2000; Vining & Ebrero, 2002). Consumers' affect towards sustainable clothing disposal behavior explained about 51% of the variance in sustainable disposal intention of clothing. This result also supports the previous finding that emotion accounts for a significant portion of the variance in sustainable behavioral intention (Kals & Maes, 2002). Further, the findings support the affect-intention link posited by Triandis's (1977) Theory of Interpersonal Behavior (TIB). Overall, these findings suggest that an individual who feels that discarding unwanted clothing items sustainably (e.g., giving away to family or friends, swapping, donating to charities, or recycling) is beneficial or wise also intends to do it. Thus, emotions lead to the intention in this case.

The fourth hypothesis addressed the relationship between consumers' sustainable disposal intention of clothing items and their environmentally sustainable clothing disposal behavior. As anticipated, the results provide support for H4, which predicted that consumers' sustainable disposal intention would positively influence their environmentally sustainable clothing disposal behavior. In other words, individuals having the intention to discard clothing items sustainably tend to engage in environmentally sustainable clothing disposal behavior. The

findings confirm the well-established positive relationship between behavioral intention and behavior (Ajzen & Fishbein, 1975; Carrington et al., 2010; Limayem et al., 2004; Woon & Pee, 2004; Triandis, 1977). However, only 4% of the variance in sustainable clothing disposal behavior was explained by sustainable disposal intention. The lack of variance in the sustainable disposal intention of clothing items data could be described by two possible explanations. First, the current study found a direct main effect of perceived convenience on sustainable clothing disposal behavior. The results suggest that perceived convenience may account for a greater proportion of variance in explaining sustainable clothing disposal behavior. Therefore, this variable may need to be taken into consideration in order to predict sustainable clothing disposal behavior more precisely. Second, this finding can also be explained in light of Triandis's (1977) argument regarding habitual behavior. According to Triandis (1977), the intention is not the sole predictor of a particular behavior; it also depends on how habitual that behavior has become. When a behavior repeatedly takes place, the habit becomes a better predictor of behavior as the weight of habit factor increases, while behavioral intention decreases (Triandis, 1977). Therefore, intention does not always lead to the execution of the target behavior. In this particular context of environmentally sustainable clothing disposal behavior, recycling habit (H5) was found to have a strong influence on behavior, such that it could override the influence of clothing disposal intention. An individual may not require a firm intention to engage in environmentally sustainable clothing disposal behavior as they already have developed the habit of recycling. This finding suggests a need for further investigations on the interactive effect of habit and intention in the context of sustainable clothing disposal behavior.

Another purpose of the study was to explore the influence of habit on sustainable clothing disposal behavior. The fifth hypothesis proposed that individuals' recycling habit would

positively influence their environmentally sustainable clothing disposal behavior. As expected, the findings from the study indicate a significant and positive relationship between recycling habits and environmentally sustainable clothing disposal behavior. The result implies that individuals' past recycling habit is a crucial and strong indicator to consider when predicting environmentally sustainable clothing disposal behavior. Thus, when an individual has the household waste recycling habit, the individual is more likely to engage in environmentally sustainable clothing disposal behavior. Due to this, people who are already habitual in recycling household items can be targeted for clothing recycling. The finding is consistent with the previous research on the influence of habit upon pro-environmental behavior (Boldero, 1995; Knussen & Yule, 2008; Wolfe, 2011). This result emphasizes the importance of recycling habits over consumers' choices to deal with their unwanted clothing items.

In the sixth hypothesis, a moderating role of perceived convenience was predicted for the relationship between sustainable disposal intention of clothing items and environmentally sustainable clothing disposal behavior. The regression analyses' results demonstrated no significant moderation of perceived convenience upon the relationship between sustainable disposal intention of clothing items and environmentally sustainable clothing disposal behavior. There could be two possible explanations. First, we found a weak correlation between sustainable disposal intention of clothing items and actual clothing disposal behavior. Sustainable disposal intention of clothing items being the relatively weak predictor makes the *perceived convenience -sustainable disposal intention* interaction term non-significant. Second, if an individual has a very low intention to engage in disposing of clothing items in an environment-friendly manner, the moderating role of perceived convenience seems to become irrelevant. In this case, perceived convenience eventually does not make much of a difference in

the execution of environmentally sustainable clothing disposal behavior. Robinson (2010) argued that external conditions (e.g., social pressure, convenience) in facilitating a particular behavior seem to have limited relevance when an individual has little to no intention to execute that behavior. In line with the above argument, it can be suggested that intention may moderate the relationship between perceived convenience and environmentally sustainable clothing disposal behavior. Further research is needed to explore this moderating role of intention in the context of sustainable clothing disposal behavior.

The seventh hypothesis predicted a moderating effect for perceived convenience upon the relationship between recycling habit and environmentally sustainable clothing disposal behavior. The results showed no statistically significant interaction between perceived convenience and recycling habits. However, a significant main effect of perceived convenience on sustainable clothing disposal behavior was revealed by the results. The findings suggest that the relationship between consumers' recycling habits and environmentally sustainable clothing disposal behavior does not change as a function of perceived convenience. Unexpectedly, these results did not support Triandis's (1977) TIB model, which posits that the relationship between habit and behavior is moderated by facilitating conditions. One possible explanation could be that when the behavior is well routinized, it is under the control of habit (Triandis, 1977). Habitual behavior is a form of automatic and routine behavior, and it is performed repeatedly over time because individuals perceive that the behavior is easy, comfortable, or rewarding (Egmond & Bruel, 2007). In this particular case, consumers' recycling habits seem to be in control of clothing disposal behavior. Consumers' having recycling habits may already consider the target behavior (i.e., environmentally sustainable clothing disposal behavior) easier or unchallenging to perform. Perceived convenience hence did not add up that much to the relationship between habit and

behavior. On the other hand, when an individual does not have the recycling habits, the moderating role of perceived convenience seems to have limited relevance to the relationship between consumers' recycling habits and environmentally sustainable clothing disposal behavior. Also, the study employed a single variable (i.e., perceived convenience) as the facilitating condition. The non-significant moderating effect of perceived convenience does not necessarily mean that facilitating conditions do not have a moderating effect on the relationship between recycling habits and sustainable clothing disposal behavior. Future studies are encouraged to investigate the moderating role of other facilitating conditions (e.g., access to recycling services, availability of drop-off facilities) upon the recycling habit-clothing disposal behavior relationship.

Moreover, the study found a non-hypothesized significant influence of perceived convenience on environmentally sustainable clothing disposal behavior. The direct main effect of perceived convenience implies that as an individual factor, it does significantly influence the environmentally sustainable clothing disposal behavior. It can hence be concluded that perceived convenience serves as an important determinant in the decision-making process of consumers' sustainable clothing disposal behavior. The result is consistent with the findings of Koch & Domina (1997) and Halvorsen (2008), who found that consumers' perceived convenience is a significant factor in increasing consumers' participation in household recycling. Thus, the findings highlight the importance of perceived convenience in predicting sustainable clothing disposal behavior.

Theoretical Implications

The study makes several significant contributions to the literature on sustainable apparel consumption behavior. First, prior studies on consumer behavior research, particularly clothing,

mainly focused on buying behavior, with little attention paid to the clothing disposal behavior. To fill the gap, the current study sought to explore the disposal element of clothing consumption behavior by using Triandis's (1977) Theory of Interpersonal Behavior (TIB) as the theoretical framework, filling a gap in the current literature. No prior research applied TIB to examine the factors in determining sustainable clothing disposal behavior. Therefore, in light of TIB, the current study contributes to the understanding of an important yet less-explored element (i.e., disposal behavior) of consumption behavior. Thus, by analyzing the disposal element of consumption behavior, this study aids in the comprehension of the sustainable clothing consumption process.

Second, the model based on Triandis's (1977) Theory of Interpersonal Behavior (TIB) investigated how personal and situational factors influence consumers' clothing disposal behavior. The study revealed that both the internal (e.g., attitude, emotion) and contextual (e.g., convenience) factors act as important determinants to the execution of behavior (e. g, environmentally sustainable clothing disposal behavior). The predominant conceptual models, such as TRA and TPB, overlooked the influence of external factors in establishing the relationship between attitudes and behavior. These theories are often unable to explain the inconsistency between consumers' positive attitude and environmentally sustainable behavior. The significant impact of perceived convenience revealed by the current study offers an explanation to the existing "attitude-behavior gap" in sustainable behavior literature.

Third, this study demonstrated the influential role of recycling habits on clothing disposal behavior. The findings add to the literature on sustainable clothing consumption behavior since there is no prior research that examined the role of habits as the predictor of clothing disposal behavior. This study confirmed the habit-behavior link proposed by TIB by revealing the

significant relationship between recycling habits and environmentally sustainable clothing disposal behavior. Future research on sustainable clothing consumption should consider the habit that would allow for more accurate measurement of other factors being studied.

Fourth, this is the first study to include the interaction effect between recycling habits and perceived convenience on sustainable clothing disposal behavior. Although the study did not find any significant evidence in support of this interaction, future research may consider the dynamics of habit and facilitating conditions (e.g., perceived convenience, perceived availability of clothing drop-off facilities) to capture environmentally sustainable clothing disposal behavior adequately.

Lastly, the role of emotion in adopting sustainable clothing consumption behavior has largely been ignored in the previous literature. The current study fills the literature gap by investigating the influence of emotion on environmentally sustainable clothing disposal behavior. The strong and positive impact of emotion on behavioral intention suggests that incorporating affective elements (e. g., emotion) with cognitive components (e.g., attitude, knowledge) would improve the explanatory power of pro-environmental intention and behavior. It would thereby benefit the predictive models of sustainable behavior. It can also catalyze further investigation regarding specific types of emotions related to sustainable apparel consumption.

Furthermore, this study also offers methodological implications. This study's significant methodological contribution was the operationalization of several constructs, such as affect toward sustainable consumption, recycling habits, and perceived convenience in the context of clothing items. Due to a lack of clothing consumption literature, the current study adopted these scales from ethical behavior (Limayem et al., 2004) and habitual behavior literature (Verplanken

& Orbell, 2003). Thus, the study offers a unique contribution by adapting these scales from existing instruments and performing an analysis to ensure their validity and reliability, which can be utilized by future studies.

Managerial Implications

In addition to building on theory, this study offers significant managerial implications. The study identified four important factors that significantly influence consumers' choice to deal with their unwanted clothing items: attitude, affect, habit, and perceived convenience. The current study contributes to a better understanding of the decision-making mechanism of consumers' sustainable clothing disposal behavior. Multiple implications may be applied practically based upon the findings of the study.

Although emotion plays a vital role in consumers' decision making, it is mostly outside the ability of policy interventions to alter (Moody & Siponen, 2013). However, an awareness campaign highlighting the environmental benefits of sustainable clothing disposal activities may induce positive feelings among people. For instance, broadcast and social media can be availed to develop public empathy towards sustainable clothing disposal (Khan et al., 2019). This study's findings would extend the understanding of policymakers regarding the usefulness of various motivational messages in enhancing consumers' engagement in sustainable clothing disposal.

Next, as the study finds perceived convenience to be a strong determinant of sustainable clothing disposal behavior, its role in increasing consumer engagement in that particular behavior is crucial. The findings concerning perceived convenience will help the policymakers to discover effective promotional strategies for increasing sustainable clothing disposal practices among the public. Doorstep collection program (Bianchi & Birtwistle, 2012), an increasing number of collection bins (Domina & Koch, 2002), and establishing drop-off facilities (Khan et

al., 2019) are a few potential options that could enhance consumers' participation in sustainable clothing disposal practices. These options would be beneficial, considering the fact that municipalities generally do not collect textile waste (Weber et al., 2016). Additionally, the unavailability of textile waste collection bins is a crucial reason for the consumers to throw their used clothes in the waste stream (Laitala, 2014). In such a case, mixed recycling or a single-stream recycling program could be a possible solution. Many cities have a mixed recycling program in which recyclable materials such as paper, cardboard, plastic bottles, and aluminum cans are collected together (Lakhan, 2015). These facilities may expand the service in collecting clothing items as well. Mixed recycling will allow consumers to put their unwanted clothing items in a single bin instead of separating them into different containers. As consumers do not need to segregate clothing items in order to recycle, the mixed recycling program will make it convenient for them to engage in sustainable clothing disposal behavior.

Furthermore, by demonstrating a significant influence of past recycling habits on sustainable clothing disposal behavior, the study suggests that habit may be a useful intervention strategy to enhance sustainable consumption. However, deprogramming habits is very difficult, and interventions that attempt to alter habits are likely to fail (Moody & Siponen, 2013; Verplanken & Orbell, 2003). The current study offers a useful route for intervention design by presenting the positive relationship of recycling habits and perceived convenience with the clothing disposal behavior. These relationships are of great significance in the sense that management or authority is unable to change habits. Still, it is possible to increase participation in sustainable clothing disposal practices by introducing more accessible clothing drop-off facilities.

Limitations and Recommendations

This section discusses the research limitations and corresponding recommendations for future research. First, the study considered the affect towards sustainable clothing disposal behavior measures to be a unidimensional construct. Emotion regarding sustainable clothing disposal behavior can be categorized in terms of valence (i.e., positive and negative). Specifically, the feeling of satisfaction or the sense of guilt or disgust concerning sustainable clothing consumption may be of particular interest (de Miranda Coelho et al., 2016). Thus, future research can look into a more nuanced view of emotion that would give a deeper understanding of what sorts of emotions are most important in determining sustainable clothing disposal behavior.

Second, the current study only addressed the moderating role of perceived convenience for the relationship between intention and behavior. Recycling habits could also be a potential moderator for the intention-behavior relationship. Future predictive models may include the habit-intention interaction to explore their dynamics upon predicting sustainable clothing disposal behavior fully.

Third, the study considered a single variable (i.e., perceived convenience) as the facilitating condition. However, other situational conditions in the environment can influence an individual's ability to perform sustainable clothing disposal behavior. For instance, access to recycling services, frequency of doorstep collection, type of clothing materials to be recycled, and availability of drop-off facilities (Khalil et al., 2017; Timlett & Williams, 2008) may also affect consumers' participation in clothing disposal activities. Future academic studies should explore these relationships.

Third, the study used a convenience sample recruited from Amazon Mechanical Turk. In some cases, MTurk workers may differ from the general population in terms of gender, age, education, and income. Also, the data were collected through a self-administered online survey. In this case, the data may suffer from self-selection bias. However, to ensure that the participants share common characteristics, several screening questions were employed while selecting participants. Future studies may use other valid participant recruitment approaches to include a more diverse sample and, therefore, verify the findings from the current study.

Lastly, future research may evaluate demographic influences on sustainable clothing disposal behavior. For instance, young people may show more inclination towards sustainable clothing disposal behavior than older consumers. Thus, further research could be conducted regarding the impact of consumers' gender, age, and income on this particular behavior.

Conclusions

In light of Triandis's (1977) Theory of Interpersonal Behavior (TIB), the current study established the importance of incorporating cognitive and non-cognitive drivers upon building the predictive model of consumers' sustainable clothing disposal behavior. Specifically, the study established that emotion, recycling habits, and perceived convenience all have a significant role in determining clothing disposal behavior. Based on these findings, this study gives a comprehensive understanding of the decision-making mechanism of consumers' sustainable clothing disposal behavior. Ultimately, this study will allow researchers and marketers of green apparel to better understand environmentally sustainable clothing consumption processes in order to enhance consumers' engagement. This information may assist specialists (e.g., policymakers, sustainability specialists) in formulating coordinated future efforts to increase such practices.

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Appendix A
INFORMATION LETTER



(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER
for a Research Study entitled

“Determinants of Consumers’ Sustainable Disposal Behavior of Clothing Items”

You are invited to participate in a research study to explore the factors determining consumers’ environmentally friendly clothing disposal behavior. This study is being conducted by Fatema Tuj Jahura (M.S. student) under the direction of Dr. Amrut Sadachar, assistant professor in the Auburn University Department of Consumer and Design Sciences. You are invited to participate because you are part of Amazon Mechanical Turk’s market research panel, live in the United States and are age 19 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete the online survey. Your total time commitment will be approximately 20 minutes.

Are there any risks or discomforts? We know of no risks in participating in this study. Participation in this study would put you in no physical or psychological risks other than the minimal inconvenience of completing the online survey.

Are there any benefits to yourself or others? There are no direct personal benefits to you. However, your participation will benefit in advancing the research in the area of consumers’ shopping behavior.

Will you receive compensation for participating? As you are part of a market research panel of the Amazon Mechanical Turk (MTurk), you will be provided with 50 cents monetary compensation for your participation in the online survey.

Are there any costs? There are no costs involved if you decide to participate.

If you change your mind about participating, you can withdraw at any time during the study by closing your browser window. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Consumer and Design Sciences or Fatema Tuj Jahura or Amrut Sadachar.

Your privacy will be protected. All data collected as part of this study will be completely anonymous. We will protect your privacy by not collecting any personally identifiable information from you that is attached to your responses. The data will be only used for the research purpose and only in aggregated form. The data collected in this study may be used in a publication in an academic journal and/or presentation at a professional conference.

If you have questions about this study, please contact Fatema Tuj Jahura at fzj0008@auburn.edu or Dr. Amrut Sadachar at azs0143@auburn.edu or (334) 844-1316.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBAdmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH STUDY. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO. YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

Fatema Tuj Jahura **04-02-2020**

Investigator Date

Amrut Sadachar

Co-Investigator Date

The Auburn University Institutional Review Board has approved this document for use from April 9, 2020 to _____ Protocol #20-183 EX 2004, Jahura

Appendix B
CONSUMER SURVEY

Section 1: Screener Questions

1. Before we begin, we would like to make sure you qualify for our study. Please indicate your age.

- Under 19
- 19 to 33 years old
- Over 33 years old

2. Which of the following best describes your country of residence?

- United States of America (USA)
- Canada
- Mexico
- Other

Section 2: Survey Questionnaire

Announcement: During this COVID-19 outbreak, you are probably staying home and working remotely to avoid public places. As you are staying home, we would like you to consider a **regular normal scenario** while answering the survey questions. A **regular normal scenario** is when you are free to move outside to attend events and places such as concerts, shopping malls, churches, restaurants, or gyms.

DIRECTIONS: Unlike normal clothing items, **Green Clothing** is made from natural materials and is eco-processed. Now carefully think about **what makes you or will make you buying green clothing**. Then please **click on the circle** to indicate your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Environmental protection is important to me when making clothing purchases.					
I believe that green clothing helps to reduce pollution (water, air, etc.).					
I believe that green clothing helps to save nature and its resources.					
Given a choice, I will prefer green clothing over a normal clothing item.					

DIRECTIONS: Please **click on the circle** to indicate your level of agreement with each of the following statements regarding **your family/friends/neighbors' opinion on your clothing disposal choices**.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My neighbors expect me to give away, swap, donate, recycle or resale my unwanted clothing items.					
My friends expect me to give away, swap, donate, recycle or resale my unwanted clothing items.					
My family expects me to give away, swap, donate, recycle or resale my unwanted clothing items.					

DIRECTIONS: Please **click on the circle** to indicate your level of agreement with each of the following statements regarding **your overall feelings about clothing disposal practices**.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
It is good to give away, swap, donate, recycle or resale unwanted clothing items.					
It is exciting to give away, swap, donate, recycle or resale unwanted clothing items.					
It is boring to give away, swap, donate, recycle or resale unwanted clothing items.					
It is amusing to give away, swap, donate, recycle or resale unwanted clothing items.					
It is wise to give away, swap, donate, recycle or resale unwanted clothing items.					
It is valuable to give away, swap, donate, recycle or resale unwanted clothing items.					

DIRECTIONS: Please **click on the circle** to indicate your level of agreement with each of the following statements regarding **your plans on getting rid of your unwanted clothing items**.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I intend to give away, swap, donate, recycle or resale my unwanted clothing items in the future.					
I will give away, swap, donate, recycle or resale my unwanted clothing items. unwanted clothing items in the future.					
I expect to give away, swap, or donate unwanted clothing items in the future.					

DIRECTIONS: Please **click on the circle** to indicate your level of agreement with each of the following statements regarding **your present or past household recycling practices**.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I recycle household waste frequently.					
I do recycle household waste automatically.					
I do recycle household waste without having to consciously remember.					
It makes me feel weird if I do not recycle household waste.					
Please select strongly agree if you are reading this statement.					
I do recycle household waste without thinking.					
I would require an effort not to recycle household waste.					
Recycling household waste belongs to my (daily, weekly, monthly) routine.					
I start recycling household waste before I realize I'm doing it.					
I would find hard not to recycle household waste.					
I have no need to think about recycling household waste.					
Recycling household waste is typically for 'me'.					
I have been recycling household waste for a long time.					

DIRECTIONS: Please **click on the circle** to indicate your level of agreement with each of the following statements regarding **your opinions about convenient clothing disposal choices**.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I can give away my unwanted clothing items at any time.					
I can swap my unwanted clothing items at any time.					
I can donate my unwanted clothing items to charity at any time.					
I can drop off my unwanted clothing items to the clothing recycling bin at any time.					
I can resale my unwanted clothing items at any time.					
I can give away my unwanted clothing item at convenient places.					
I can swap my unwanted clothing items at convenient places.					
I can donate my unwanted clothing items to charity at convenient places.					
I can drop off my unwanted clothing items to the clothing recycling bin at convenient places.					
I can resale my unwanted clothing items at convenient places.					
I feel that giving away my unwanted clothing to family members and friends is convenient for me.					
I feel that swapping clothing with family members and friends is convenient for me.					
Please select strongly agree if you are reading this statement.					
I feel that donating my unwanted clothing items to the charity shop is convenient for me.					
I feel that dropping off my unwanted clothing items to the clothing recycling bin is convenient for me.					
I feel that reselling my unwanted clothing items is convenient for me.					

DIRECTIONS: Please **click on the circle** to indicate your level of agreement with each of the following statements regarding **your clothing disposal practices**.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I give my outdated/used/unwanted clothing to my family members and friend.					
I swap my outdated/used/unwanted clothing with friends and family members.					
I give my outdated/used/unwanted clothing to charity shops.					
I drop off my outdated/used/unwanted clothing items to clothing collection bins to be used for other purposes.					
I resale my outdated/used/unwanted clothes through the Internet, garage sales or flea markets.					

Section 3: Demographic Information

Below are few questions regarding demographic information. Please **check the answer** that best matches your response in each statement.

1. How do you **identify yourself**?

- MALE
- FEMALE
- TRANSGENDER
- PREFER NOT TO SAY
- OTHER ((Please specify) _____)

2. What is **your age (in number of years)**? _____ YEARS OLD

3. What is **the highest level of education** you have completed?

- SOME HIGH SCHOOL
- HIGH SCHOOL GRADUATE
- SOME COLLEGE OR TECHNICAL SCHOOL
- ASSOCIATES/SPECIALITY DEGREE
- COLLEGE DEGREE (4 YEARS)
- SOME GRADUATE SCHOOL
- GRADUATE DEGREE (MASTER’S, DOCTORATE, ETC.)

4. Which of the following best represents your **racial heritage**?
- HISPANIC OR LATINO
 - NON-HISPANIC OR LATINO
5. Which of the following **ethnic groups** do you consider yourself to be a member of?
- AFRICAN AMERICAN/BLACK
 - AMERICAN INDIAN OR ALASKAN NATIVE
 - CAUCASIAN/WHITE
 - ASIAN
 - NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
 - HISPANIC OR LATINO
 - MULTIRACIAL
 - OTHER (Please specify) _____
6. Which of the following ranges includes your **total annual household income** from all sources before taxes in 2019?
- LESS THAN \$25,000
 - \$25,000 - \$49,999
 - \$50,000 - \$74,999
 - \$75,000 - \$99,999
 - \$100,000 - \$124,999
 - \$125,000 - \$149,999
 - \$150,000 - AND GREATER
7. What is your **employment status**?
- CURRENTLY UNEMPLOYED
 - EMPLOYED
 - SELF-EMPLOYED
 - A HOMEMAKER
 - A STUDENT
 - OTHER (Please specify) _____
8. What is your **marital status**?
- SINGLE, NEVER MARRIED
 - MARRIED
 - WIDOWED
 - DIVORCED
 - SEPARATED
 - OTHER (Please specify) _____

Thank you very much for your participation in this study!