INVESTIGATING THE ROLE OF SOCIAL NETWORKING SITES IN INCREASING
PURCHASE INTENTION FOR ENVIRONMENTALLY SUSTAINABLE APPAREL: AN
EXPLORATORY STUDY

by

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B.S., Missouri State University, 2007
M.A., Missouri State University, 2010

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Apparel, Textiles, and Interior Design
College of Human Ecology

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Abstract

With apparel production finding itself a leading cause of harm to the environment, the call to action to influence purchase intention for environmentally sustainable apparel (ESA) is pertinent for the current and future well-being of both the environment and humankind. Supplying a base of knowledge to consumers is crucial to enable them to understand the consequences the AT industry has on the environment. This knowledge can potentially lead to a change of attitude and change in purchase intention. However, reaching the populous and changing consumer knowledge of and attitudes towards environmentally sustainable apparel is challenging. This study considers social networking sites (SNS) a feasible strategy regarding this issue because they not only rapidly communicate to consumers but SNS also convey the attitudes and opinions of users' online referent groups. This study better understands the variances among consumer characteristics and their knowledge of environmental issues in the apparel and textile industry. The purpose of this exploratory study is to initiate the investigation as to whether or not SNS may be a potential mechanism for increasing purchase intention for environmentally sustainable apparel. This exploration focuses on identifying consumer characteristics of social networking site users and investigating whether differences in consumer knowledge about environmental issues in apparel production leads to differences in attitudes about and ultimately purchase intentions of ESA. This study also examines whether or not the presence of social influence on SNS may serve as a mechanism to overcome the barriers (knowledge and attitudes) limiting purchase intention for ESA.

An online national survey of 783 participants was conducted utilizing six scales. Simple bivariate correlations, ANOVA, and a hierarchial regression was conducted to understand if adding social influence of SNS as an additional component to Theory of Reasoned Action (TRA) provides greater predictive power for ESA behavior intentions.

Findings from the study indicate that SNS influence and subjective norm are not stronger predictors of ESA purchase intention above knowledge and attitudes but they do contribute to the TRA and increasing the probability of purchase intention.

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Chapter One: Introduction and Statement of the Problem

This dissertation poses to enhance understanding of how to increase the probability of purchase intention for environmentally sustainable apparel through the science of technology usage. Understanding consumer behavior and how today's consumer is changing is important in order to benefit the environment through increased purchases of more environmentally favorable garments and other textile products. There is considerable amount of environmental damage created through the production and consumption of apparel. Some concerned manufacturers are producing apparel using more environmentally sustainable materials and processes. However, research indicates there are barriers to environmentally sustainable apparel consumption, including (but not limited to) price, knowledge of apparel and textile (AT) environmental issues, and attitudes.

Hiller Connell and Kozar (2014) determine that knowledge is an important determinant of consumer behavior. Thorgerson (2000) also discusses that lack of knowledge is a restraint to a wide range of sustainable behaviors for a number of reasons, including consumers may be unaware of the impacts their behaviors have on the environment, they do not understand how changes in their behavior can benefit the environment, and they do not know how to change the behavior specifically. Additionally, Balderjahn's (1988) study determined that if the consumer believes that their actions can negatively affect the environment, he or she was more likely to participate in pro-environmental consumer behavior. Stephens (1985) also supported this by concluding that when consumers are concerned about the environmental impact associated with clothing consumption, they demonstrate an increased level of care for the environment. Furthermore Butler and Francis (1997) found that 90% of participants in their study never or rarely considered the

environment when purchasing apparel; and Kozar and Hiller Connell (2011) found that only 41% were willing to pay more for environmentally sustainable clothes.

To reduce environmental impacts of the AT industry and to encourage more AT firms to adopt environmentally sustainable strategies, the purchase intention for environmentally sustainable apparel needs to increase; and therefore, it is necessary to explore mechanisms for overcoming consumption barriers. Though there are many sustainability issues associated with AT production, this dissertation focuses on environmental issues and how, through educating consumers and influencing their attitudes regarding environmentally sustainable apparel, it may be possible to increase purchase intention of environmentally sustainable apparel. This study defines environmentally sustainable apparel (ESA) as apparel made with environmentally preferable fibers or through environmentally preferable processes. This definition was chosen because "environmentally preferable fibers and manufacturing processes are favorable over mainstream alternatives because they use fewer resources and generate less pollution and waste" (Hiller Connell, 2010, pp. 279-280).

After the statement of the problem motivating this study and the purpose of the study, this chapter concludes with identification and definition of terms important to the study.

Statement of the Problem

The problem this study addresses is that the production and consumption of apparel and textile products contributes a considerable amount of environmental damage. Some AT firms are concerned about the negative environmental changes linked to the AT industry and are manufacturing textiles and apparel using more environmentally sustainable materials and processes. However, significant reduction of the environmental impacts of the AT industry and encouragement of more apparel firms to adopt sustainability strategies requires increased

demand for environmentally sustainable apparel; and therefore, it is necessary to explore mechanisms for overcoming consumption barriers.

Supplying a base of knowledge to consumers is crucial to enable them to understand the consequences the AT industry has on the environment. This knowledge can potentially lead to a change of attitude and ultimately a change in purchase intention. However, reaching the populous and changing consumer knowledge of and attitudes towards environmentally sustainable apparel is challenging. An objective of this dissertation is to explore social networking sites as a potential mechanism for increasing knowledge of and attitudes towards ESA. The study considers social networking sites (SNS) a feasible variable regarding this issue because they not only rapidly communicate to consumers but SNS also convey the attitudes and opinions of users' online referent groups. Pookulangara and Koesler (2011) state that "the Internet has become one of the most important communication channels in the world and growing Internet usage is motivating some changes in the consumer purchasing process" (p. 348). Mangold and Faulds (2009) add to this revelation indicating that "the emergence of Internet based social media has made it possible for one person to communicate with hundreds or even thousands of other people about products and the companies that provide them" (p. 357). Social media has significantly grown over the last decade, creating the need for in-depth research in order to utilize fully this channel of connectivity as a mechanism for increasing demand for ESA.

Though social media encompasses an array of forums and channels including blogs, video sharing sites, virtual worlds, online communities, etc. (Mangold & Faulds, 2009), this research focuses on one aspect: social networking sites. This study defines SNS as, "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system; the

nature and nomenclature of these connections may vary from site to site" (Boyd & Ellison, 2008, p. 211). Additionally, SNS are applications that allow users to connect to each other through the creation of profiles, sharing personal information, and direct communication with other users. These applications offer a medium social presence but a high level of self-presentation or self-disclosure (Kaplan & Haenlein, 2010). This study proposes that SNS are an effective way to introduce ESA to the masses, track consumer attitudes, and concentrate on using the social influence present on SNS to increase ESA purchase intentions.

Purpose of the Study

The purpose of this exploratory study is to initiate the investigation as to whether or not social networking sites may be a potential mechanism for increasing consumers' ESA purchase intentions. This exploration focuses on identifying consumer characteristics of social networking site users and investigating whether differences in consumer knowledge about environmental issues in apparel production leads to differences in attitudes about and ultimately purchase intentions of environmentally sustainable apparel. This study also examines whether or not the presence of social influence on social networking sites may serve as a mechanism to overcome the barriers (knowledge and attitudes) limiting purchase intention for environmentally sustainable apparel.

By looking at varying consumer characteristics, this study begins to identify the differences amongst demographics and consumer use and perception among social networking sites. This study hopes to begin to understand how social networking sites influence consumers so that sustainable apparel manufacturers, brands, and retailers can better market their product on these sites. This study also contributes to a better understanding of consumer characteristics and their knowledge of environmental issues in the AT industry. Existing research already poses that higher knowledge regarding a behavior

leads to more favorable attitudes and the possibility of a greater intent to perform the intended behavior. Studies by Antil (1984), Kinnear, Taylor, and Ahmed (1974), Webster (1975), and Balderjahn (1998) all suggest that when consumers are aware of the environmental issues associated with their behavior they are much more likely to engage in behavior that is favorable towards the environment. As researchers increase understanding of not only why consumers are using social media and what platforms we will also begin to identify how they use those sites, i.e. to gain knowledge, to get influence from peers, etc.

Definitions

This section outlines definitions for concepts important to the dissertation.

Apparel Consumption – When a consumer acquires, stores, uses, maintains, and discards a clothing item (Winakor, 1969).

Apparel and Textiles Industry (AT) – The industry in which apparel and textiles are produced, manufactured, distributed, and sold.

Attitudes – A learned predisposition to behave in a consistently favorable or unfavorable manner with respect to a given object.

Behaviors – Concrete (i.e., intentional) actions taken by individuals and groups, and they are often rooted in values and attitudes.

Consumption – Refers to both an individual's purchase decision and how the individual uses those purchases.

Environmental Knowledge (Related to the Apparel and Textile Industry) – Knowledge concerning the environment and the impacts associated through the production, manufacturing, distribution, and discard of apparel and textiles.

Environmentally Sustainable Apparel (ESA) – Apparel made with environmentally preferable fibers or through environmentally preferable processes.

Greenhouse Gases (GHG) – Any of the atmospheric gases that contribute to the greenhouse effect by absorbing infrared radiation produced by solar warming of the Earth's surface.

Knowledge – The facts, information, and skills acquired by a person through experience or education; the understanding of a subject.

Non-renewable Energy – Sources of energy including coal, oil, and natural gas that power our technology since the Industrial Revolution, leading to depletion of the reserves at a rate that nature cannot regenerate.

Referent Groups – Groups of people which act as a standard against which individuals evaluate their behavior and attitudes.

Social Media Use and Perception (SMUP) – How consumers use social media and how or what they intend or perceive that use to include.

Social Influence (SI) – The way in which people tend to act in conformity with a distinct group as, on one hand, they continuously compare their acting behavior with the behavior of important others; and on the other hand, they feel pressured to act in a way that will not make them stand out as lonely and disliked.

Social Networking Sites (SNS) – Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.

Subjective Norm (SN) – An individual's desire to act as important referent groups (e.g. friends, family, or society in general) think he or she should act, or as these others actually act.

Theory of Reasoned Action (TRA) – A model for the prediction of behavioral intention, spanning predictions of attitude and predictions of behavior. The subsequent separation of

behavioral intention from behavior allows for explanation of limiting factors on attitudinal

influence.

Chapter Two: Background Information and Literature

This chapter discusses the background to the study's problem, including environmental impacts of apparel and textile production (such as water and energy concerns), as well as overviews the connections between ESA purchase intentions and social networking sites. The chapter concludes with an overview of the social networking sites examined in this study (Facebook, Twitter, Instagram, and Pinterest).

Background of the Problem

Globally there are over 7.125 billion people and they are all consuming increasing amounts of resources. Over the last 50 years, our global resource demands increased 50%. However, during that same period, resource efficiency only increased by 30% (de Blas, 2010). According to the Global Footprint Network (2014), we are currently using natural resources equivalent to one and a half Earth's and by 2030 we will be using the equivalent of two. This is known as 'overshoot' – which is when the use of resources turned into waste occurs faster than regenerating waste into resources. Overshoot leads to, "collapsing fisheries, diminishing forest cover, depletion of fresh water systems, and the buildup of carbon dioxide emissions, which creates problems like global climate change" to just name a few (Global Footprint Network, "World Footprint," 2014, para. 4). In order to overcome these problems, along with others such as famine, disease, conflicts and war, there is a call to action to "invest in technology and infrastructure that will allow us to operate in a resource-constrained world. It means taking individual action and creating the public demand for businesses and policy makers to participate" (Global Footprint Network, "World Footprint," 2014, para. 8).

In a *New Green History of the World* (1993), Ponting discusses the implications of Easter Island and how, throughout history, natural resource limitations have been crucial in

the collapse of all great human civilizations. On Easter Island population growth, natural resource use, and over settlement of the land led to deforestation, soil erosion, fertilizer over use, transportation damage, fossil fuel exploitation, and water depletion. This ultimately led to the people of Easter Island becoming extinct. Being over dependent on natural resources is punitive on the ecosystem and has led to the downfall of many human civilizations, just as happened on Easter Island.

Maintaining Earth's ecosystems through the employment of environmental sustainability efforts is a topic of utmost importance. According to de Blas (2010), by only focusing on our current, short-term wants, we are putting at risk our long-term interests and the futures of our children and grandchildren. Such a way of living must stop if we plan to continue inhabiting Earth for much longer.

Environmental Impacts of Apparel and Textile Production

This dissertation focuses specifically on increasing the sustainability of the AT industry. Therefore, this section of the chapter outlines the primary environmental impacts of apparel and textile production. It focuses on energy consumption, air pollution, and water pollution and consumption.

According to Challa (2012) the AT industry is considered highly polluting compared to other manufacturing industries. The AT industry is worth over $70 billion in the US alone (Reichard, 2013), and it requires 10 times more energy to produce one ton of textiles than it does one ton of glass (Draper & Weissbrod, 2007). AT production finds itself the second leading industrial cause of environmental pollution, thus taking a vast toll on the planet (Black, 2008). A majority of textile products have a negative impact on the environment one way or another, whether it be through production, consumer use, or garment waste, and global textile consumption is equal to 30 million tons per year (Hiller Connell, in press).

According to the American Textile Manufacturers Institute, "80% of all fibers produced globally are utilized in US textile operations" (Villa, 2012, p. 165). This totals "$60 billion in fiber usage going to the US consumer; that number is just behind the automobile industry which comes in at $67-$69 billion of global fiber usage" (Villa, 2012, p. 165). Over 46% of apparel imports come from China (Reichard, 2013) and the US population purchases one billion garments from China every year, which equals four pieces of apparel per citizen (Claudio, 2007).

Energy Consumption and Air Pollution

A main environmental concern of apparel and textile production is its associated energy consumption and air pollution. According to Zaffalon (2010) "The estimated consumption for an annual global production of 60 billion kilograms of fabrics boggles the mind: 1 trillion kilowatts of electricity" (para. 10).

The main sources of energy needed within the AT industry come from nonrenewable sources, "these non-renewable energy sources are those sources that drain fossil reserves deposited over centuries. This results in depletion of these energy reserves" (Conserve Energy Future, 2015, para. 1). Non-renewable energy sources include coal, oil, and natural gas. Non-renewable energy sources have been powering technology since the Industrial Revolution, leading to depletion of the reserves at a rate that nature cannot regenerate. According to Conserve Energy Future (2015) "with increased exploitation of these fossil fuels, there are many associated environmental effects like land pollution and air pollution which in turn affect both animal and plant life. The far reaching consequences of nonrenewable sources are inexplicable and the trend has to be reversed soon before it is too late to do anything" (para. 11).

Throughout the last several decades, global energy consumption has increased at a rapid rate. According to Chestney (2012) we have used the same amount of natural resources,

including energy, in the last 200 years as we did the 60 million years prior. Hiller Connell (in press) discusses how in the next 30 years our energy consumption is predicted to increase by 54% of what it is currently being consumed (US Energy Information Administration, 2013). Fossil fuels including coal, natural gas, and petroleum provide for 87% of the global energy (Institute for Energy Research, 2013).

With nonrenewable energy consumption and the burning of fossil fuels come a slew of consequences to the environment and humanity including increased atmospheric release of carbon dioxide and other greenhouse gases. Approximately 1.6 billion tons of carbon was released into the atmosphere in 2005, 2.2 billion tons in 2010, a projected 30-63 billion tons by 2040, and 22 to 380 billion tons by 2100 (Chestney, 2012). Furthermore, "Electricity generating power plants, particularly when coal- fired, release pollutants into the air, resulting in serious consequences to both human and environmental health" (Hiller Connell, in press, p. 3). Through the increased release of carbon dioxide and other greenhouse gas emissions comes an increase in temperature and climate change, which causes considerably destruction (Chestney, 2012). Chestney (2012) asserts that by 2100 if we do not change our current path in fossil fuel consumption our global average temperature will rise six degrees celsius. Consequences of this increase in temperature comes loss of rainforests, melting of polar ice sheets, increased acidity of oceans, loss of species, and increased predator populations (Chestney, 2012). Additionally, through the heat expansion that comes with climate change there is a rise in sea levels. According to Brown (2009) "during the entire 20th century, sea level rose by seven inches, but if it rises six feet (as predicted) by 2100, it will have risen an average of seven inches per decade" (p. 55). The rise in sea levels leads to land being flooded by water and "hundreds of millions of refugees" (Brown, 2009, p.55).

The rising global temperature also wreaks havoc on plant and wildlife. The rising temperature is altering the ecosystem, causing a loss of plant and animal species and

destabilizing agriculture (Brown, 2009). Scientists predict once the temperature rises above the two degree Celsius temperature cap currently in place, the CO_2 emissions released into the environment will be irreversible and the damage will be permanent (Chestney, 2012). According to Brown (2009, p. 57) "CO_2 accounts for 63% of the recent warming trend," and the carbon dioxide emissions mainly come from transportation, industry, electricity and heating.

As mentioned earlier, fossil fuels supply 87% of global energy demands, and coal supplies nearly 30% of those energy demands (Institute for Energy Research, 2013). China and India are two of the biggest global manufacturers of apparel and textiles products and coal generates 70% of each country's electricity. Together China and India make up 54% of the global consumption of coal (US Energy Information Administration, 2014). The burning of coal in these power plants releases pollutants into the air, specifically carbon dioxide, a serious greenhouse gas that is highly influential to climate change and an endangerment to the environment and human health. Coal by-products, such as sulfur dioxide, cause acid rain and release toxic heavy metals such as mercury, lead, and cadmium (known carcinogens), into the atmosphere (Hiller Connell, in press). Currently, approximately three million people worldwide die each year (8,000/day) from breathing polluted air (Brown, 2009). Burning coal contributes to 33% of all greenhouse gas emissions (US Energy Information Administration, 2014). Electricity generation is the primary driver of climate change and 63% of the electricity generated is powered by coal (Brown, 2009). Coal fired power plants produce up to two times more carbon dioxide than natural gas and petroleum. In 2010 the electricity used in the textiles and apparel industry equaled 132 million tons which adds up to 10% of all greenhouse gas emissions (Hiller Connell, in press).

Water Consumption in the AT Industry

Every step of apparel production uses water and it takes 200 tons of water to produce one ton of textiles (Khan and Malik, 2014). From an agriculture perspective, cotton is the most popular type of fiber used in the apparel and textile industry. Though polyester has doubled in popularity since 1990, cotton is still the most common fiber used in apparel production (Hiller Connell, in press). Cotton is a very thirsty plant and can only be easily cultivated on 2.5% of Earth's arable land and it takes 1,400-3,400 gallons of water to produce one pound of cotton (Baugh, 2008). This need for water is commonly met through irrigation processes. Irrigated crops can be ecologically damaging not only because of the associated depletion of water basins, but also because the process can contribute towards salinization, which is an increased level of salt in the soil – drying the soil and depleting it of nutrients (Ghassemi, Jakeman, & Nix, 1995).

The Aral Sea Basin in Uzbekistan, it is a perfect example of what can happen when water resources are not conserved appropriately. In the last 40 years the sea has diminished to one-tenth its original volume due to large amounts of water being diverted to meet the needs of the cotton industry in the Aral Sea Basin area (Walters, 2010). There is also regional soil erosion, loss of wetlands, and local climate change (Allwood, Laursen, Rodrigues, & Bocken, 2006).

Additionally, the coloring and finishing processes of textile production are the second leading industrial users of water, behind agriculture. Because cotton is a water thirsty crop it continues those traits in the dying process. Sometimes it can take up to eight dye baths to get the proper colorfastness (Hiller Connell, in press). The average textile manufacturing plant uses 1.6 million liters of water per day and in 2010 the apparel industry consumed 7 trillion liters of water (Hiller Connell, in press). Additionally, the projected amount of water to produce enough fabric to upholster one sofa is 500 gallons and the consumption worldwide of freshwater is doubling every 20 years in the textile industry (Oecotextiles, 2013).

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Water consumption levels within the AT industry are a concern because, globally, over half a billion people live in areas that suffer drought conditions and that fact is expected to increase from nearly one third to one half of the world's population by 2025 (Oecotextiles, 2013). The United National Development Programme (2013) estimates that by 2025 approximately two thirds of the world's populous will live in "water- stressed" regions. This is concerning when apparel and textile production is playing such a large role in water use and destruction.

Water Pollution in the AT Industry

Apparel and textile production is also the second leading industrial cause of water pollution; with nearly all stages of the textile and apparel life cycle contaminating the natural resource (Hiller Connell, in press). Producing textiles is chemically intensive (Oecotextiles, 2013). According to Challa (2012), "cotton is the most pesticide intensive crop in the world" (p. 2). Also an Oecotextiles (2013) report discusses cotton as being the second most damaging agricultural crop in the world accounting for 25% of global pesticides used. It also uses 16% of all pesticides and 11% of all insecticides (Draper & Weissbrod, 2007). This is important because unfortunately cotton does not absorb much of the applied pesticides and insecticides and instead significant amounts of the chemicals seep into and pollute soil and water systems.

Fertilizer applications to cotton crops also lead to additional water pollution concerns. According to Brown (2009) fertilizer use results in the release of phosphorous and nitrogen into both soil and water. Unfortunately, phosphorous and nitrogen in aquatic systems causes eutrophication; where algae rapidly forms at the surface of the water, blocks off sunlight, disrupts the process of photosynthesis, and leaves a lack of oxygen in the water, killing much of the aquatic life and plants that need it to survive (Hiller Connell, in press).

Additionally once the cotton is picked and as it is made into yarns, and knitted or woven into textiles, many additional chemicals are used for mercerizing, carding, combing, bleaching, scouring, sizing, desizing, etc. Water treatment facilities do not effectively treat many of these chemicals, releasing up to 50% of the chemicals into water systems where they encounter aquatic life and biological systems (Draper & Weissbrod, 2007; Hiller Connell, in press). Moreover, these chemicals not only harm the environment but also human health, with approximate 40% of the dyes and colorants used in the AT industry containing carcinogens (Oecotextiles, 2013). Over 8,000 different chemicals are used in the dyeing, printing and finishing of garments and many of those chemicals stay in the wastewater, even after treatment, causing harm to aquatic life as well as threatening the well-being of human life (Hiller Connell, in press). In addition to causing cancers, scientific evidence suggests the chemicals harm unborn fetuses as well as cause allergic reactions in children and adults (Oecotextiles, 2013).

Many other significant environmental impacts in the production and consumption of apparel exist, however energy consumption and air pollution, and water consumption and pollution are two of the most significant and overarching issues.

The Relationship between Demand for ESA and Social Networking Sites

As previously stated, this study proposes that it may be possible to leverage SNS as a mechanism for increasing consumer knowledge about environmental issues in the AT industry, changing attitudes about ESA, and increasing ESA purchase intentions.

There are a number of issues associated with increasing ESA purchase intention; and there are both internal and external barriers associated with the consumption of ESA that need consideration. For starters, Hiller Connell (2010) outlines that consumers have a severe lack of knowledge when it comes to ESA. They do not understand the differences in fibers,

where to acquire ESA, or even the consequences the AT industry has on the environment and the long-term effects on climate change. Thorgerson (2000) also agrees that knowledge is a main barrier to sustainable consumption. The author explains that knowledge is a constraint on the consumption of sustainable products and that consumers are vastly unaware of environmental issues associated with various behaviors and, therefore, unaware that a change is needed at all (Thorgerson, 2000). Additionally, Thorgerson relays that consumers are confused about how to change their behavior to be sustainable.

Attitudes are also a significant barrier regarding ESA purchase intentions. People tend to have unfavorable attitudes about ESA because they think that it is not as fashionable or mainstream as regularly produced clothes and that ESA is hard to obtain (Hiller Connell, 2010). ESA has the stereotype of being non-form fitting with "hippy" construction style and fabrics, such as hemp, that are not perceived as comfortable (Hiller Connell, 2010).

As far as external barriers to the consumption of ESA are concerned, Hiller Connell (2010) discovered that the limited availability of ESA was hindering the purchase intention of such items. Consumers find it hard to locate ESA and when they do, the merchandising of the items is frequently not desirable. Additionally, in studies by Kang and Kim (2013) and Hiller Connell (2010), financial risk was one of the biggest concerns amongst consumers when purchasing ESA; consumers believed that ESA costs more than mainstream apparel and that they could not afford ESA on a steady basis (Hiller Connell, 2010). According to Kang and Kim (2013) other perceived risks limiting the consumption of ESA include social, psychological, and performance. In order to overcome the barriers limiting ESA purchase intentions, changing attitudes towards ESA must be a focus (Kang & Kim, 2013).

Others see the barriers to consumption of environmentally sustainable apparel as being miss-directed on consumption by consumers rather than a focus on recycling waste. Connelly and Prothero (2003) infer that consumers view environmental problems from a

supply issue rather than a demand issue. Connelly and Prothero go on to state that consumers purchase based on their lifestyle. If their lifestyle focuses on consumption they will consume, but by focusing on "green," consumers will then begin to purchase based on image. In order to lower the consumption of poor environmental products towards more sustainable purchases we must use commodity discourse as a means to communicate to consumers about what their dollars are truly supporting (Connelly & Prothero, 2003).

Hiller Connell (2010) and Kang and Kim (2013) both suggest several ways in which internal and external barriers to purchasing ESA can be overcome. By providing knowledge about ESA products, it is likely consumers' attitudes will be changed on the importance of purchasing such items. Additionally, in order to change consumers' attitudes "modification of attributes and characteristics of ESA to better meet the needs and wants of consumers should occur" (Hiller Connell, 2010, p. 284). Kang and Kim (2013) also note that the main barriers of financial, performance, psychological and social barriers of purchasing environmentally sustainable apparel must be altered through attitude change acting as a mediator between those risks or barriers and purchase intentions.

The responsibility for lessening the environmental impact of the AT industry may be conceived as beginning with the designers; they have the resources to create environmentally sustainable apparel in a way that is affordable and desirable for consumers (Draper & Weissbrod, 2007). However, in order for the designers to have a chance, there must be serious consumer demand for such products. The AT industry environmental damage must stop if we have any possibility of reversing the harm that has been done. According to Connelly and Prothero (2003), consumers think it is not their problem. They think recycling is sufficient and that the real issues come from the manufacturers and retailers. However the consumer controls the dollars and therefore can demand specific products. The quicker fast fashion is produced and the shorter the fashion cycle becomes, the greater the environmental

damage that is done. We need consumers to begin to demand sustainable processes in the AT industry in order for the environmental damage to be lessened.

Until there is demand for ESA, there will not be the offerings of varied ESA items that consumers in the mainstream desire, nor a financial break in the price of ESA (Hiller Connell, 2010). The results of Kang and Kim's (2013) study indicate that "individuals' favorable attitudes towards purchasing environmentally sustainable apparel products contribute to creating strong intentions to purchase them" additionally, "attitudes play a role in mediating between perceived risk and behavioral intentions" (Kang & Kim, 2013, p. 279). It is also possible that if social influence leads to the development of positive attitudes towards purchasing ESA, as well as the image that it brings to the individual, psychological risks can also be lessened (Kang & Kim, 2013).

This dissertation proposes that through SNS we can increase ESA purchase intentions by: 1) providing knowledge to consumers and 2) changing their attitudes about ESA and the perceived barriers. McHaney (2011) discusses how we must evolve our ways of educating newer generations who inhibit the expectation of technology being infused in their empowerment through "social networking and other forms of convenient, computer enabled, and mobile communication capabilities to try on various identities and personas" (p. xvii).

According to Lee, Choi, Youn, and Lee (2012) consumer's perceptions of green campaigns are favorable and they view eco-conscious products as positive overall. However, the authors go on to note that retailers play "the gatekeepers' role of encouraging eco-friendly consumption culture" and that "when corporations respond passively to their environmental responsibilities, consumers show strong negative responses" (Lee, Choi, Youn, & Lee, 2012, pp. 67-68). When considering branding and marketing efforts through SNS, Smith, Fischer, and Yongjian (2012) call for serious investigation into the differing sites and their marketing impact. However, the lack of research and information regarding technology regarding

purchase intention is needed to further understand how brands can possibly manage their SNS sites and customer engagement better. This study aims to understand SNS better in terms of marketing efforts regarding ESA. With the proven viability of social networking sites across various age groups and other demographics as a source of information, social connectivity, sharing, and shopping mechanism, the possibility of utilizing SNS in order to create increased purchase intentions for ESA is a very viable idea.

Overview of Social Networking Sites

The following section provides an in depth look at social networking sites and how to use SNS to reach consumers on a wide scale. Sites examined include Facebook, Twitter, Instagram, and Pinterest.

In terms of relationship building, SNS are leading the movement, as new generations are increasingly becoming advocates of using such platforms for daily life. Raacke and Bonds-Raacke (2008) found that a large majority of college students are using SNS to maintain connections with friends, as well as establish new ones. SNS are revolutionizing the way we communicate and interact; they are "virtual places that cater to a specific population in which people of similar interest gather to communicate, share, and discuss ideas" (Raacke & Bonds- Raacke, 2008, p. 169).

Kucuk and Krishnamurthy (2006) state that "many consumers now find it hard to imagine a world without the Internet and the 'World Wide Web' and many users find it to be 'indispensable'" (p. 47). Social networking sites not only allow individuals to share connections with their peers and create an identity for themselves but they also fulfill basic human needs. For example, Kaplan and Haenlein (2011) state that SNS "go beyond the traditional realm by satisfying much more hedonic needs: the need for approval from peers, the desire for self-expression, and the desire for entertainment" (p. 351). The authors

additionally discuss that the influence of technology is also leading to global cultural impacts and reframing the impact on consumer decision processes (Kaplan & Haenlein, 2011). This transformation focuses on the consumers, as they are the driving force of the utilization of technology in the shopping communication process (Kucuk & Krishnamurthy, 2006). According to Consumer Instinct (2012), 96% of the global youth population is active on a SNS with the most popular sites being Facebook, Twitter, Instagram, Pinterest, Tumblr, and Google+ (Brenner, 2013), with additional SNS, Snap Chat and Vine, becoming increasingly popular with teenagers (Greig, 2013).

SNS are the one place to reach a massive scope of consumers even "overtaking porn as the #1 activity on the web" (Consumer Instinct, 2012, para. 2). According to Pew Research, as of May 2013, 72% of adults were active on SNS (74% of women and 62% of men) and the average US consumer spent 16 minutes per hour active on social media (Bennett, 2013). However in 2014, multiuse was on the rise, with 52% of online adults using two or more social media sites, up from 42% in 2013 (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). According to Marketing Daily (2009), even high-end shoppers who are usually confined to the service and attention provided in a brick and mortar establishment are making a shift to online purchasing and that approximately one in five people that are on a social networking site also belong to a site that associates with social shopping. These increases are partially due to a growth in cell phone usage, particularly smartphones, with 40% of cell phone users accessing SNS from their smartphones and 28% accessing SNS on their smartphones daily (Brenner, 2013). Expectations are that smartphone usage will continue to increase drastically through 2017, with 2013 boasting 975 million shipments worldwide and that number expected to compound 20% annually between 2014 and 2018 (Malik, 2013).

Firms, in tune with the upswing in the popularity of SNS, are also increasingly using these sites as an integral aspect of their marketing strategies. As of 2013, globally 93% of companies used SNS for business, 70% used Facebook to increase their customer base, and 34% used Twitter to generate indications, or a type of name-dropping online (Bennett, 2013). Also important, a concept known as "reversed shopping" is taking place on the Internet, in which consumers no longer feel a need to seek out information regarding products and brands, they expect retailers and brands to come to them, leading to a shift from brick-and-mortar stores to strictly online shopping (Consumer Instinct, 2012).

Brands and retailers are also noticing this trend from brick and mortar with "40% of e-retailers maintain[ing] a social network page and 59% of top retailers having a 'fan page' on Facebook" in 2011 (Pookulangara & Koesler, 2011). In that same year, of the top 100 retailers nearly 80% utilized Facebook and almost 70% Twitter (Pookulangara & Koesler, 2011). Companies utilizing social media for marketing and advertising, as well as customer engagement, service, and idea innovation has nearly doubled from 42% in 2008 to 88% in 2012 (Smith, Fischer, & Younjian, 2012).

It is highly important for ESA brands to be able to connect and inform consumers of the ESA products available, why they are important, and influence consumers to have a positive attitude regarding their purchase intentions. According to Kaplan and Haenlein (2009), SNS are comprised of two indicators; the first being self-disclosure in order to facilitate development of close relationships, with the second revolving around the level of that disclosure, self-presentation. People on SNS connect with strangers as well as their close referent groups and share things online about themselves or their beliefs including pictures, text, and videos in order to increase perceptions of a positive identity (Kaplan & Haenlein, 2009).

These SNS "are trending toward becoming the main source of information for many consumers" (Kaplan & Haenlein, 2009, p. 62). According to Kaplan and Haenlein (2009), it is of high priority for brands to align their use of multiple SNS to increase activity among users and have extensive reach. Particularly since, as SNS increase in popularity, each platform becomes more intertwined with one another. For instance, many sites are connected through Facebook.

The major concept when marketing apparel using a channel like Facebook and other social sites is that the brand or retailer must be aware that they are there to connect and engage with consumers, not to sell to their consumers (Indvik, 2011). In all social media there is a need for retailers and brands to monitor their presence ensuring their brand voice is consistent across all channels (Kabani, 2013). Mangold and Faulds (2009) found in their study, *Social Media: The New Hybrid Element of the Promotion Mix,* that social media can help shape discussion, provide networking platforms, can use tools and blogs to engage customers, and use traditional and Internet based promotional tools to engage customers.

Pookulangara and Koesler (2011) looked at the influence of culture on consumer's usage of social media. The authors went as far as to say that social media is a massive convergence of culture and the evolution of a new culture. They call for the incorporation of social media into marketing mixes and if companies and brands do not do that, then they are practicing poor customer service. Social media or SNS in this case, fulfills the hedonic need of approval of peers and the desire of self-expression and entertainment, while also fulfilling utilitarian needs.

Engel, Bell, Meier, Martin, and Rumpel (2011) discuss that within the "new marketing ecosystem" that involves social media and online shoppers, young shoppers are expecting retailers to stay in contact and connected with them "electronically at all times" (p. 24). Park and Stoel (2005) debate the advantages of online shopping and the catalyst to get

consumers active in online shopping is to connect with them and inform them of their brand so that they are familiar with the brand.

SNS can create familiarity and influence purchase intention. Amato-McCoy (2011) touches upon the different channels consumers are using for online technology and that those mediums are changing with the increasing popularity and availability of technology. The author goes on to state that "more importantly, shoppers want their favorite retailers to connect with them through these new channels to deliver a more personal experience" (Amato-McCoy, 2011, p. 10). In Kim and Kwon's (2011) study they looked at the relationship of consumers and brands. The consumers were US college students. It was found that although students do have a relationship with brands similar to people, it is not as rich. The participants would switch brands if they experienced disappointment or other brands offered benefits. However, consumers randomly would select casual buddy brands without much consideration and they had increased satisfaction when they entered the relationship with lower expectations. Retailers also incur fewer costs with these casual buddy's type relationships, and can ultimately turn them into emotional relationships (Kim & Kwon, 2011). This makes SNS a perfect platform to casually initially connect with consumers on SNS and possibly have a real impact without necessarily have a solidified bond on SNS.

According to Experian Marketing services, as of August 9, 2014, the top ten social media sites were Facebook, YouTube, Twitter, Google+, Yahoo Answers, Pinterest, LinkedIn, Instagram, Tumblr, and Reddit. This study examines social media, specifically social networking sites, that influence connections and sharing to better understand the influence of peers. As previously stated, Kaplan and Haenlein (2010) discuss a definition of social networking sites in their study as user generated content by many end users. Therefore, sites like Facebook and Instagram create content and others can share comment and likes. Additionally, social networking site platforms provide the ability to share pictures, videos,

and other media. They enable users to connect by creating personal information profiles, and inviting friends and colleagues to connect (Kaplan & Haenlein, 2010). The social networking sites focused on in this research based on those parameters are Facebook, Twitter, Instagram, and Pinterest.

Facebook

Founded in 2004, Facebook is an online social networking service in which users create a personal profile, add other users as friends, exchange messages, and receive notifications when activity occurs on their profile. In October 2014, Facebook boasted over 1.35 billion worldwide monthly active users, which comes at a 14% increase each year since Facebook began and 1.12 billion of all Facebook users log in from a mobile device (Zephoria, 2014). In regards to daily usage, 684 million people login to Facebook each day, 50% of users between the ages of 18 and 24 login to Facebook first thing in the morning, and the average user spends 20 minutes active per login (Zephoria, 2014).

Facebook is used by brands for marketing by publishing pictures within photo albums (rather than individually) which remain on the retailer/brand page longer and encourage followers to click through all the photos. Facebook also offers the option to advertise on Facebook to encourage an initial fan following which can then be cultivated into a more personal relationship once the fan base is established (Kabani, 2013). The real motivating factor of Facebook as a marketing effort is the idea of messaging and being able to turn marketing efforts from a message to a more humanized experience. It allows brands to be real and not just a brand image. Information can be personalized as well as individualized to the site. Information that would not be conveyed in an advertisement or website can be shared on Facebook For example, engagement, entertainment, sales, and branding can all be utilized by brands on Facebook, creating a new forum for building a real connection with consumers (Indvik, 2011). In 2013, 47% of Americans reported that Facebook was the number one

influencer amongst all SNS on their purchases, which was nearly double what it was in 2011 (Bennett, 2013).

Twitter

Twitter is a SNS in which users send, receive, and read "tweets" which are short messages that are 140 characters or less. Started in 2007, as of 2014 Twitter had over 284 million total active users and has an average of 500 million tweets being sent per day with 80% of those tweets coming from a mobile phone device (Twitter, "Company," 2014, para. 1). Twitter also has an advantage in that it overtook Facebook in 2013 as the most traveled SNS amongst teenagers (Greig, 2013). With Facebook becoming more popular amongst older adults who are monitoring their teenaged children's social media activity, teens have made the switch to Twitter as the "most important" SNS (Greig, 2013). Additionally, in 2013, there was an astounding increase in people ages 55-64 on Twitter, with a 79% increase in activity from 2012 to 2013 (Bennett, 2013).

Similar to Facebook, Twitter creates a channel of communication that brings the public into a more intimate relationship with the brand. However, compared to Facebook, Twitter provides a more direct, two-way form of communication between brands and consumers. This is because, unlike Facebook, in Twitter there are no "fan" pages that users "like." Instead, any individual can follow a brand in the exact same manner a brand can follow an individual – thereby tightening the relationship and making the customer and the brand/retailer equals; almost an extension of their family or peer group (Stephenson, 2009).

There are a number of ways to promote a brand on Twitter. Possibilities include using promoted tweets which help to build a fan base, hosting chats, surveying followers, and using Lead Generation Card which helps advertisers to connect with their followers off Twitter by advertising an event or campaign on Twitter but encouraging them to provide their email to

enter drawings. This, in turn, helps to create email databases for future marketing efforts (Short, 2014).

A retailer that has utilized Twitter to its advantage is Etsy, an online marketplace for selling handmade goods. Initially, Etsy planned to utilize Twitter to alert followers of new blog posts. However, now it is a tool to instill knowledge in their customers regarding tips and tricks, upcoming events and promotions, a way to redirect customers to their site, as well as alert followers of new items on their site (Lacy, 2010). American Apparel has also used Twitter to get their employees involved on the site to fulfill customer service issues, inform customers of products, alert followers of new blog posts, promote ad campaigns, provide incentives and competitions, as well as gain creative ideas from their followers to incorporate in their own marketing and advertising efforts (Lacy, 2010).

Instagram

Instagram, first introduced in October 2010, is a photo and video sharing network. It is different from other SNS in that activity is restricted by app use, or the use of a downloaded application that can only be accessed on a mobile device such as a smart phone or tablet. After 19 months of Instagram being on the market it had added 50 million users and 50 million more users within the next nine months (Malik, 2013). By September 2013, Instagram had 150 million users (Malik, 2013). Compared to Pinterest (discussed below), Instagram users spend triple the amount of time on the SNS and double the amount as compared to Twitter. On a daily basis, there are 65 million photos uploaded to Instagram and a billion "likes" (Benady, 2013).

Instagram has proven in a very short time to be a key marketing component of brands and retailers. Consumers want to be marketed to in short messages that are high in visual value. This is exactly what Instagram provides. Instagram is a great opportunity provided to brands for them to get short and fast messages in photo form to their target market followers

(Sprung, 2013). According to Kabani (2013), Instagram is perfect for sharing teasers or a preview of upcoming lines or encouraging fans and followers to get involved with the brand by sharing things of their own back to the brand or retailer. Instagram is a place where a company can exude their image and tell the story of their brand to the population. By creating a wider audience through the mobile market, brands can then transition into creating engagement with their customers and followers through contests and promotional codes. Instagram provides a channel to feature customers in their Instagram site and to engage, in turn improving that connection and making it more closely tied, meaningful, and real. Through event promotion on Instagram, brands can also obtain fans through education and ultimately turning them from causal buddies into full customers (Sprung, 2013).

Pinterest

Pinterest, launched in 2010, is a SNS that allows members to share photos through themed "pinboards." Users capture and pin images to boards based on events, interests, and hobbies. They can also browse the pinboards of other users, while "re-pinning" images to their own boards or simply "liking" or commenting on other images. According to Fact Browser (2012), Pinterest users follow an average of 9.3 retail companies on the site and those followers have nearly doubled since May 2012, making it the fourth largest holder of online traffic following Facebook, Twitter, and Google +. However, Pinterest users are more likely to spend more money on a higher number of products compared to users of any other SNS. With its introduction of the Pinterest app for mobile devices in 2013, there has been a shift from web-based "pinteresting" to mobile "pinteresting," leading to a surge in users; and the site continues to break records. Although it does not have as many users as Facebook or Twitter, globally there are 53 million active monthly users (Benady, 2013), with 20 million of those being in the US (Bennett, 2013).

Pinterest is an important SNS for apparel brands because users can link directly to company websites from the pinboards. Pinterest is praised for its ability to inspire pinners to purchase and consume. It is a critical time to start to use Pinterest from a marketing and advertising standpoint by incorporating brands and small businesses on the site as a part of their strategic business strategy (Constine, 2013). Each country has a "country manager" that manages the Pinterest site for that country. UK.'s country manager states, "Pinterest is powerful for discovering new products and prospective experiences" (Benady, 2013). With strong growth, in 2013 Pinterest expanded into experimental marketing campaigns in the US including brand promoted pins, adding "pin it" buttons to brand sites, and "rich pin" opportunities that provide more information about a product (Benady, 2013), as well as advertising opportunities for brands, and a way to connect with consumers and influence purchase intentions (Constine, 2013).

Chapter Three: Theoretical Framework and Review of Literature

The purpose of this chapter is to discuss the theoretical and literature components grounding this study. First, the chapter provides an overview of the Theory of Reasoned Action (TRA) by Azjen and Fishbein (1980) and outlines how this theory frames the research study. Next the chapter outlines and reviews previous research related to and guiding the study. Third, the chapter introduces a modified model of TRA, incorporating the additional variables relative to this study. Last, the chapter outlines the research questions and hypotheses associated with the study's variables.

Theoretical Framework

Theory of Reasoned Action

When looking at the ability to modify consumers' attitudes towards a subject, idea, or product, many marketers look to Azjen and Fishbein's (1980) Theory of Reasoned Action (TRA). In their book, *Belief, Attitude, Intention and Behavior,* Fishbein and Azjen (1975), pose that when attempting to modify consumers' reasoning to become brand loyal or prefer certain products, attributes, and images, the variable of attitude is the main concern amongst scholars and marketers. In *Understanding Attitudes and Predicting Social Behavior*, Azjen and Fishbein (1980) acknowledge that people consciously understand the actions they make and the consequences to those actions before they decide to partake in a certain behavior. According to Sparks and Shepherd (1992) TRA "is a theory of attitude –behavior relationships which links attitude, subjective norms (akin to perceived social pressure), behavioral intentions, and behavior in a fixed cause sequence" (p. 388).

Attitude. According to Fishbein and Azjen (1975) an attitude is defined as "a learned predisposition to behave in a consistently favorable or unfavorable manner with respect to a

given object" (p. 228). Fishbein and Azjen (1975) originally discussed the basis of attitude formation as although there are many concrete beliefs that a person may have, there are also many other areas within an individual's attitude that can change with varying consequences. For example, a person may believe in religion and their attitude in that belief will not change, but due to scheduling or other reasons a person may change his or her attitude regarding attending church. Additionally Azjen and Fishbein (1980) discuss that this attitude formation can also be varying with objects, stating, "Some attitudes may be relatively stable over time, and others may exhibit frequent shifts. At any point in time a person's attitude toward an object may be viewed as determined by his salient set of beliefs about the object" (p. 218). The authors go on to explain that, though there may be a large number of determinants, there are a limited number of salient beliefs (generally five to nine) that a person can fully process and utilize to change an attitude regarding an object or concept. Furthermore, Azjen and Fishbein (1980) state that, "It is possible to predict and gain some understanding of a person's [behavioral] intention by measuring his attitude toward performing the behavior, his subjective norm, and their relative weights" (p. 7).

Subjective norm. Subjective norm has been an integral part of the TRA model since its creation. Subjective norm is defined as "perceived social pressure to perform or not perform a behavior" specifically dealing with the perception of "influence of the social environment on intentions and behavior" (Azjen & Fishbein, 1980, p. 57). According to Fishbein and Azjen (1975), subjective norm is the influence of a person's closest peers and how that influence guides an individual in determining his or her attitude towards a behavioral intention. Subjective norm "is determined by the perceived expectations of specific referent individuals or groups and by the person's motivation to comply with those expectations" (Fishbein & Azjen, 1975, p. 302). The Theory of Reasoned Action delves into people's perceptions of those around them and those that concern them, allowing social

tensions to affect behavioral intentions. If a person is concerned with others' perceptions of them, they are more likely to change their attitude toward a behavior to become more in line with their subjective norm or those around them that are influential (Sparks & Shepherd, 1992). Additionally, "subjective norms are proposed as having similar origins in a combination of people's perceptions that important others think they should or should not perform the behavior in question and their motivation to comply with others' wishes" (Sparks & Shepherd, 1992, p. 388).

Intention. The final component within TRA is behavioral intention. Azjen and Fishbein (1980) recognize that "behavioral intentions are immediate determinants of behavior (p. 59). Intention leads to a desired outcome and the weight of attitude and subjective norm help to achieve that outcome (Azjen & Fishbein, 1980). Figure 3.1 summarizes Azjen and Fishbein's TRA model.
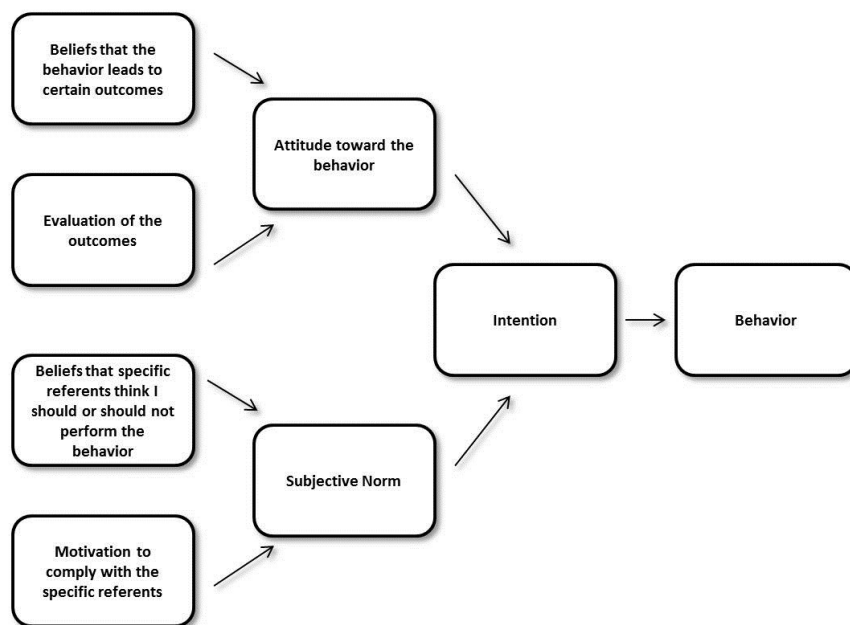
Figure 3.1 Azjen and Fishbein's (1980) Theory of Reasoned Action model.

Review of Literature

Guided by TRA, this section of the chapter discusses the literature associated with the variables important for this study. The section begins with an assessment of consumers' knowledge about environmental sustainability issues in the apparel industry. Then the section continues by examining literature focused on understanding: 1) consumer attitudes towards ESA and how social influence can affect those attitudes; 2) social media use and attitude; and 3) general purchase intentions of ESA apparel.

Consumers' Knowledge about AT Environmental Sustainability Issues

This study poses that consumer knowledge of environmental hazards related to apparel and textile production will affect consumers' knowledge about the benefits of ESA consumption, leading to more favorable attitudes towards purchasing ESA apparel, and ultimately influencing their ESA purchase intentions.

Environmental knowledge is defined by Arcury and Johnson (1987) as, "Factual information that individuals have about the environment, the ecology of the planet, and the human actions on the environment/ecology" (p. 32). According to Kang et al. (2013), for the most part, environmental knowledge relayed to consumers is very broad. It covers topics of sustainability, energy consumption, recycling, and pollution. Kang et al. (2013) pose that if consumers acquire knowledge, it can matriculate down into consumer decision-making processes. Specifically, "Consumer knowledge is a meaningful factor for leading individuals towards sustainable consumption since knowledge reflects a human's cognitive aspect; thus, it can contribute to enduring changes in consumers' attitude and behavior" (Kang et al., 2013, p. 443).

Some research asserts that the more engaged consumers are in acquiring ESA, the more likely they are to understand how the production of apparel and textiles affects the natural environment (Hiller Connell, 2011). For example, "Consumers who consider the

organic content in their apparel acquisition decisions…, compared with indifferent consumers, …are more aware of the environmental effects of clothing," (Hiller Connell, 2011, p. 63). On the other hand, Momberg, Jacobs and Sonnenberg (2012) identified in their study that young females who had some knowledge of environmental impacts of AT production were still severely limited in how that knowledge translated directly into their purchasing decision. In this study, even though the participants considered themselves environmentally conscious, other attributes, such as price, held more weight when making apparel purchase decisions. Hiller Connell and Kozar (2012) identify the need for more education in university curriculum on what sustainability is and how it can be applied in business and other areas. The authors go onto to show that education can affect student knowledge of AT related environmental issues, but that there is limited consumer education regarding environmental impacts of apparel and textile production.

According to Kozar and Hiller Connell (2011) when testing the probability of purchasing ESA , knowledge about environmental issues in the AT industry changed consumer attitudes and ultimately purchase behavior – leading to the conclusion that knowledge gained equals a more favorable attitude towards ESA as well as more awareness when purchasing clothing. This research suggests that in order to change consumer attitudes and ultimate purchase behavior of environmentally sustainable apparel there must first be knowledge and awareness. Brosdahl and Carpenter (2010) identify a need for empirical research addressing consumer demand for ESA based on providing consumers knowledge of the impacts related to apparel and textile production. The authors suggest that in order to achieve behavior that is positive towards the environment, knowledge is the motivating factor that creates unease in consumers and ultimately motivates their intention to purchase ESA (Brosdahl & Carpenter, 2010). In order to change consumer attitudes of ESA there must first be awareness of what ESA is, as well as the AT industry's impact on the environment. Water

consumption and pollution, air pollution, chemicals pollutant, energy consumption, agriculture devastation etc. should all be considered and how those environmental impacts directly relate to the individual. Individuals must understand what they can do specifically through their consumer behavior to make a difference as part of the entire population.

Consumers' Attitudes towards ESA

Buenstorf and Cordes (2008) indicate that "green" strategies, or strategies focused on environmentally friendly methods, are not self-reinforcing and that to get consumers to learn to make envirionmentally sustainable purchases there must be an initiative towards more social learning with a focus on the individual. Consumers must be knowledgeable about the environment but that is not the only barrier to overcome in encouraging environmentally sustainable apparel consumption. There must also be a focus on attitudes and consumer learning as a social movement.

Mont and Plepys (2007) call for a change in consumption pattern across the populous through a less materialistic focus. Evans (2011) calls this movement "frugality" (p. 550). Evans (2011) says the answer to lessen consumption is through three tactics, including: "(1) the scale at which they exercise care and compassion; (2) their relationship to the normative expectations of consumer cultures, and; (3) their consequences in terms of environmental impacts" (p. 550). There must be a social movement and a change in the way consumers not only think but also act in regards to their purchasing intention and attitudes. Through knowledge on a mass scale there can be a change in those attitudes and what is acceptable in terms of consuming products and the materialism movement can be replaced with more of a caring a compassionate employment of purchasing power.

In a study focused on the relationship between information exposure and eco-conscious apparel acquisition, Sonnenberg, Jacobs, and Momberg (2014) discovered that participants were not willing to acquire environmentally sustainable apparel based on their

concern for the environment because they were still more concerned about attributes such as price and functionality. Participants did suggest short and factual information on hang tags that were straight to the point to help inform consumers of the benefits the eco apparel provides but made no difference in purchase intention.

If consumers believe that a product is relevant to them it is more likely it will be of interest to them. According to Kang et al. (2013), "Consumers who had self-concepts that reflected views of themselves as environmentally responsible tended to show pro-environmental attitudes" (p. 444). Additionally, D'Souza, Taghian, and Lamb (2006) discussed in their article that the more consumers are aware of the negative impact a process or product has on the environment the more apt they are to have a positive attitude towards that product or process and are more likely to support such a product/process. Arbuthnott (2009) looked at education for sustainable development beyond attitude change and found that habits and inconvenience mediate attitude and behavior. Ha-Brookshire and Norum (2011) found that attitude towards environment, age, and gender were all significant factors for consumers to pay more for sustainable products.

Thus, we see that if consumers receive information about ESA, their attitude and purchase intention will be more favorable towards ESA, leading to a more favorable outcome when it comes time to purchase apparel. Hyllegard, Yan, Ogle, and Lee (2012) in their study regarding responsible hang tag labeling indicated that it can benefit ESA apparel if the tags "feature explicit messages and logos to convey their socially responsible business practices; the use of explicit messages and logos produced favorable evaluations of hangs tags and positive attitudes toward the apparel brand" (p. 30). By making it known to consumers that products are sustainable in some way consumers view the product more favorably, as well as the brand. Kang and Kim (2013) found that attitudes towards purchasing environmentally sustainable apparel acted as mediator between perceived risks and behavioral intentions. The

four risks were financial, performance, psychological, and social. If we can lessen the perception of these risks through knowledge it will change attitude and consumers will be more open to have environmentally sustainable apparel purchase intentions.

Cowan and Kinley (2014) identify attitudes as the strongest predictor for purchasing environmentally sustainable apparel. Ogle, Hyllegard and Dunbar (2004) additionally discover that not only is the individual attitude a determining factor of purchase intention but additionally so is the consumer attitude towards the retail environment. The authors discovered that a retail establishment's historic preservation, store design, and urban renewal efforts was very persuasive in the consumers' willingness to conform to sustainable purchase behaviors. Van Dam and Van Trijp (2011) discuss that consumer cognitive and motivational understanding of purchase intention towards sustainability must conform to the individual in order to be effective and that focusing on sustainability as a practical construct there is more ability to influence users to purchase in sustainable ways based on their attitudes towards sustainable development. Niinimaki (2010) discusses that there must be social and sustainable constructs built around design that matches consumer attitudes towards clothing attributes as well as individual values in order to create a sustainable ideal of one's self. If consumers find themselves relating to the product they will have more favorable attitudes towards that product ad more likely to take part in the desired intention/ behavior. Thorgerson and Olander (2003) looked at Danish consumers and found that individual values and how they are prioritized are of utmost importance when purchasing sustainable apparel. Leary, Vann Mittelstaedt, Murphy, and Sherry (2013) support this notion that sustainable apparel purchases are based on consumer's values and ethics and that they are more likely to purchase sustainable apparel when there is perceived marketplace influence and those attitudes can be turned into actual behavior.

Social Influence of Peers to Use SNS

When considering the widespread adoption of the term 'friends' on SNS platforms, the understanding of the influence of these 'friends' is imperative to understand their levels of social influence on consumer purchase intentions and the role they play in users' referent groups. Referent groups are "that group which acts as a standard against which individuals evaluate their behavior and attitudes" (Martin, 1978, p. 51). According to Pookulangara and Koesler (2011) subjective norm "is instigated by one's desire to act as important referent others (e.g. friends, family, or society in general) think one should act, or as these others actually act" (p. 350). Gilbert and Karahalios (2009) make clear that in order for a network to be social, relationships must be involved at the core and that "not all relationships are equal" (p. 211). When examining the strength of ties in social media it is crucial to understand how the different mediums of communication can be effective. A 'weak tie' can help facilitate idea creation and creativity, as well as aid in knowledge sharing. Whereas a strong tie amongst family members and close friends can be a strong indicator of real change (Gilbert & Karahalios, 2009). According to Brenner (2013), SNS are a natural facilitator of these close ties and "the average user of a SNS has more close ties and is half as likely to be socially isolated as the average American" (para. 4) with Facebook exhibiting the closest ties and support. Considering this regarding ESA, both are welcome in terms of knowledge sharing and attitudinal changes. Gilbert and Karahalios (2009) go on to discuss that oversaturation of information across weak ties can have a negative effect so knowledge sharing needs to be done strategically so not to lose the consumer's interest and affect his or her attitude in a negative way.

Liu, Zhang, and Li (2013) discuss the impact of acquiring knowledge to furthering influence purchase intentions through the use of shopping related sharing behaviors as related to SNS, stating that " people's social behavior of generating and spreading information will

affect others' inclination and decision" (p. 609). The authors divide SNS activity specifically regarding shopping into two major categories: "1) sharing product/ service information and experience after purchase and 2) sharing product/ service information before purchase to get suggestions from friends or invite them to be group- buy partners" (Liu, et al., 2013, p. 609).

Liu, et al. (2013) found that friends or peers within their same geographic location highly influence consumers, as do those with whom they share the same experiences or interests. According to the results of the study, more than half of the participants did not have a problem sharing with their friends on social media their purchase details however suggestions from other friends and closer referents did affect their influenced consumer intention (Liu, et al., 2013). White and Dahl (2006) found that consumers do indeed react based on their group norms and they will react differently when their purchase behaviors are public versus private.

Consumers in a specific group will act based on whether or not they think their referent group will accept their behavior and whether or not they are trying to avoid being associated with a specific group. Take, for example, the growth of acceptance in the organic food movement as detailed in Hustevedt and Dickson (2009), due to the fact of it being the right thing to do and the fact that their direct peers are buying organic, consumers have more positive attitudes towards and more actively participate in purchasing organic food.

If society as a whole believes purchasing ESA to be the right thing to do, individual groups and their referent groups have the potential to act upon those beliefs in order to comply with their group norms. According to Hogg and Reid (2006) there is "growing evidence that social identity processes influence how people perceive and evaluate media—third person perceptions and pluralistic ignorance (the thinking that the group is going along with an idea and so a user goes along with the majority even though they secretly disagree)" (p. 23). These authors go on to discuss that individuals "internalize group norms as

prototypes that govern their perception, attitudes, feelings, and behavior… thus, norms are not fixed properties of social groups; they are context dependent and fluid representations that best capture the group in context of other groups (Hogg & Reid, 2006, p. 23).

In the context of retail establishments as members of these group norms, retailers do not have as much influence on individuals as human counterparts, but there is the reality that consumers do behave with retailers on SNS in a way that is synonymous with a human relationship (Kim & Kwon, 2011). In order to connect with consumers and become a part of their referent group, ESA retailers can capitalize on this potential relationship. Kaplan and Haenlein (2009) indicate that "the higher the social presence the larger the social influence that the communication partners have on each other's behaviors" (p. 61). This can also be true for changing the influence referent groups have on the knowledge and attitudes of ESA. The more involved brands and ESA retailers are with SNS, the more of a chance there is to influence these groups and make a change in purchase intention. Specifically, Raacke and Bonds-Raacke (2008) bring forth the need to utilize SNS fully in the facilitation of relationship building between retailers and consumers and not just connecting. Kaplan and Haenlein (2009) also suggest that when specifically looking at SNS, the individual platform is considered more in depth and influential based in the allowable presence of social presentation and disclosure (p. 61).

An online global survey found that the most trusted form of advertisement derives from peers or opinions posted from strangers in online platforms (Pookulangara & Koesler, 2011, p. 350). Word of mouth tactics were a point of focus for Duan, Gu, and Whinston (2008) regarding movie theatre box office performance; the study found that word of mouth was a strong indicator of movie performance. The authors suggest that this be translated into the retail world in order to generate and sustain positive sales.

SNS provides a new frontier for word of mouth marketing. The safety veil that SNS provides creates a sense of security in word of mouth, furthering the ability of such a tactic to influence purchases. However, one must take into consideration the influencing factors of 'perceived risk' and 'perceived ease of use' when considering online purchases (Heijden, Verhagen, & Creemers, 2003, p. 41). These are important determinants to overall online usage leading to actual purchase intention. Constantinides, Romero, and Boria (2008) discuss how social media is being widely felt mainly within the apparel industry; consumers have more control over the knowledge of products leading to "power over the market process" (p. 1). Pookulangara and Koesler (2011) discuss that based on previous research it is safe to assume that social influence can indeed positively affect intention, and in our case we will assume that that social influence can positively influence the purchase intention of ESA.

Influence of the SNS System on Consumers

While this study is concerned with consumer ESA purchase intention, there must also be consideration of the attitudes toward using online platforms in regards to making a purchase in order to maintain consistency with the Theory of Reasoned Action (Azjen & Fishbein, 1980). If a consumer has more favorable attitudes towards SNS and can easily use a system, engagement on SNS is a more positive experience.. Hsu and Lin (2008) discuss that if someone who is blogging has a positive attitude towards blogging before they start or have an already established history with blogs, their perceived risks associated with current and future use are lessened. Heijden et al. (2003) also discuss the risks associated with purchasing online. Though the Internet is a widely accepted medium for shopping, there are still some risks associated with this channel including 'perceived risks' and 'perceived ease of use' within technology which can have an effect on consumer attitudes (Heijden, et al., 2003). These risks are reduced when a positive attitude is already in play. In their research, Pelling and White (2009) discuss the impact of social identity and addiction within use of SNS. The

authors state "attitude and subjective norm significantly predicted intentions to engage in high level social networking web site use with intention significantly predicting behavior" (Pelling & White, 2009, p. 755). The article continues to discuss the results that led to the reasoning based on a young person's identity and whether they feel like they belong, will in turn lead them to feel more pressure to use SNS. If they already have a favorable attitude of SNS they are more likely to engage in SNS more in order to control that identity and create a positive image for themselves, as well as remain involved with their peers (Pelling & White, 2009). Thus, when consumers have a more favorable attitude to use SNS, they are more likely to be engaged and more likely to influence their peers though SNS, as well as be more active in knowledge sharing and knowledge retention.

Through understanding of the environment of online shopping, retailers can understand how to utilize SNS to further the scope of consumer interaction through to purchase intention. With the advancement of SNS, consumers are experiencing more of a 3-D style of advertising and shopping experience. Li, Daugherty, and Biocca (2002) discuss that "3-D advertising is capable of enhancing presence and to varying degrees ultimately influencing the product knowledge, brand attitude, and purchase intention of consumers" (p. 43). Though this research is somewhat dated considering the rate of technological advances, the authors understood early on that creating an environment for shoppers to feel engaged while in a completely different location provided much possibility for this sector to be successful in engagement, retention, and intention of consumers (Li et al., 2002). For example, when consumers are shopping online or on their portable technology device, they can see products, rotate, them, view colors, and enhance their experience from virtual to near reality creating a platform of unlimited geographic and global scope (Li et al., 2002).

According to Pookulangara and Koesler (2011), "Consumers have the means to communicate their opinions about products and companies to other consumers 'like

themselves' at a critical point in the sales cycle—the beginning" (p. 348). The authors go on to discuss how SNS reaches multiple angles of consumer opinions and attitudes on products through multiple channels such as shopping, education, brand building and social influence (Pookulangara & Koesler, 2011). "Social media is redefining how the business relates to its customers" (Claburn, 2011, p. 27). Burke, Marlow, and Lento (2010) discuss how SNS are bridging the gap between consumers' trust and participation amongst peers, increasing users' self-esteem, and changing attitudes trough "bridging social capital" and "bonding social capital" (p. 1). In order to measure this influence deVries, Gensler, and Leeflang (2012) discuss that sharing of positive comments and likes on SNS leads to furthering the amount of interaction on the site. According to Yoh, DamHorst, Sapp, and Laczniak (2003) online shopping is positively influenced with users levels of experience with the Internet and their level of previous experience purchasing apparel through this channel. Engel, Bell, Meier, Martin, and Rumpel (2011) add on to this phenomena by discussing that within the "new marketing ecosystem" that involves SNS and online shoppers, young shoppers are expecting retailers to stay in contact and connected with them "electronically at all times" (p. 24). Park and Stoel (2005) debate the advantages of online shopping and the catalyst to get consumers active in online shopping is to connect with them and inform them of their brand so that they are familiar with the brand. Through use of SNS, this familiarity can be created in order to influence the purchase intention. Amato-McCoy (2011) touches upon the different channels consumers are using for online technology and that those mediums are changing with the increasing popularity and availability of technology. She goes on to state that "more importantly, shoppers want their favorite retailers to connect with them through these new channels to deliver a more personal experience" (Amato-McCoy, 2011, p. 10).

Kucuk and Krishnamurthy (2006) state, "The Industrial Revolution was to manufacturers what the digital revolution is to consumers" (p. 47). According to Kucuk and

Krishnamurthy (2006), the impact of the technological revolution is leading to consumers expecting the power of the retail marketing strategy to be transferred away from the retailer and put onto them. They are driving the market and want the sellers to be knocking on their door instead of vice versa. This power is determining the future of the consumer decision-making process (Kucuk & Krishnamurthy, 2006). In regards to shopping online consumers must have a positive attitude regarding e-shopping which will lead to a more concrete intention to shop online (Ha & Stoel, 2008).

Further, the more imagery incorporated into posts on social media can affect and even enhance the number of likes associated with the post. It is not to say however, that only positive leads to positive, it was found that both positive and negative comments on a site still leads to more interaction of consumers within the medium (deVries et al., 2012, p. 83). Cornwell and Coote (2003) looked at the relationship of purchase intention with nonprofit organizations, finding that if consumers felt a personal relationship and identified with the company they were more likely to take note of advertising and make a purchase (p. 268). This is an imperative finding to understand that it is possible to promote SNS as a vehicle for consumers to feel as if they are in a relationship with a retailer and it will more likely lead to a purchase rather than through traditional advertising mechanisms.

Sustainable Apparel Purchasing Intentions

Environmentally sustainable clothing consumption includes "acquiring clothing designed with environmentally preferable attributes, including garments made from environmentally preferable fibers or clothing manufactured using environmentally preferable processes" (Hiller Connell & Kozar, 2014, p. 43). One of the problems with the lack of sustainable consumption begins with the consumer. As mentioned earlier, according to Connelly and Prothero (2003), consumers believe it is the suppliers', and not the purchasers', responsibility to protect the environment. They do not realize that they play a role in the

environmental issues associated with the manufacturing of goods. Huang and Rust (2010) make a call to action that societal consumption patterns must incorporate sustainable intentions. Seth, Sethia, and Srinivas (2010) say that this is known as mindful consumption and that it starts with a mindful consumer that not only worries about him or herself when making a purchase but also society as a whole.

According to Hiller Connell (in press) 85% of the apparel consumed is not recycled. According to Goworek, Fisher, Cooper, Woodward, and Hiller (2012), instead of donating or reusing, consumers commonly throw away lower quality clothing. In order to decrease consumption we must use commodity discourse and communicate to consumers the green products available and ultimately have them buy into the "green" image and the idea of being a positive consumer. In order to understand why consumers are not purchasing sustainable apparel we must identify the barriers to consumption.

According to a study by Ellis, McCracken, and Skuza (2012), consumers are willing to pay more for an organic cotton shirt and Hustevedt and Bernard (2008) found that consumers are willing to pay higher prices for organic socks. However, Butler and Francis (1997) found that only 10% of the time do consumers consider the environment when making an apparel purchase and Kozar and Hiller Connell (2010) found that only 12% of participants considered the environment and environmental practices before purchasing apparel from a specific retailer. Additionally, Hiller Connell and Kozar (2012) found that 70% of participants did not consider whether the clothing they were purchasing was harmful to the environment and only 50% had previously purchased ESA. Additionally, Kozar and Hiller Connell (2010) found that only 41% of participants were willing to pay more for ESA and only approximately 33%cared whether or not the apparel retailer engaged in environmentally sustainable practices.

According to Pookulangara and Koesler (2011), social media is a social experience even amongst strangers in the online portal and "social networks have not only transformed the research and purchase consideration phase, but it also provides shoppers a platform to advocate for the products and stores they love" (p. 348). Kaplan and Haenlin (2010) reiterate the need for research regarding new technologies in regards to influencing purchase behavior. This research is answering the call to fill that gap. Looking at how social media can influence purchase intention of ESA is an important understaking.

Aside from the discussion in this paper, to this date, there is limited research regarding consumers' purchase intentions of ESA. Hustvedt and Dickson (2009) looked at the likelihood of purchasing organic cotton apparel and the results indicated that attitude was a determining factor in regards to purchase intention (p. 49). This in turn related back to their identity as environmentally friendly and socially responsible consumers and those consumers who were more likely to purchase organic cotton clothing did so based on the belief that that it was healthy for themselves and their family (Hustvedt & Dickson, 2009). Moreover, Ko, Sung, and Yun (2009) found that complexity was a negative factor in attitudes towards smart clothing, but that "supporting the position of the innovation-decision process that information obtained at the knowledge stage would offset the difficulties of understanding its usage" (p. 270).

In their study Hustvedt and Dickson (2009) determined that organic food consumers do not differ greatly from the general population in terms of demographics so in that regard we can assume the same would be for a possible ESA movement in terms of knowledge leading to attitudes and ultimately a change in purchase intentions.

Claudio (2007) discusses a 2006 study done by America's Research Group which discovered "12–15% of Americans shop at consignment or resale stores. The Council for Textile Recycling estimates that 2.5 billion pounds of postconsumer textile waste (which

includes anything made of fabric) is thus collected and prevented from entering directly into the waste stream. This represents 10 pounds for every person in the United States, but it is still only about 15% of the clothing that is discarded" (para. 15). Hiller Connell (2011) states that her study "affirms that not only are consumers making deliberate efforts to engage in eco-conscious apparel acquisition behaviors, but also that consumers perceive a range of apparel acquisition behaviors to be eco conscious" (p. 70). However, this was a small sample and there needs to be reinforcement in the findings.

Research Model Framework

Due to the study's theoretical focus on the relationships between attitudes, subjective norms, and behavioral intentions, the Theory of Reasoned Action (Azjen & Fishbein, 1980) grounds the study. This research poses that it is possible to achieve more favorable attitudes towards ESA through increased knowledge about environmental issues in the apparel industry. Further, the study asserts that subjective norms regarding ESA can be communicated through the influence of SNS systems on purchase behavior and peers on SNS. More specifically, subjective norm within this study looks at social media users' perceived social influence of the social networking sites of Facebook, Twitter, Instagram, and Pinterest.

This study modifies Azjen and Fishbein's (1980) TRA to incorporate two additional variables: consumer characteristics and social influence of SNS on subjective norm. The first added variable, consumer characteristics, includes demographics and social media use and perception (SMUP). The second variable is social influence of SNS on consumer's subjective norm regarding ESA purchase intentions. To justify the addition of these variables to the research model, this section of the chapter reviews relevant literature of previous studies that have examined these variables and then presents the model guiding the study.

Consumer Characteristics Influencing ESA Consumption

This study considers two types of consumer characteristics. The first type includes consumer demographics including age, gender, income, education, and geographic region. The second type includes consumer social media use and perception (SMUP) of each individual system included in the study; Facebook, Twitter, Instagram and Pinterest.

Demographics. Exploration of the proposed model utilizes demographics to examine the relationship between variables such as age, gender, income, education, and US geographic region. Akhter (2003) found that these variables significantly influence some consumer behavioral intentions. The author specifically looked at the likelihood of consumers to purchase items over the Internet and concluded that demographics "can be used to profile, segment, and target markets and develop public policies to bridge the digital divide" (Akhter, 2003, p. 321). In regards to race, Seock (2009) discovered that Hispanics shopping preferences amongst type of retail establishment for example online, brick and mortar, and catalogues greatly differed between age and number of years they had been in the country.

Though there is limited research in how demographics affects ESA consumption specifically, Hustvedt and Bernard (2008) looked at consumers' willingness to pay for sustainable products and found that women are less likely to pay for made in the US fibers than men and Hispanics were less willing to pay for organic fibers than other ethnic groups. Gam, Cao, Farr and Kang (2010) discovered that mothers were much more ecofriendly and were willing to purchase organic cotton based on their involvement with recycling, environmental concerns, and environmental purchasing behaviors in other area aside from apparel. Butler and Francis (1997) determined in their study that demographics were a major contributor to consumer's environmental clothing attitudes and their purchasing intentions. Vasileva and Ivanova (2014) looked at consumer characteristics amongst Bulgarian consumers and found differences among age, education, social group, and income related to

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willingness to recycle and attitudes towards recycling. Gilg, Bard and Ford (2005) reinforced the idea of the stereotypical green consumer being female, older, highly educated, with a substantial income, and liberal ideals. Therefore due to previous studies explicitly identifying differences in consumer characteristics, it is necessary that this study incorporate demographics as an influential variable.

According to Ogle et al. (2004) marketing research as indicated that demographic variables including age, gender, education and income influence consumers' willingness to participate in outdoor recreational activities leading them to purchase more environmentally friendly clothing. Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen (2003) found in their study that demographics were strong influencers in consumer's environmental knowledge, attitudes, and behaviors which affected their consumption behaviors. Laroche, Bergeron and Barbaro-Forleo (2001) found that the ideal environmental consumer based on demographics was educated, married, females between the ages of 30-40 years old, parents to one child and an annual income of $30,000 and are ultimately more willing to pay for environmentally responsible goods. Therefore this study deems it necessary to look at how demographic variables can influence consumers' knowledge and attitudes towards purchasing environmentally sustainable apparel.

Demographics and social media use and perception. Demographics also play an important role in how users use and perceive social media. Gefen and Straub (1997) found that males and females differ not in their use of email but they do in their perception of it; they suggest that gender be included in future information-technology studies because the genders perceive the same types of communication differently.

According to Castells (1997) the way the individual identifies with social in terms of social norms and values are reflective in collective social identity movements. For example environmental movements and women's right can be social movements that the individual

identifies with. Fisher and Wakefield (1998) discuss that these identities can lead to the purchase and use of products and services through identifying with a particular group image. Giddens (1991) discusses that consumption is not necessarily a decision to act but a decision of who to be and how to identify with oneself.

A study looking at Facebook users and their difference over time found that age played a role in the online behaviors and uses of the site (Lampe, Ellison, & Steinfield, 2008). Fulk (1993) found that when it comes to technology and social influences in work groups, technology driven attitudes and ultimate behavior were much stronger when those individuals trusted and liked their work groups. Additional findings determined that compared to faculty, students were more likely to engage in SNS usage proving that age can be a determining factor as well as education (Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Bucy (2000) found that income, age, education and family structure were all important determinants of access to and use of the Internet. Bucy also found that internet usage was lowest amongst single mothers, members of lower income groups, and older respondents. These studies all prove that not only do demographics matter to the study but also how those demographics relate to social media perception and use towards social influence and knowledge.

Knowledge

Much research has concluded that one of the biggest determining factors of consumers wanting to purchase ESA is their knowledge of the product. If a consumer is aware of the apparel and textile industry's negative effects on the environment he or she is more likely to seek out ESA. According to Schiffman and Kanuck (2010) knowledge is a factor that can have great influence consumer behavior. In Kang, Liu, and Kim's 2013 article, the authors found that consumers' knowledge of environmentally sustainable apparel directly affected their intention to buy the product. Additionally, Hiller Connell (2011) discusses that

when contributing a knowledge base of ESA to consumers it directly affects their purchase intentions and ultimate behaviors, and that an eco-conscious global consumer base can exist if they are educated. The author makes a call to action for "improved consumer education related to eco-conscious apparel acquisition behaviors" (Hiller Connell, 2011, p. 71). Thorgerson (2000) found that consumers' knowledge could act as a constraint on behavior and that consumers may be unaware negative environmental impacts are associated with their behaviors. Additionally, even when consumers do know about the connection between their behaviors and negative environmental impacts, they lack the knowledge of how to change the specific behavior (Thorgerson, 2000). Similarly, Brosdahl and Carpenter (2010) discussed the positive correlation between environmental knowledge and its influence on consumers purchase behavior. This is especially true when it comes to sustainable apparel in their 2010 study looking at concern for the environment and consumption behaviors, in which consumers with higher levels of environmental knowledge were more willing to purchase sustainable apparel (Brosdahl & Carpenter, 2010).

Studies that have used the most popular knowledge measurement scale the Environmental Apparel Knowledge Scale consistently reports low levels of knowledge regarding ESA (Kim & Damhorst, 1998; Kozar & Hiller Connell, 2010; Kozar & Hiller Connell, 2013). Even though individuals are informed about the environment they are still not aware of the environmental issues within the AT industry (Hiller Connell, 2010). According to Hiller Connell and Kozar (2014) "when consumers are unaware of the environmental effects associated with different fibers and are misinformed about fibers which are "good' or "bad" for the environment, they lack the information they need to compare the environmental footprints between different garments which impacts on their abilities to select those which are more environmentally preferable (p.7).

Attitude

Thorgerson (2000) found that knowledge and attitudes strongly correlate and that a low level of knowledge of environmental knowledge may lead to preventing attitude formation of environmental attitudes that would lead to a change in their intentions. The more positive the attitude is to environmental concern the more likely a consumer will engage in environmentally friendly consumer behavior (Thorgerson, 2000). Attitudes are defined as "the positive or negative evaluations of the quality (ies) of a specific object or behavior (Dietz, Fitzgerald, & Shwom, 2005, p. 335). Attitude is considered a mitigating factor leading to intention and behavior, particularly with concern for the environment. Balderjahn (1988) found that the more a consumer thinks that the individual plays a part in affecting environmental problems the more likely they are going to engage in pro environmental consumer behavior. The general idea of environmental concern is "the degree to which to which an individual is troubled about environmental vulnerability, the ecological repercussions of this vulnerability, and the inadequate nature of actions taken to ensure environmental protection" (Dunlap & Jones, 2002, p.482). Stephens (1985) found in his study that consumers with a more positive attitude about the environment and more concern for the environment were more willing to purchase clothes with more environmental susceptibility.

Social Influence of SNS Use by Peers and SNS System and Subjective Norm

Watchravesringkan, Hodges, and Kim (2010) looked at consumers' adoption of highly-technological products and found that, "Motivational dimensions contribute to consumers utilitarian and hedonic attitudes towards using an innovation which in turn affects their purchase intentions" (p. 263). If marketers of ESA can focus on meeting consumers' needs with their products, they are more likely to affect the purchase intention at the end of the decision-making process. Watchravesringkan et al. (2010) also discuss how differentiating a product from its competitors can help in the marketing process. ESA is quite

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different from the mainstream fast fashion. Therefore, the positive differences should be communicated to the consumer and shown how ESA can directly affect their individual lives (Watchravesringkan et al., 2010, p. 264). Hiller Connell and Kozar (2012) conclude in their study with undergraduate students that though education is an important factor in the purchase of ESA, social influence is also a great determinant on whether or not young consumers will change their intentions and behaviors regarding sustainable apparel.

Garetti and Taisch (2011) pose a sustainable manufacturing framework model which includes technology and education focused on society, economy and environment. Previous studies from Goldstein, Cialdini and Griskevicius (2008) and Nolan, Schulz, Cialdini, Goldstein and Griskevicius (2008) found that social pressure could encourage engagement in sustainable behaviors. Social or subjective norms have been found to be influential when conditions are uncertain and consumers feel more attentive to their peers and what they are saying when they are not sure and when their direct peer groups are engaged in a certain behavior (Cialdini & Goldstein, 2004; Goldstein & Cialdini, 2007; Nolan et al., 2008; Schultz, 1999). Social norms or subjective norms are most significant towards intentions and behaviors when the subjective norms and are most effective for the consumer to remember when used at the moment the behavior is occurring (Kallgren, Reno, & Cialdini, 2000). This means that if ESA retailers are using their SNS to connect with their consumers and become a part of their direct peer groups there can possibly be a great influence on consumer's online shopping behavior while they are on that same medium such as their phones, tablets or computers.

With the TRA staple components laid out, and the earlier stated importance of social networking site involvement with marketing strategies regarding on consumers subjective norm and important others, this research study poses that social networking sites will be an effective channel to affect consumer's knowledge of ESA and ultimately purchase intentions.

By including demographics this study can more effectively narrow down which SNS tools are effective as well as how knowledge of ES issues and attitudes towards ESA are being formed through social influence by examining different age cohorts, income levels, genders, education levels and household sizes. Additionally, comfort with use and attitude towards SNS is considered in order to understand how these demographics affect the comfort level with developed and developing technology systems and whether or not consumers are open to using and their perception of social media. Understanding of consumer's social media use and perception will be analyzed as a varying factor regarding the individual's relationship with SNS (See Figure 3.2).
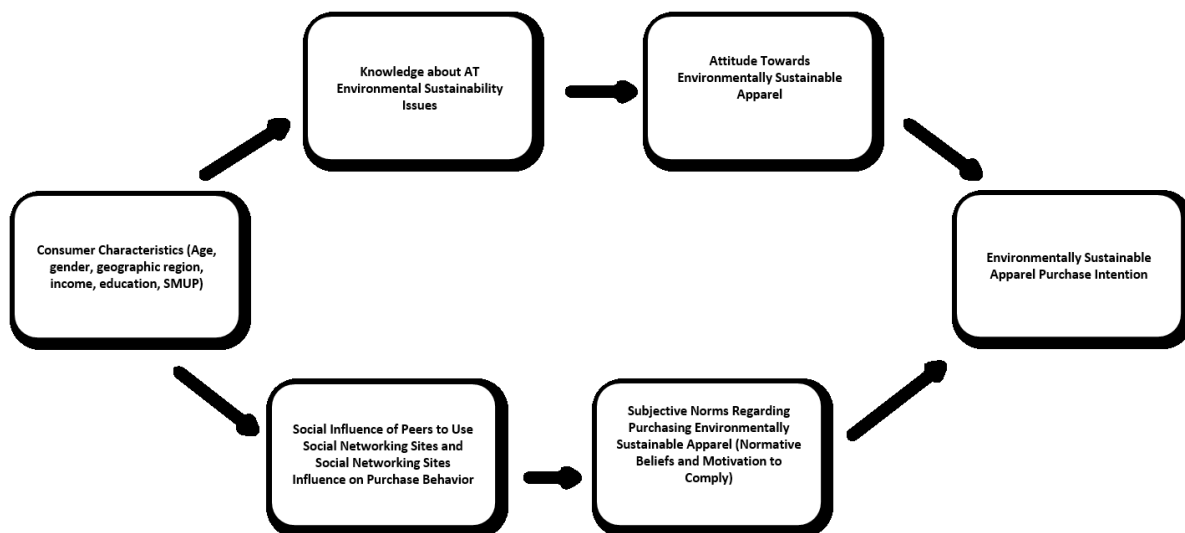
Figure 3.2. Intention to purchase ESA model.

Research Questions and Hypotheses

Based on reasoning from the literature discussed and the research model provided (see Figure 3.2), the following research questions and hypotheses guided the study.

The Influence of Consumer Characteristics on Knowledge about AT Environmental Sustainability Issues

Research Question 1a: Is there a relationship between demographics and knowledge about AT related environmental sustainability issues?

Hypothesis 1a: There will be a significant and positive relationship between age and knowledge about AT related environmental sustainability issues.

Hypothesis 1b: There will not be a relationship between gender and knowledge about AT related environmental sustainability issues.

Hypothesis 1c: There will be a significant and positive relationship between education and knowledge about AT related environmental sustainability issues.

Hypothesis 1d: There will be a significant and positive relationship between income and knowledge about AT related environmental sustainability issues.

Hypothesis 1e: There will be a significant difference between geographic location and knowledge about AT related environmental sustainability issues.

Research Question 1b: Is there a relationship between social media use and perception and knowledge about AT related environmental sustainability issues?

The Influence of Consumer Characteristics on Social Influence of Peers to Use SNS

Research Question 2a: Is there a relationship between demographics and social influence of peers to use SNS?

Hypothesis 2a: There will be a significant and negative relationship between age and social influence of peers to use SNS..

Hypothesis 2b: There will be no significant relationship between gender and social influence of peers to use SNS.

Hypothesis 2c: There will be a significant and negative relationship between education and social influence of peers to use SNS.

Hypothesis 2d: There will no significant relationship between income and social influence of peers to use SNS.

Hypothesis 2e: There will be a significant difference between geographic location and social influence of peers to use SNS.

Research Question 2b: Is there a relationship between social media use and perception and social influence of peers to use SNS?

Research Question 2c: Is there a relationship between demographics and influence of SNS system on purchase behavior?

Research Question 2d: Is there a relationship between social media use and perception and influence of SNS system on purchase behavior?

ESA Knowledge regarding ESA Attitudes

Research Question 3: Is there a relationship between knowledge about AT related environmental sustainability issues and attitudes towards ESA?

Hypothesis 3: There will be a significant and positive relationship between knowledge about AT environmental sustainability issues and attitudes towards ESA.

Social Influence of SNS Influence on Subjective Norms of ESA

Research Question 4: Is there a relationship between social influence of peers to use SNS and subjective norms regarding purchasing environmentally sustainable apparel?

Hypothesis 4a: The social influence of peers to use SNS has a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel.

Hypothesis 4b: The social influence of SNS on purchase behaviors has a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel purchases.

ESA Attitudes Influence on ESA Purchase Intention

Research Question 5: Is there a relationship between attitude towards ESA and ESA purchase intentions?

Hypothesis 5a: There will be positive and significant relationship between attitudes towards ESA and to ESA purchase intentions.

Subjective Norms regarding ESA's Influence on ESA Purchase Intention

Research Question 6: Is there a relationship between subjective norm towards ESA and ESA purchase intentions?

Hypothesis 6: There will be a significant and positive relationship between ESA subjective norm and intention to purchase ESA.

Research Question 7: Do social influence of social networking sites and subjective norms regarding purchasing environmentally sustainable apparel predict environmentally sustainable apparel purchase intention in addition to knowledge about environmental sustainability issues and attitude towards environmentally sustainable apparel?
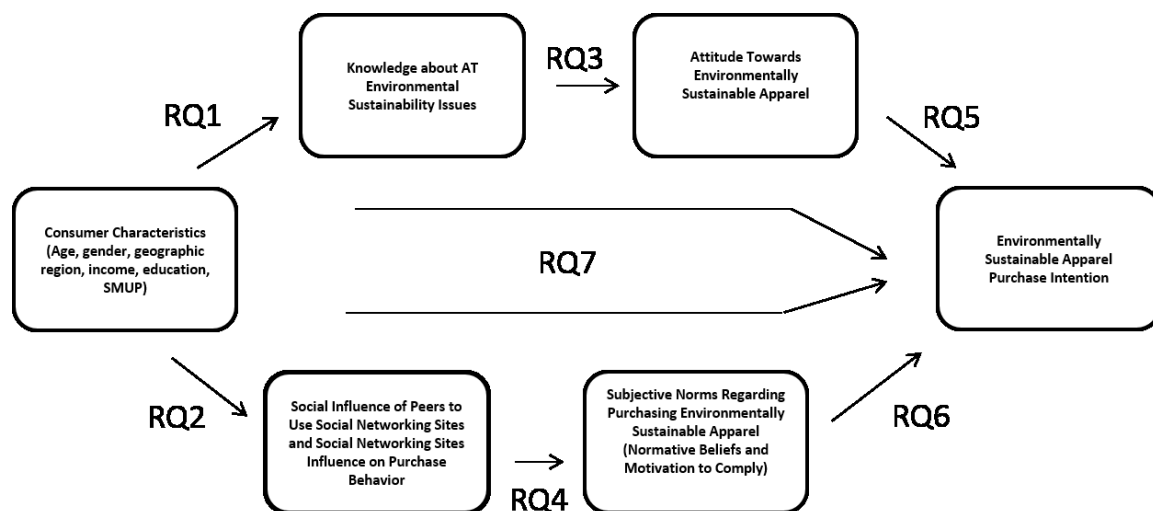
Figure 3.3. Intention to purchase ESA model with research questions indicated.

Chapter Four: Research Method

This study utilizes a quantitative research approach of an online survey to understand the impacts of knowledge, attitudes, social influence of SNS, and subjective norms on intention to purchase ESA. This research method chapter outlines the study's population of interest, sampling strategy, statement on the use of human subjects, data collection procedures (including the development of the survey and the pilot study), and the data analysis process.

Population of Interest

The population of interest in this study is adult, US consumers who have access to the Internet. The population also includes active social media users. To make the study as generalizable as possible, the sampling strategy attempted to represent the demographic characteristics of the US adult population. According to the 2013 US Census Bureau Statistics, the US population was 308,745,538 people (US Census Bureau, 2013). In terms of age, 6.3% was the total of persons under 5 years of age, 23.3% under 18 years, 56.3% age 19-64, and 14.1% over 65 years. Females made up 50.8% of the population and males 49.2%. Regarding race, 62.6% were White, 17.1% Hispanic, 13.2% African American, 5.3% Asian, 1.2% American Indian or Alaska Native, .2% Hawaiian or Pacific Islander, and the rest were "other" or two or more races, 2.4%. Education levels were reported with 49% having a high school diploma or GED, 4.1% with and associates degree, 18.9% with a bachelor's degree, 10.4% with a graduate degree, and 12.3% with less than a high school diploma. The median household income between 2008 and 2012 was $53,046 with 14.9% of the population below poverty level (US Census Bureau, 2013).

Sampling Strategy

A random sample of participants was acquired using Research Now, a sub group of e-Rewards®, Inc. (ERI), a global, online survey company where people sign up (for free) to be a member. ERI emails surveys to its members and rewards the completion of surveys through points which members can cash in for different things such as gift cards. Several studies regarding SNS have utilized this service in their data collection strategy. For example, Uhrig, Bann, Evans and Williams (2010) used ERI for their study entitled *Social Networking Websites as a Platform for Disseminating Social Marketing Interventions: An Exploratory Pilot Study*. Additionally, Horvath et al. (2009) utilized ERI in their study *Using the Internet to Provide Care for Persons Living with HIV*. The benefit of utilizing ERI for data collection is that the company recruits and distributes incentives through their already implemented and successful system, simplifying the data collection process:

> e-Rewards®, Inc. (ERI) is the global leader in permission-based digital data collection and reporting. From its inception in 1999, e-Rewards, Inc. has become recognized in the market research industry for setting high quality standards through the combination of innovative technology and proven research practices – all toward helping clients discover insights that lead to greater understanding. With over 1,200 employees worldwide and 6 million panelists around the globe, that 'world of understanding' is becoming more and more attainable (ERI, 2014, para. 1).

Prior to survey distribution, discussions were conducted with ERI to ensure that the sample was mirrored to the current US population and ERI incorporated this need into their survey distribution strategy.

Statement on the Use of Human Subjects

Prior to beginning the research study, the Kansas State University IRB board reviewed and approved the study (IRB #7335). "The Institutional Review Board (IRB) is committed to providing a comprehensive and compliant Research with Human Subjects program for researchers, students, and potential human subjects. At Kansas State University the Committee on Research Involving Human Subjects serves as the IRB and is mandated by federal laws and regulations for oversight of all activities involving research with human subjects" (Kansas State University IRB, 2014, para. 1).

Data Collection

In order to answer the study's research questions, this study utilized a survey research methodology. As already stated, ERI distributed an online survey and this survey included scales to represent all of the variables important to the study. The benefits of using quantitative methods are that the researcher can evaluate consumer's subjective norms, attitudes, and knowledge of environmentally sustainable apparel in a more concrete and objective way (Campbell & Stanley, 1963). This led to a quantitative understanding of the significance of the relationships between the variables.

Survey Instrument

The survey instrument (see the appendix) consisted of six quantitative scales, including 124 forced response questions and one qualifying question that stated, "Do you consider yourself to be an active user of social media?" Respondents who answered 'yes' to this question were directed to the survey and those who answered 'no' were redirected to an end of survey message. Except where noted in the discussion that follows, all scales were placed on a Likert-scale system ranging from (1) strongly disagree to (7) strongly agree.

Consumer Characteristics

As outlined in the previous chapter, in this study the variable of consumer characteristics included both demographics (including age, gender, income, education, and geographic region), as well as social media use and perception. Therefore, the survey instrument included items to measure both of these aspects of consumer characteristics.

Demographics. A specified sample of the US population was closely mirrored to the 2013 US Census data through ERI's already implemented system in the collection results. ERI had a strategy in place to mirror the current population demographics in a balanced way. In order to best account for the entire US population, the survey instrument included standard demographic questions to disaggregate the solicitation by age, gender, income, education, and geographic location. The US Census Bureau informed the wording of the demographic questions, as well as the response categories. See Table 4.1 for an overview of all of the demographic items measured in the instrument. For the response categories accompanying each question, see Appendix A.

Table 4.1

Demographic Questions

Variable	Scale Item
Demographics	
Income	What is your yearly household income level?
Education	What level of education have you obtained?
Age	What is your age?
Geographic Location	What state do you live in?
Race/Ethnicity	To which racial or ethnic group(s) do you most identify?
Gender	What is your sex?

Social media use and perception. The Social Media Use and Perception Instrument (SMUPI) by Wang, Sadhu, Wittich, Mandreaker, and Beckman (2012) measures consumers' use and perception of social media and is incorporated in this study. This scale has only been used in the original study which examined consumers' learning of continuing medical education. The SMUPI was designed to determine continuing medical education (CME) participants' general knowledge and use of social media and to evaluate their attitudes regarding the value of social media for enhancing continuing medical education and marketing (Wang et al., 2012). During original scale development, the initial factor analysis produced 19 items, nine of which were selected and further refined. Further iterations included a tenth item, "Social media will be increasingly utilized for continuing medical education in the future" (Wang et al., 2012, p. 1164). The final scale consisted of 10 items on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Factor analysis was performed on scores from the 10 Likert-scaled survey items. Factors were extracted using the minimal proportion criteria. Items with factor loadings of 0.60 or more were retained. Correlations were interpreted with coefficients less than 0.4, poor; 0.4 to 0.75, fair to good; and greater than 0.75, excellent. Reliability was calculated using Cronbach's alpha, in which Cronbach's alpha >0.7 was considered acceptable (Wang et al., 2012). Cronbach's alpha of the SMUPI scale was found to be .94 (Wang et al., 2012).

The original items in Wang et al. (2012) utilized a five-point Likert scale. This study changed to a seven-point scale in order to keep consistency through the entire survey and promote validity and reliability. The items were altered to incorporate each individual system as related to retail and apparel shopping. For example the original item read "I would use SM to gain CME knowledge." and the altered item read, "I use (FB, PIN, INST, and TWIT) to gain knowledge," or, "I would use social media to enhance my medical education" was altered to read "I use (FB, PIN, INST, TWIT) to enhance my education."

See Table 4.2 for the all the original and altered scale items. Additional social media use questions were included by the author, found at the end of Table 4.2. For the response categories accompanying each question see Appendix A.

Table 4.2

Social Media Use and Perception Scale (Original and Altered)

Original scale items (Wang, Sadhu, Wittich, Mandreaker, & Beckman, 2012)	Altered scale items
1. I would use SM to gain CME knowledge. 2. I would use SM to enhance my medical education. 3. SM would be useful for learning about CME courses. 4. I would be interested in SM for information about CME opportunities. 5. I would like to have CME courses advertised to me by SM. 6. CME courses should use SM to enhance learning. 7. SM is a professional way to assess CME content. 8. SM is an ethical way to engage CME participants. 9. SM is an appropriate resource for CME. 10. SM will be increasingly utilized for CME in the future.	1. I use (FB, PIN, INST, and TWIT) to gain knowledge. 2. I use (FB, PIN, INST, TWIT) to enhance my education. 3. (FB, PIN, INST, TWIT) is useful for learning about news. 4. (FB, PIN, INST, TWIT) is useful for learning about friends. 5. (FB, PIN, INST, TWIT) is useful for learning about shopping. 6. I would be interested in (FB, PIN, INST, TWIT) for information about apparel. 7. I would like apparel advertised to me by (FB, PIN, INST, TWIT). 8. Retailers should use (FB, PIN, INST, TWIT) to enhance shopping. 9. (FB, PIN, INST, TWIT) is a professional way to assess retailers. 10. (FB, PIN, INST, TWIT) is an ethical way for retailers to engage participants. 11. (FB, PIN, INST, TWIT) is an appropriate resource for apparel shopping.

Additional social media use items created for this study

1. What form(s) of technology do you employ to access social media?
2. Out of the following, what types of social media are you an active user?
3. How many hours do you employ social media per week?

Notes: CME = Continuing Medical Education; SM = Social Media; FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Knowledge about AT Environmental Sustainability Issues

The study measured respondents' knowledge about AT related environmental

sustainability issues by using the Environmentally Sustainable Apparel Knowledge (ESAK)

scale by LeHew and Hiller Connell (under development). See Table 4.3 for all the scale

items. For the response categories accompanying each question see Appendix A. Examples of

items in the scale include, "Globally, more agrochemical insecticides are applied to cotton

than any other major crop," and, "Growing enough cotton to make a pair of jeans (weighs 1.5

pounds) requires approximately 55% more water than what is needed to grow enough wheat

for a loaf of bread (weighs 2 pounds)."

The ESAK scale remains under development by LeHew and Hiller Connell.

Attitudes toward ESA

Determination of consumers' ESA attitudes was through Perrachio and Meyers-

Levy's (1994; 1995; 1997) and Luna and Peracchio's (2001) Attitude toward the Brand scale.

To discover participants' attitudes toward a specific product or brand, the original scale used

a two-point semantic differential scale. This study placed the items on a 7-point Likert scale

in order to maintain consistency with the rest of the survey instrument. Originally, the

Attitude towards the Brand scale evaluated attitudes regarding a product by a particular

brand, but this study altered the scale to use the wording "sustainable apparel," as seen in

Table 4.4, to focus on consumers' attitudes towards sustainable apparel. For example,

original items read, "The products the brand sells are of poor value/excellent value," which

was altered to, "Sustainable apparel is poor value," or, "The products the brand sells are

mediocre product/exceptional product," which was altered to read, "Sustainable

Table 4.3

Environmentally Sustainable Apparel Knowledge Scale

Scale items (Hiller Connell & LeHew, under development)

1. Globally, more agrochemical insecticides are applied to cotton than any other major crop. (True)
2. Growing enough cotton to make a pair of jeans (weighs 1.5 pounds) requires approximately 55% more water than what is needed to grow enough wheat for a loaf of bread weighs 2 pounds. (True)
3. The raw materials used to manufacture polyester and other synthetic fibers are derived from nonrenewable resources. (True)
4. The raw material needed to make virgin polyester and other synthetic fibers is abundantly available. (False)
5. Transforming the raw materials into polyester fibers is more energy intensive as cultivating cotton fiber. (True)
6. Though it takes little to no water to produce synthetic fibers, it consumes large amounts of energy. (True)
7. Chemicals used in textile processing can remain in aquatic systems for fifty or more years. (True)
8. As much as 20% of ALL industrial water pollution comes from dyeing and finishing of textiles. (True)
9. Transforming cotton fiber into denim fabric is more energy intensive than manufacturing jeans. (True)
10. Many of the chemicals found in textile dyes are known and/or suspected carcinogens. (True)
11. Chemical pollutants are produced during the manufacturing of textiles. (True)
12. The manufacturing of clothing uses large amounts of energy. (True)
13. Minimal fabric is wasted in the manufacturing of clothing. (False)
14. A garment's fiber type affects the amount greenhouse gases emitted into the atmosphere during home laundering (washing and drying). (True)
15. Home laundering (washing and drying) of a 100% cotton t-shirt will have less of an environmental impact than the initial production of the cotton fiber and the manufacturing of the shirt. (False)
16. In an industrial landfill, a 100% cotton garment will biodegrade within one to two months. (False)
17. A majority of garments thrown away by consumers are diverted from landfills and recovered for reuse or recycling. (False)
18. The production of textile and apparel products uses minimal amounts of water. (False)
19. Though natural fibers such as cotton and wools are processed, dyed, and cleaned with large amounts of chemicals, they are still safe to the environment and people. (False)
20. The use of larger quantities of natural fibers will significantly decrease energy consumption within the textile industry. (False)

21. Which of the following consumes the most energy during fiber production? (Polyester)
22. Which of the following consumes the most water during fiber production? (Cotton)
23. Which consumes the least energy when drying in a home dryer: a load of 100% cotton items or a load 100% polyester? (The load of 100% polyester)
24. If placed in a home compost system, which would biodegrade faster? (A 100% cotton t-shirt)

apparel is a mediocre product." In Luna and Perrachio (2001), subjects were instructed to examine different advertisements. Then, they were given 20 seconds to read each of the ads. Subjects then would answer questions on how they felt about the product. After exposure to each of the ads, subjects evaluated the featured product. Evaluations were obtained on five-point, four-item scales labeled poor value/excellent value, poor quality/high quality, boring/exciting, and common/unique (Luna & Perrachio, 2001, p. 289). Cronbach's alpha was found to be .85 (Luna & Perachio, 2001). For the response categories accompanying each question, see Appendix A.

Table 4.4

Attitude toward ESA Scale (Original and Altered)

Original scale items measuring the attitudes towards a specific brand or product (Luna & Peracchio, 2001; Perrachio & Meyers-Levy, 1994, 1995, 1997)	Altered scale items
1. I would not purchase this product or brand./I would purchase this product or brand. 2. This is a mediocre product or brand/exceptional product or brand. 3. This product or brand is not at all high quality/extremely high quality. 4. This product or brand is poor value/excellent value. 5. This product or brand is poorly made/well made. 6. This product or brand is boring/exciting. 7. This is not a worthwhile product or brand/a worthwhile product or brand. 8. This is an unappealing product or brand/appealing product or brand. 9. This product or brand is common/ unique.	1. I would purchase a sustainable apparel product. 2. Sustainable apparel is a mediocre product. * 3. Sustainable apparel is a high quality product. 4. Sustainable apparel is poor value. 5. Sustainable apparel is a well-made made product. * 6. Sustainable apparel is boring. * 7. Sustainable apparel is a worthwhile product. 8. Sustainable apparel is easy to find.

* Indicates the items that were reverse coded.

Social Influence of Peers to Use SNS

This study selected four items from the Unified Theory of Acceptance and Use of Technology (UTAUT) Scale by Venkatesh, Morris, Davis, and Davis (2003) to measure the social influence of peers to use SNS. The social influence questions included in the UTAUT scale is representative of subjective norm in TRA, and while they have different names for the variables, each of the paradigms contains the idea that behavior is influenced by the way in which users believe others will view them because of having used a specific technology (Venkatesh et al., 2003).

A number of other studies have used this scale and found it to be valid and reliable. For example, Curtis, Edwards, Fraser, Gudelsky, Holmquist, and Sweetser (2010) found in their study regarding adoption of social media for public relations the social media factor of the UTAUT scale was a Cronbach's alpha of .89. Regarding a study focused on adoption of mobile devices it was found that social influence had a Cronbach's alpha of=.62 (Carlsson et Carlsson, Carlsson, Hyvonen, Puhakainen, and Walden, 2006). Questions in the original scale included, "People who influence my behavior think that I should use the system," and, "People who are important to me think that I should use the system." In this study these items were altered to, "People who influence my behavior think I should use (FB, PINT, INST, TWIT)," and, "People who are important to me think I should use (FB, PINT, INST, TWIT)." See Table 4.5 for a full list of original and altered items. For the response categories accompanying each question, see Appendix A.

Table 4.5

Social Influence of Peers to Use SNS Scale

Original scale items (Venkatesh, Morris, Davis, & Davis, 2003)	Altered scale items
1. People who influence my behavior think that I should use the system. 2. People who are important to me think that I should use the system. 3. The senior management of this business has been helpful in the use of this system. 4. In general the organization has supported the use of the system.	1. People who influence my behavior think I should use [the system].* 2. People who are important to me think I should use [the system].* 3. In general, my peers support the use of [the system].* 4. In general, retail establishments support the use of [the system].*

*This question was repeated for FB, PIN, INST, and TWIT. FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Influence of SNS System on Purchase Behavior

In order to measure the influence of SNS on users' purchase decisions, this study used the Shen, Dickson, Lennon, Montalto, and Zhang (2003) scale. Shen et al. (2003) found a Cronbach's measure of .70 when using the original scale in their study. Items from the Shen et al. (2003) scale included, "How often do your family members' opinions influence your apparel purchase decisions?" and, "How often do your friends' opinions influence your apparel purchase decisions?" This study altered the items to incorporate the various SNS systems of Facebook, Twitter, Instagram, Pinterest, as well as retailers. For example, altered scale items included, "My involvement on Pinterest influences my purchase decisions," and, "Retailers I follow on social media influence my purchase decisions." For the original scales and altered scales refer to Table 4.6. For the response categories accompanying each question, see Appendix A.

Table 4.6

Influence of SNS System on Purchase Behavior Scale

Original scale items (Shen, Dickson, Lennon, Montalto, & Zhang., 2003)	Altered scale items
1. How often do your family members' opinions influence your apparel purchase decisions? 2. How often do your friends' opinions influence your apparel purchase decisions? 3. How often do salespersons' opinions influence your apparel purchase decisions?	1. My involvement on social media influences my purchase decisions. 2. My involvement on Facebook influences my purchase decisions. 3. My involvement on Twitter influences my purchase decisions. 4. My involvement on Instagram influences my purchase decisions. 5. My involvement on Pinterest influences my purchase decisions. 6. Retailers I follow on social media influence my purchase decisions.

Subjective Norms: Normative Beliefs Regarding Purchasing ESA

This study used Perrachio and Meyers-Levy's (1994; 1995; 1997) and Luna and Peracchio's (2001) Attitude toward the Brand scale to determine consumers' ESA subjective norm regarding the purchase of ESA. Similar to previous scales, the scale was altered to a seven-point Likert instead of the original two response categories in order to maintain consistency and raise validity and reliability. Originally this scale evaluated a product by a particular brand, but was altered in this study to use the wording "sustainable apparel," in order to focus on consumers' attitudes towards environmentally sustainable apparel. For example original items read, "The products the brand sells are of poor value/excellent value," and, "The products the brand sells are mediocre product/exceptional product." These were altered in this study to read, "My friends on social media think sustainable apparel is a mediocre product," and "My friends on social media think sustainable apparel is poor value

product." For the original scale items and altered scale items refer to Table 4.7. For the response categories accompanying each question, see Appendix A.

Table 4.7

Subjective Norms: Normative Beliefs Regarding Purchasing ESA Scale

Original scale items measuring the attitudes towards a specific brand or product (Luna & Peracchio, 2001; Perrachio & Meyers-Levy, 1994, 1995, 1997)	Altered scale items
1. I would not purchase this product or brand/I would purchase this product or brand. 2. This is a mediocre product or brand/exceptional product or brand. 3. This product or brand is not at all high quality/extremely high quality. 4. This product or brand is poor value/excellent value. 5. This product or brand is poorly made/well made. 6. This product or brand is boring/ exciting. 7. This is not a worthwhile product or brand/a worthwhile product or brand. 8. This is an unappealing product or brand/appealing product or brand. 9. This product or brand is common/unique.	1. My friends on social media think I should not purchase a sustainable apparel product. 2. My friends on social media think sustainable apparel is a mediocre product. * 3. My friends on social media think sustainable apparel is a high quality product. 4. My friends on social media think sustainable apparel is poor value product. * 5. My friends on social media think sustainable apparel a well-made product. 6. My friends on social media think sustainable apparel is boring. * 7. My friends on social media think sustainable apparel is a worthwhile product. 8. My friends on social media think sustainable apparel is easy to find.

* Indicates the items that were reverse coded.

Subjective Norms: Motivation to Comply

The study used Shen et al.'s (2003) Motivation to Comply scale to measure the motivation to comply component of subjective norm for this study. Example items from the Shen et al. (2003) read, "How often do your family members' opinions influence your apparel purchase decisions?" and, "How often do your friends' opinions influence your apparel purchase decisions?" In this study these items were altered to incorporate the various

SNS systems of Facebook, Twitter, Instagram, Pinterest and retailers. Altered items included, "My friends' opinions on social media influence my apparel purchase decisions," and, "My friends' opinions on Twitter influence my apparel purchase decisions." In their study, Shen et al. (2003) found a Cronbach's measure of .70 for this scale. Similar to the Shen et al. (2003) study this study also measured the responses based on a 7-point Likert scale from -3 to 3, with -3 being strongly disagree, 0 for neutral, and 3 being strongly agree. For the original scale items and the altered scale items refer to Table 4.8. For the response categories accompanying each question, see Appendix A.

Table 4.8

Motivation to Comply Scale

Original scale items (Shen, Dickson, Lennon, Montalto, & Zhang 2003)	Altered scale items
1. How often do your family members' opinions influence your apparel purchase decisions? 2. How often do your friends' opinions influence your apparel purchase decisions? 3. How often do salespersons' opinions influence your apparel purchase decisions?	1. My friends' opinions on social media influence my apparel purchase decisions. 2. My friends' opinions on Twitter influence my apparel purchase decisions. 3. My friends' opinions on Facebook influence my apparel purchase decisions. 4. My friends' opinions on Pinterest influence my apparel purchase decisions. 5. My friends' opinions on Instagram influence my apparel purchase decisions. 6. Retailers I follow on social media influence my apparel purchase decisions.

Purchase Intention of ESA

To measure the respondent's intention to purchase ESA, the survey included the Hyllegard et al. (2012) Purchasing Behavior measure. This scale was originally placed on a 7-point scale from "definitely not" to "definitely" and was altered in this study to incorporate specifically ESA purchase intentions and response categories of "strongly disagree" to

"strongly agree" to be consistent with the wording of the other scales in the study (see Table 4.9). Original items evaluated "good" clothes and, for example, read, "In the future do you intend to purchase "good clothes?" which was altered in this study as, "In the future I intend to purchase environmentally sustainable apparel"

In their study, Hyllegard et al. (2012) found a Cronbach's value of .96 for this scale. For the original scale items and altered scale items please refer to Table 4.9. For the response categories accompanying each question, see Appendix A.

Table 4.9

Purchase Intention Scale

Original scale items (Hyllegard, Yan, Ogle, & Lee, 2012)	Altered scale items
1. In the future do you intend to purchase "good clothes?" 2. In the future do you intend to tell a friend about "good clothes?"	1. In the future I intend to purchase environmentally sustainable apparel. 2. In the future I intend to tell a friend about environmentally sustainable apparel.

Pilot Study of Instrument

A pilot test, to determine reliability of altered scales, was conducted spring 2014. Anonymous survey data were collected from 41 students at Kansas State University through the offering of class extra credit and voluntary participation. Business graduate students (n=13) and apparel, textile, and interior design undergraduates (n=28) made up the sample with eight males and 33 females completing the survey. Of the participants, 33 were age 30 and below, six were between the ages of 31 and 45, and two were between 46 and 65. The survey consisted of 136 forced response questions due to additional variables included in the pilot study that were not included in this dissertation. Consumer Susceptibility to Interpersonal Influence (Bearden, Netemeyer, & Teel, 1989), Perceived Ease of Use (Davis,

1989), and Perceived Usefulness (Davis, 1986) of a system were originally incorporated into the survey, but as the model evolved those variables were deemed unnecessary and dropped from the study in order to stay closer in line with Theory of Reasoned Action (Azjen & Fishbein, 1980) and to more accurately further theory.

In the pilot study, the survey questions were grouped into clusters and entered into Qualtrics, an online survey system. The Qualtrics link was emailed to the students by the researcher and they completed it online. A statement of voluntary agreement to complete the survey was included at the beginning of the survey. Altogether, 60 surveys were started and 42 were competed, delivering a 70% completion rate. There was an average survey completion time of 30 minutes, with the most participants completing the survey in 12 minutes.

Initial data analysis in SPSS version 22.0 AMOS Grad Pack found all scales reliable based on Cronbach's alpha ($\alpha > .7$). Due to the fact that Cronbach's alpha was deemed sufficient for all of the scales, other than eliminating the scales related to Consumer Susceptibility to Interpersonal Influence, Perceived Ease of Use, and Perceived Usefulness, no further scale modifications were made.

When asked for feedback on the survey, some of the pilot study participants had indicated that the survey seemed too long. Therefore, in addition to dropping the above-mentioned scales, in revising the survey for the dissertation, the set-up of the survey focused on designing an easier flow of questions and page breaks.

Data Analysis of the Current Study

The data analysis section includes an overview of the data cleansing procedures, analysis of study validity and reliability, followed by data analysis plan for each individual hypothesis.

Data Cleansing

Prior to data analysis, data cleansing occurred. For example, when initially reviewing the data the researcher noted that a number of answers were not answered honestly. For example there were 37 returned surveys where the participant had entered all "1's" or all "4's," (i.e., "straight-lining"). Therefore the researcher deleted these participants' responses from the data file.

Additionally, when the survey was developed in Qualtrics, the values assigned to the Likert scales were mistakenly reversed. In other words, the data downloaded from Qualtrics as "1" equaling "strongly agree" and "7" equaling "strongly disagree." Therefore, prior to data analysis, all survey items using the 7-point Likert scale were reverse coded so that "1" equaled "strongly disagree" and "7" equaled "strongly agree." Then all negatively worded statements were reverse coded a second time. In the Shen et al. (2003) scale measuring motivation to comply the items were then further recoded into the -3- 3 codes.

Additional data cleansing focused on the ESAK scale by LeHew and Hiller Connell (under development). Data from this scale was manually recoded so that all correct responses were coded as a "1" and all incorrect or "don't know" responses were coded as a "0." Finally, related to the geographic location item on the survey, participants responded by writing in their state on the survey. Therefore, the researcher manually recoded those states into one of the five geographic regions of the United States as indicated by the National Geographic Education Department (2015). The five regions included Northeast, Southeast, Midwest, Northwest, and West.

All recoding and data analysis was completed using SPSS version 22.0 AMOS Grad Pack. A factor analysis was conducted on each of the altered scales, Cronbach's alpha was calculated for all scales to ensure reliability, and summed mean variables were calculated for each scale in order to create new overall variables to then run the rest of the data analysis on.

Validity and Reliability

Because this is a one shot case study, there are more threats to the internal and external validity of the research. For example, internal selection was weak in regards to the mortality, the loss of participants in a study, with the possibility of the participants dropping out of the survey at any point before finishing (Campbell & Stanley, 1963). To compensate for this possibility, the survey included all forced response questions in order to encourage respondents to complete the survey. Additionally, because the participants needed to complete the survey before getting their reward from ERI, the risk of mortality was low. Externally, the interaction of selection and the treatment were not controlled for because ERI was in charge of submitting the survey. Generalizability and a random sample aided in the external validity of the study design (Campbell & Stanley, 1963). However, the sample was only participants who were members of ERI and were completing surveys to get paid through electronic rewards. This could have construed some of the responses to simply be done quickly to be paid and not accurately. The research conducted a data cleansing to ensure that these types of responses were removed before the data analysis phase. This included cleaning out answers that were straight across the board and were not answered honestly. There may only be a certain part of the national population that participates in the ERI system. However, in terms of research, this was the best way to get a random sample of the US population at an affordable cost.

Factor analysis and Cronbach's calculations were conducted to ensure reliability of the scales and to get the most accurate measurement of the sample accrued. All scales in the study were found reliable with Cronbach's alpha scores all above the .7 level (Cronbach, 1951). For an overview of Cronbach's alpha further discussion of the factor see Chapter Five.

Data Analysis Plan

The final section of this chapter discusses the data analysis completed for each research question/hypothesis posed in the study. Overall, because this study is exploratory, the data analysis focused on correlations between each of the relating variables, ANOVA's, and a hierarchical regression. Relationships regarding each research question and associated hypotheses were most pertinent to understand if there is a strong argument for the proposed model and further research exploring this model. See Table 4.10 for individual data analysis for each research question and correlating hypotheses.

Table 4.10

Data Analysis Plan

Relationship	Research question	Hypotheses	Data analysis
The Influence of Consumer Characteristics on Knowledge about AT Environmental Sustainability Issues	RQ1a: Is there a relationship between demographics and knowledge about AT related environmental sustainability issues?	H1a: There will be a significant and positive relationship between age and knowledge about AT related environmental sustainability issues.	A simple bivariate correlation was conducted to understand the significance of the relationship between knowledge about AT environmental sustainability issues and age.
		H1b: There will be not be a relationship between gender and knowledge about AT related environmental sustainability issues.	A simple bivariate correlation was conducted to understand if there is or is not a difference between knowledge about AT environmental sustainability issues and gender.
		H1c: There will be a significant and positive relationship between education and knowledge about AT related environmental sustainability issues.	An ANOVA will be conducted to understand the significance of the relationship between knowledge about AT environmental sustainability issues and education.

	H1d: There will be a significant and positive relationship between income and knowledge about AT related environmental sustainability issues.	An ANOVA will be conducted to understand the significance of the relationship between knowledge about AT environmental sustainability issues and income.
	H1e: There will be a significant difference between geographic location and knowledge about AT related environmental sustainability issues.	An ANOVA will be conducted to understand the significance of the relationship between knowledge about AT environmental sustainability issues and each geographic region. Geographic locations will be classified by West, Northeast, Southeast, Southwest, and Midwest.
RQ1b: Is there a relationship between knowledge regarding AT ES Issues and SMUP?		A simple bivariate correlation analysis will be conducted to understand the significance of the relationship between knowledge about AT environmental sustainability issues and SMUP.

The Influence of Consumer Characteristics on Social Influence of Using SNS.	RQ2a: Is there a relationship between demographics and social influence of peers to use SNS?	H2a: There will be a significant and negative relationship between age and social influence of peers to use SNS.	A simple bivariate correlation will be conducted to understand the significance of the relationship between age and social influence of peers to use SNS.
		H2b: There will be no significant relationship between gender and social influence of peers to use SNS.	A simple bivariate correlation will be conducted to understand the significance of the relationship between gender and social influence of peers to use SNS.
		H2c: There will be a significant and negative relationship between education and social influence of peers to use SNS.	An ANOVA will be conducted to understand the significance of the relationship between education and social influence of peers to use SNS.
		H2d: There will no significant relationship between income and social influence of peers to use SNS.	An ANOVA will be conducted to understand the significance of the relationship between income and social influence of peers to use SNS.

	H2e: There will be a significant difference between geographic location and social influence of peers to use SNS.	An ANOVA will be conducted to understand the significance of the relationship between and Geographic locations will be classified by West, Northeast, Southeast, Southwest, and Midwest and social influence of peers to use SNS.
RQ2b: Is there a relationship between social media use and perception and social influence of peers to use SNS?		A simple bivariate correlation between SNS perception and use and SNS peer influence. These will be conducted for each individual SNS system and all four as a whole through summed mean calculations in order to determine if peers on SNS have a relationship.
RQ2c: Is there a relationship between demographics and influence of SNS System on purchase behavior?		A simple bivariate correlation will be conducted to understand the significance of the relationship between age and gender and influence of SNS system on purchase behavior. An ANOVA will be conducted to understand the relationship between geographic region, income, and education.

			A simple bivariate correlation will be conducted to understand the significance of the relationship between SMUP and influence of SNS system on purchase behavior.
	RQ2d: Is there a relationship between social media use and perception and influence of SNS system on purchase behavior?		
ESA Knowledge regarding ESA Attitudes	RQ3: Is there a relationship between knowledge about AT related environmental sustainability issues and attitudes towards ESA?	H3: There will be a significant and positive relationship between knowledge about AT environmental sustainability issues and attitudes towards ESA.	A simple bivariate correlation will be conducted in order to understand the relationship between the two variables.
Social Influence of SNS Influence on Subjective Norms of ESA	RQ4: Is there a relationship between social influence of peers to use SNS and subjective norms regarding purchasing environmentally sustainable apparel?	H4a: The social influence of peers to use SNS has a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel.	A simple bivariate correlation will be conducted in order to understand the relationship between the two variables.
		H4b: The social influence of SNS on purchase behaviors has a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel purchases.	A simple bivariate correlation will be conducted in order to understand the relationship between the two variables.

		H5a: There will be positive and	A simple bivariate correlation
ESA Attitudes Influence on ESA Purchase Intention	RQ5 Is there a relationship between attitude towards ESA and ESA purchase intentions?	significant relationship between attitudes towards ESA and to ESA purchase intentions.	will be conducted in order to understand the relationship between the two variables.
Subjective Norms regarding ESA's Influence on ESA Purchase Intention	RQ6: Is there a relationship between subjective norm towards ESA and ESA purchase intentions?	H6: There will be a significant and positive relationship between ESA subjective norm and intention to purchase ESA.	A simple bivariate correlation will be conducted in order to understand the relationship between the two variables.
	RQ7: Do social influence of social networking sites and subjective norms regarding purchasing environmentally sustainable apparel contribute significantly to environmentally sustainable apparel purchase intention in addition to knowledge about environmental sustainability issues and attitude towards environmentally sustainable apparel?		Hierarchical Linear Regression Modeling

Chapter Five: Findings

The following chapter discusses the findings of the research including descriptive statistics, frequencies, factor analyses and reliability analyses, as well as the findings from the research questions and hypotheses.

Descriptive Statistics

There were 1138 respondents who began the online survey. However, 318 of the respondents answered "no" to the qualifying question of, "Do you consider yourself an active user of social media?" therefore eliminating them from the study and leaving 820 individuals completing the survey. After an initial review of the data, it was evident that 37 of the respondents answered each question in the survey the same (i.e., straight-lining); and these individuals were also eliminated from the study. Thus, leaving 783 total responses, with 67.3% (n= 527) being female and the rest male (n=256, 32.7%) (see Figure 5.1). With a national gender demographic breakdown of 50.8% females and 49.2% male (see Figure 5.2), the sample was heavy on female respondents and not representative of the national population in this regards.

Research Study: Gender
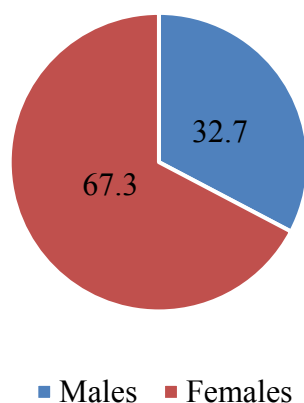
Figure 5.1 Research sample demographics (% gender).

National Demographics: Gender

■ Male
■ Female
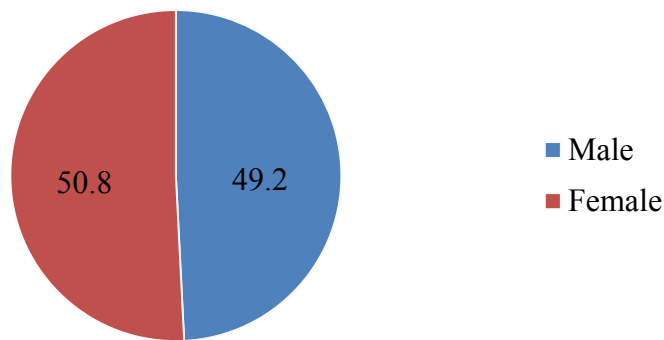
Figure 5.2 US national demographics (% gender).

Race was categorized in the study by utilizing the US Census Bureau's 2013 wording, with the largest participant group being White/Non-Hispanic at 54.0% (n=423), followed by Black/African American at 24.1% (n=189), Hispanic or Latino at 13.0% (n=102), Asian/Asian American at 3.4% (n=27), American Indian or Alaska Native at 1.8% (n=14), and finally Hawaiian or Other Pacific Islander at 0.8% (n=6). Additionally, 2.8% (n=22) of respondents identified themselves as "other" (see Figure 5.3). This compares to the national demographics of 62.6% White, 17.1% Hispanic, 13.2% African American, 5.3% Asian, 1.2% American Indian or Alaska Native, .2% Hawaiian or Pacific Islander, and the rest were "other" or two or more races, 2.4 (see Figure 5.4).

Research Study: Race/Ethnicity

0.8
1.8
3.4
2.8
13
24.1
54

- White/Non-Hispanic
- Black/African American
- Hispanic or Latino
- Asian/Asian American
- American Indian or Alaska Native
- Hawaiian/Pacific Islander
- Other
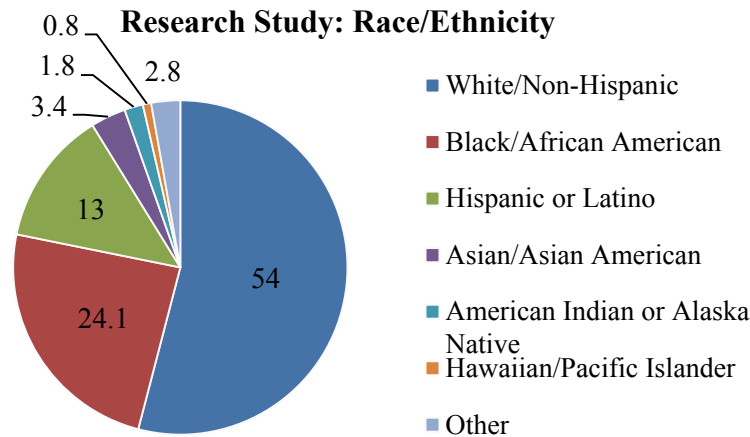
Figure 5.3 Research sample demographics (% race/ethnicity).

National Demographics: Race/Ethnicity

5.3
1.2
0.2
2.4
17.1
13.2
62.6

- White/Non-Hispanic
- Black/African American
- Hispanic or Latino
- Asian/Asian American
- American Indian or Alaska Native
- Hawaiian/Pacific Islander
- Other
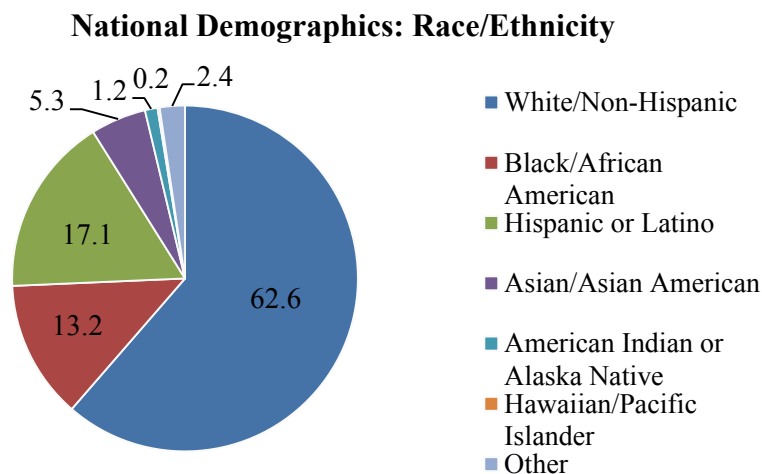
Figure 5.4 US national demographics (% race/ethnicity).

The geographic regions evaluated in this study were categorized based on the National Geographic Education Department map of regions (2015). See Appendix B for a map of the geographic regions. The study utilized this classification because the breakdown was slightly more specific than the US Census data breakdown and included an additional region. This study found that 36% of the sample was from the Southeast, 25% from the Midwest, 22% from the Northeast, 11% from the Southwest, and 6% from the West (see Figure 5.4). This compares to the National demographics calculated by the US Census

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Bureau with a breakdown of 37% South, 23% West, 22% Midwest, and 18% Northeast (Figure 5.6).

Research Study: Geographic Region
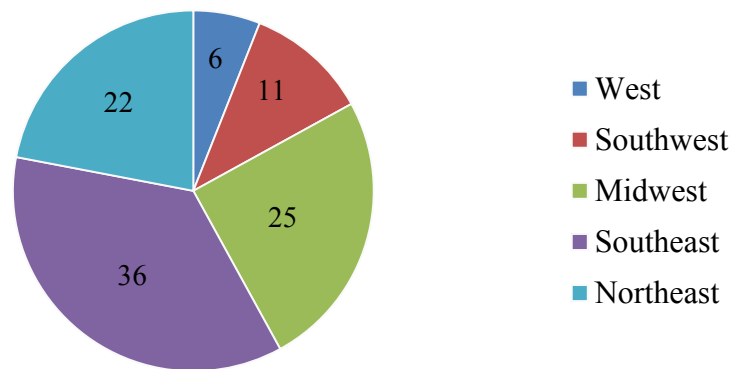
Figure 5.5 Research sample demographics (% geographic region).

National Demographics: Geographic Region
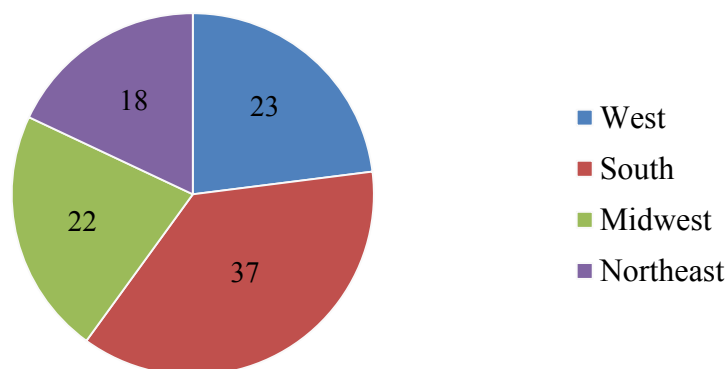
Figure 5.6 US national demographics (% geographic region).

Income was categorized according to ten thousand dollar increments; and among the respondents the following breakdown occurred; $0-9,999k=7.0% (n=55), $10-19,999k=7.7% (n=60), $20-29,999k=13.2% (n=103), $30-39,999k=13.2% (n=103), $40-49,999k=11.4% (n=89), $50-59,999k=11.1% (n=87), $60-69,999k=5.7% (n=45), $70-79,999k=8.4% (n=66), $80-89,999k=4.0% (n=31), $90-99,999k=5.4% (n=42), and $100,000+=13.0% (n=102). The mean income of the respondents was between $40-49,999 and $50-59,999 (*M*=5.78) with a

standard deviation of 3.10 (see Figure 5.7). Compared to the US Census Bureau, this study used different income categories (see Figure 8). However, in visually examining the income distributions of both the sample and nationally, it does appear the distribution was comparable.

Research Study: Income
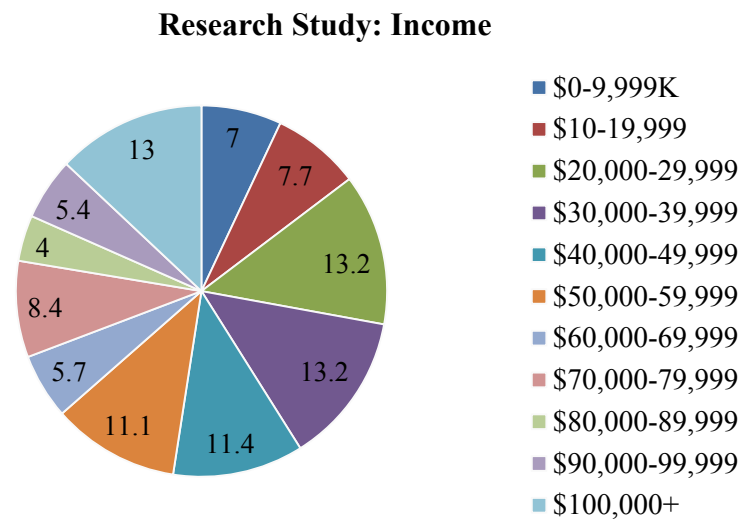
Figure 5.7 Research sample demographics (% income).

National Demographics: Income
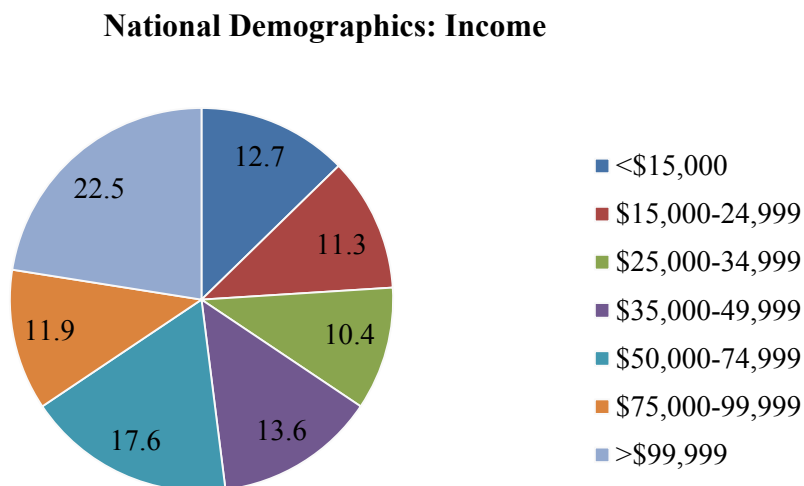
Figure 5.8 US national demographics (% income).

Among the participants, 36.1% held a high school diploma or a GED certificate (n=283), followed by 26.6% with a bachelor's degree (n=208), 17.2% with an associate degree (n=135), 14% with a graduate degree (n=110), and lastly 6.0% with less than a high

school diploma (n=47) (see Figure 5.9). This compares to the national demographics where 49% have a high school diploma or GED, 4.1% an associate's degree, 18.9% a bachelor's degree, 10.4% a graduate degree, and 12.3% less than a high school diploma (see Figure 5.10).

Research Study: Education
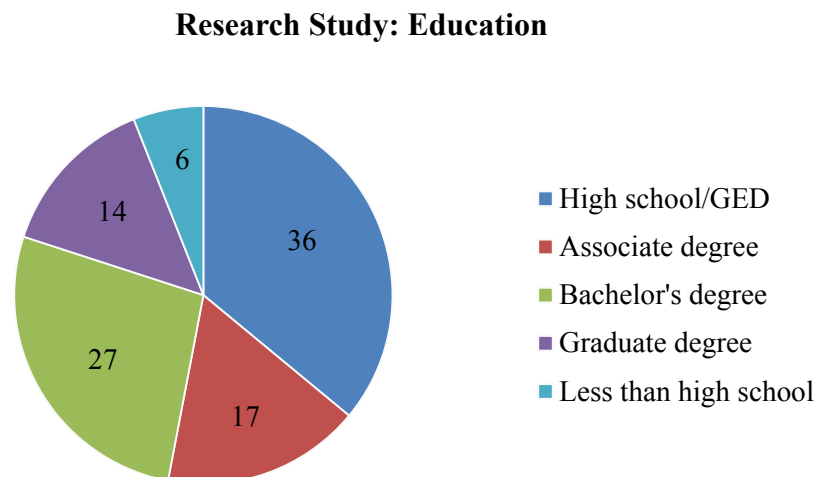
Figure 5.9 Research sample demographics (% education).

National Demographics: Education
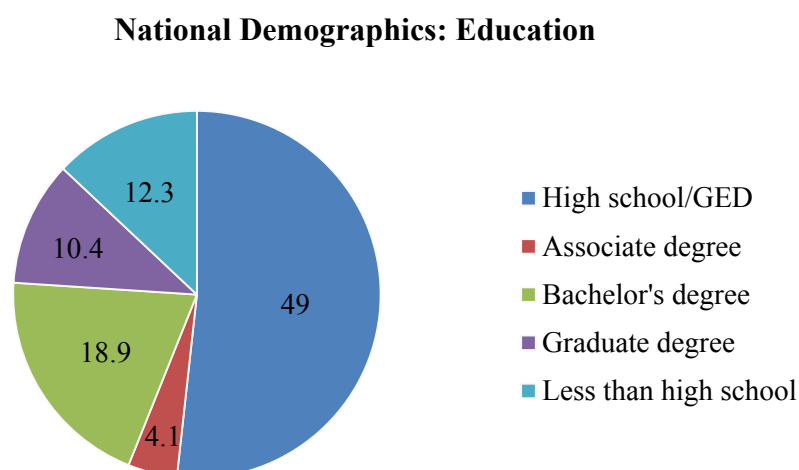
Figure 5.10 US national demographics (% education).

Based on the US Census Bureau's 2013 data, it is evident that the data collected was adequately comparable to the US population (see Figures 5.1 to 5.10). However, there was a skewing in the sample in terms of gender – with a greater proportion of females participating.

. This may be because, when the survey was not turned off by ERI, more women had a chance to answer than men, or that ERI possibly enrolls more women than men. Additionally, this study's population was more highly educated than the general US population. See Table 5.1 for a complete demographic summary of the study's research sample.

Table 5.1

Demographic Characteristics of the Sample

Variable- Description	n	%	Mean	Std.dev
Gender	-	-	-	-
Male	256	32.7	-	-
Female	527	67.3	-	-
Race	-	-	-	-
White/Non-Hispanic	423	54.0	-	-
Black/African American	189	24.1	-	-
American Indian or Alaska Native	14	1.8	-	-
Hispanic or Latino	102	13.0	-	-
Asian/Asian American	27	3.4	-	-
Hawaiian or Other Pacific Islander	6	0.8	-	-
Other	22	2.8	-	-
Income	-	-	-	-
0-9,999	55	7.0	-	-
10,000-19,999	60	7.7	-	-
20,000-29,999	103	13.2	-	-
30,000-39,999	103	13.2	-	-
40,000-49,999	89	11.4	-	-
50,000-59,999	87	11.1	-	-
60,000-69,999	45	5.7	-	-
70,000-79,999	66	8.4	-	-
80,000-89,999	31	4.0	-	-
90,000-99,999	42	5.4	-	-
100,000+	102	13.0	-	-
Education	-	-	-	-
< High School	47	6.0	-	-
High School/ GED	293	36.1	-	-
Associate Degree	135	17.2	-	-
Bachelor Degree	208	26.6	-	-
Graduate Degree	110	14.0	-	-
Geographic Region	-	-	-	-
West	120	15.3	-	-
Southwest	78	10.0	-	-

Midwest	172	22.0	-	-
Southeast	248	31.7	-	-
Northeast	156	19.9	-	-
Age*	-	-	33.83	12.05
17-21	106	13.6	-	-
22-30	262	33.4	-	-
31-40	219	27.9	-	-
41-50	124	15.6	-	-
51-60	34	4.2	-	-
61-70	32	4.1	-	-
71-80	6	.7	-	-

*The response categories for "Age" were continuous but data has been collapsed into categories for the table.

Social Media Usage Descriptive Statistics

Calculation of frequency statistics related to social media usage occurred in order to understand the types of social media platforms participants considered themselves active users of, as well as to obtain insight into what technologies they used to access those online channels. These statistics found that 29.4% of respondents considered themselves active on social media 6-10 hours per week (n=230). Following that was 20.2% considering themselves active 20+ hours per week (n=158), followed by 18.8% being active 0-5 hours per week (n=147), 18.1% active 11-15 hours per week (n=142), and finally 13.5% being active 16-20 hours per week (n=106).

Of the four social networking sites focused on in this study (Facebook, Twitter, Instagram, and Pinterest) the most commonly used SNS was Facebook – with 94.0% of users claiming themselves active users on the site (n=736). Second was Instagram at 43.4% (n=340), followed by Twitter at 40.4% (n=316) of respondents being active, and finally Pinterest at 36.4% (n=285). A total of 9.1% (n=71) of respondents said they also used other forms of social media on a regular basis. Those include Tumblr (n=23), LinkedIn (n=11), YouTube (n= 10), SnapChat (n=5), Reddit (n=4), and Google+ (n=3). Additionally MySpace, imvu, and yik yak all had two respondents each and several had one mention, including Foursquare, Listia, DeviantArt, Vine, spark People, WeChat, Weibo, Pogo, and Black Planet.

In terms of what technology participants used to access social media, the most common was a cell phone at 71.9% (n=563). Following that was a laptop at 67.6% (n=529), home desktop computer at 39.7% (n=311), tablet at 32.7% (n=256), and work desktop computer 14.8% (n=116). A very small percentage (n=11) indicated they used "other" devices to access social media. Of the others, the iPod was the most commonly used device (n=6), followed by school computer (n=2), and lastly one indication each for the library computer and a PlayStation gaming system. The final remaining comment was simply a "yes" without indicating the specific device used (see Table 5.2).

Table 5.2

Social Media Usage Frequencies

Social Media Usage Frequencies	n	%
Active User	-	-
Facebook	736	94.0
Twitter	316	40.4
Instagram	340	43.4
Pinterest	285	36.4
Other	71	9.1
Technology Used	-	-
Cell Phone	563	71.9
Laptop	529	67.6
Tablet	256	32.7
Work Computer	116	14.8
Home Computer	311	39.7
Other	11	1.4
Hours Active on Social Media Per Week	-	-
0-5	147	18.8
6-10	230	29.4
11-15	142	18.1
16-20	106	13.5
20+	158	20.2

Reliability and Factor Analysis

This study assessed the reliability of the scales by calculating Cronbach alpha and found that each scale showed to be highly reliable, well above the .70 which is considered acceptable (Cronbach, 1951). For an overview of reliability analysis calculated for each of the scales see Table 5.3.

Table 5.3

Cronbach's Values

Variable/scale	Cronbach's	Number of items
ESA Attitude	.87	4
ESA Knowledge	.85	24
Influence of SNS System on Purchase Behavior	.94	6
Influence of Peers on SNS- Motivation to Comply	.95	6
Social Media Use and Perception (Facebook)	.95	11
Social Media Use and Perception (Twitter)	.97	10
Social Media Use and Perception (Instagram)	.97	10
Social Media Use and Perception (Pinterest)	.97	10
Instagram and Twitter Social Influence of Peers to Use SNS	.89	4
Pinterest Social Influence of Peers to Use SNS	.88	3
Facebook Social Influence of Peers to Use SNS	.87	3
Normative Beliefs of SNS friends Regarding ESA	.89	4
ESA Purchase Intention	.90	2

As discussed in the previous chapter, the survey included six scales altered from the original scales. Therefore, after cleansing and recoding of the data, factor analysis occurred with each of the six altered scales. Conducting exploratory factor analysis through promax rotation tested the construct validity of scales developed in this study. Factor analysis is often used to identify the underlying variables or key factors that can explain correlation patterns within an observed set of variables (Stevens, 1992).

During factor analysis, items with low factor loadings or cross loadings were removed to improve construct validity of the scale. The cut off value used for the factor / component to be retained was .60 (Stephens, 1992). As a first step while performing the factor analysis, and before extracting the factors, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (Kaiser, 1970) and Bartlett's Test of Sphericity (Bartlett, 1950) were conducted to understand if the data were fitting for performing factor analysis (Williams, Brown, & Onsman, 2012). While the KMO index can range from 0 to 1, a minimum of 0.50 is considered to be suitable for factor analysis. Additionally, the Bartlett's Test of Sphericity should be significant with $p < .05$ (Hair, Tatham, Anderson, & Black, 2006; Tabachnick, & Fidell, 2007).

Social Media Use and Perception Scale

The source of the Social Media Use and Perception scale was from Wang et al. (2012), and it incorporated 11 items. This scale was multiplied to incorporate each individual system being tested (Facebook, Twitter, Pinterest, and Instagram) for 44 items. An exploratory factor analysis (with the Eigenvalues being above one, using a promax rotation component of correlated factors) was conducted to determine if there were clean components within the scale (Kaiser, 1960). There were not, but based on the reasoning that there were four different systems being measured it did factor cleanly when there was a forced grouping of four components or scales. When this occurred the factors were much cleaner. Ultimately within the SMUP scale, Item #2 for Twitter, Item #3 for Pinterest, and Item #4 for Instagram were eliminated (in that order) leaving four clean factors explaining 76.28% of the variance in six iterations with the promax rotation component. Because the KMO value (Facebook=.95, Instagram, Twitter, and Pinterest=.97) was above .9, it was considered to be "marvelous" sampling adequacy (Kaiser, 1974). Therefore the four new scales were renamed the following, Social Media Use and Perception of Facebook (SMUPF) scale, Social Media

Use and Perception of Twitter (SMUPT) scale, Social Media Use and Perception of

Instagram (SMUPI) scale, and finally Social Media Use and Perception of Pinterest

(SMUPP) scale. Reliability was then calculated using Cronbach's measure of internal

consistency reliability for each (Cronbach, 1951). Facebook was found reliable on all 11

items at .95, Instagram on 10 items at .97, Pinterest at .97 on 10 items, and Twitter on 10

items at .97. Correlations between these were also conducted to determine the nature of the

relationships and preliminarily ensure multicollinearity was not present (see Table 5.4a and

5.4b).

Table 5.4a.

KMO and Bartlett's Test of Sphericity for Social Media Use and Perception Scale

KMO	Chi Square	df	Sig.
.97	44559.74	820	.00

Table 5.4b

Social Media Use and Perception Factor Analysis and Factor Loadings

	New scales post factor analysis	Factor loadings
	Factor 1—SMUP of Facebook Scale	
1. I use (FB, PIN, INST, and TWIT) to gain knowledge.	1. I use FB to gain knowledge.	.72
2. I use (FB, PIN, INST, TWIT) to enhance my education.	2. I use FB to enhance my education.	.63
3. (FB, PIN, INST, TWIT) is useful for learning about news.	3. FB is useful for learning about news.	.73
4. (FB, PIN, INST, TWIT) is useful for learning about friends.	4. FB is useful for learning about friends.	.65
5. (FB, PIN, INST, TWIT) is useful for learning about shopping,	5. FB is useful for learning about shopping.	.80
6. I would be interested in (FB, PIN, INST, TWIT) for information about apparel.	6. I would be interested in using FB for finding out information about apparel.	.81
7. I would like apparel advertised to me by (FB, PIN, INST, TWIT).9.	7. I would like apparel advertised to me by FB.	.77
8. Retailers should use (FB, PIN, INST, TWIT) to enhance shopping.	8. Retailers should use FB to enhance shopping.	.82
9. (FB, PIN, INST, TWIT) is a professional way to assess retailers.	9. FB is a professional way to assess retailers.	.82
10. (FB, PIN, INST, TWIT) is an ethical way for retailers to engage participants.	10. FB is an ethical way for retailers to engage consumers.	.82
11. (FB, PIN, INST, TWIT) is an appropriate resource for apparel shopping.	11. FB is an appropriate resource for shopping.	.82
	Eigenvalue = 22.67 Variance accounted for = 55.29%	

Factor 2 – SMUP of Twitter Scale

1. I use TWIT to gain knowledge.	.73
3. TWIT is useful for learning about news.	.76
4. TWIT is useful for learning about friends.	.77
5. TWIT is useful for learning about shopping.	.79
6. I would be interested in using TWIT for finding out information about apparel.	.78
7. I would like apparel advertised to me by TWIT.	.74
8. Retailers should use TWIT to enhance shopping.	.76
9. TWIT is a professional way to assess retailers.	.78
10. TWIT is an ethical way for retailers to engage consumers.	.74
11. TWIT is an appropriate resource for shopping.	.74

Eigenvalue = 3.91
Variance accounted for = 9.54%

Factor 3 – SMUP of Pinterest Scale

1. I use PIN to gain knowledge.	.74
2. I use PIN to enhance my education.	.66
4. PIN is useful for learning about friends.	.69
5. PIN is useful for learning about shopping.	.85
6. I would be interested in using PIN for finding out information about apparel.	.83
7. I would like apparel advertised to me by PIN.	.73
8. Retailers should use PIN to enhance shopping.	.79
9. PIN is a professional way to assess retailers.	.76
10. PIN is an ethical way for retailers to engage consumers.	.78
11. PIN is an appropriate resource for shopping.	.78

Eigenvalue = 2.79
Variance accounted for = 6.80%

Factor 4 – SMUP of Instagram Scale

1. I use INST to gain knowledge.	.77
2. I use INST to enhance my education.	.76
3. INST is useful for learning about news.	.78
5. INST is useful for learning about shopping.	.74
6. I would be interested in using INST for finding out information about apparel.	.75
7. I would like apparel advertised to me by INST.	.74
8. Retailers should use INST to enhance shopping.	.71
9. INST is a professional way to assess retailers.	.72
10. INST is an ethical way for retailers to engage consumers.	.66
11. INST is an appropriate resource for shopping.	.70

Eigenvalue = 1.91
Variance accounted for = 3.61%

Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Attitude Towards ESA Scale

The attitude towards ESA was measured using the Perrachio and Meyers Levy Scale (1994) which included eight items that were altered in this study to focus on ESA. For this altered scale, an exploratory factor analysis was conducted with a promax rotation component. Two components or separate scales were found within three iterations. Then when trying to force into one component, it was still not possible. These two components may be due to the wording of the scale items being either very positively or very negatively worded and confusing the participants. The two new scales that were created after the factoring were found to be reliable with Items #1, #3, #5, and #7 being reliable at .87 and Items #2, #4, and #6 being reliable at .83 on the Cronbach's alpha test. As such, only Factor one scores were used for the data analysis. Because the KMO value was above .7, it was considered to be a "middling" sampling adequacy for factoring (Kaiser, 1974). Item #8 was eliminated after factoring and was found to be not related. Items #1, #3, #5 and #7 were used and the final scale was renamed the Environmentally Sustainable Apparel Attitude Scale (see Table 5.5a and 5.5b).

Table 5.5a

KMO and Bartlett's Test of Sphericity for Environmentally Sustainable Apparel Attitude Scale

KMO	Chi square	df	Sig.
.75	2696.78	21	.00

Table 5.5b

Attitude towards ESA Factor Analysis and Factor Loadings

Attitude towards ESA pre factor analysis	New scales post factor analysis	Factor loadings
	Factor 1 – ESA Positively Worded Attitude Scale	
1. I would purchase a sustainable apparel product.	1. I would purchase a sustainable apparel product.	.80
2. Sustainable apparel is a mediocre product.	3. Sustainable apparel is a high quality product.	.88
3. Sustainable apparel is a high quality product.	5. Sustainable apparel is a well- made product.	.88
4. Sustainable apparel is a poor value product.	7. Sustainable apparel is a worthwhile product.	.83
5. Sustainable apparel is a well- made product.		
6. Sustainable apparel is boring.		
7. Sustainable apparel is a worthwhile product.		
8. Sustainable apparel is easy to find.		
	Eigenvalue = 2.90	
	Variance accounted for = 41.36%	
	Factor 2 – ESA Negatively Worded Attitude Scale	
	2. Sustainable apparel is a mediocre product.	.86
	4. Sustainable apparel is a poor value product.	.91
	6. Sustainable apparel is boring.	.83
	Eigenvalue = 2.24	
	Variance accounted for = 32.06%	

Social Influence of Peers to Use SNS Scale

The study measures social influence of peers on social networking sites by using the social influence portion of the UTAUT scale by Venkatesh et al. (2003). The scale initially consisted of four items and was altered to incorporate each of the four SNS systems being measured in this study, for a total of 16 items. Through exploratory factor analysis the following items were eliminated from the scale to create three equal components from four iterations using varimax (uncorrelated factors) rotation component: Twitter Items #1 and #4, Instagram Item #4 and #1, Facebook Item #4, and Pinterest Item #3 (in that order). This explained 79.0% of the variance with a KMO value of .82. Reliability was conducted on the three different components or separate scales. Instagram Items #2, #3 and Twitter Items #2, #3 from the original scales make one new scale with a reliability of .89. Facebook Items #1, #2, and #3 had a reliability of .87 creating a new scale, and Pinterest Items #1, #2, and #4 had a Cronbach Alpha score of .88 creating a third scale. The three new scales were renamed Instagram and Twitter Social Influence of Peers to Use SNS Scale, Facebook Social Influence of Peers to Use SNS Scale, and Pinterest Social Influence of Peers to Use SNS Scale respectively. Because the KMO value was above .8, it was considered a "meritorious" sampling adequacy for factoring (Kaiser, 1974). Correlations between these were also conducted to ensure multicollinearity was not present (see Table 5.6a and 5.6b).

Table 5.6a

KMO and Bartlett's Test of Sphericity for Social Influence of Peers to Use SNS Scales

KMO	Chi square	df	Sig.
.82	5478.27	45	.00

Table 5.6b

Social Influence of Peers to Use SNS Factor Analysis and Factor Loadings

Social influence of peers to use SNS scale pre factor analysis	New scales post factor analysis	Factor loadings
	Factor 1 – Instagram and Twitter Social Influence of Peers to Use SNS Scale	
1. People who influence my behavior think I should use the system.	2. People who are important to me think I should use TWIT.	.81
2. People who are important to me think I should use the system.	3. In general, my peers support the use of TWIT.	.85
3. In general, my peers support the use of this system.	2. People who are important to me think I should use INT.	.77
4. In general, retail establishments support the use of this system.	4. In general, my peers support the use of INT.	.83
	Eigenvalue = 5.23 Variance accounted for = 52.30%	
	Factor 2 – Pinterest Social Influence of Peers to Use SNS Scale	
	1. People who influence my behavior think I should use PIN.	.90
	2. People who are important to me think I should use PIN.	.71
	4. In general, retail establishments support the use of PIN.	.87
	Eigenvalue = 1.51 Variance accounted for = 15.08	

Factor 3 – Facebook Social Influence of Peers to Use SNS
Scale

1. People who influence my behavior think I should use   .82
    Facebook.
2. People who are important to me think I should use   .90
    Facebook.
3. In general, my peers support the use of Facebook.   .84

Eigenvalue = 1.12
Variance accounted for = 11.77%

Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Influence of SNS System on Purchase Behavior Scale

        To measure the influence of the SNS system on the purchasing behavior of

participants the study used the Shen et al. (2003) scale. The original scale had six items and

those six were altered to specify social media as an influencer on purchase decisions. With an

exploratory factor analysis all items cleanly fit into one component with a varimax rotation

component. This explained 76.9% of the variance with a KMO of .89. Reliability was then

run and Cronbach's alpha was .94. Because the KMO value was above .8, it was considered a

"meritorious" sampling adequacy for factoring (Kaiser, 1974) (see Table 5.7a and 5.7b).

Table 5.7a

KMO and Bartlett's Test of Sphericity for Influence of SNS System on Purchase Behavior

Scale

KMO	Chi Square	df	Sig.
.89	4200.80	15	.00

Table 5.7b

Influence of SNS System on Purchasing Behavior Factor Analysis and Factor Loadings

Social influence of SNS System on purchase behavior scale pre factor analysis	New scales post factor analysis	Factor loadings
	Factor 1 – Influence of SNS system on Purchase Behavior	
1. How often do your family members' opinions influence your apparel purchase decisions?	1. My involvement on social media influences my purchase decisions.	.91
2. How often do your friends' opinions influence your apparel purchase decisions?	2. My involvement on FB influences my purchase decisions.	.87

3. How often do salespersons' opinions influence your apparel purchase decisions?	3. My involvement on INT influences my purchase decisions.	.91
	4. My involvement on TWIT influences my purchase decisions.	.89
	5. My involvement on PIN influences my purchase decisions.	.87
	6. Retailers I follow on social media influence my purchase decisions.	.83

Eigenvalue= 4.62
Variance accounted for= 76.92%

Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Subjective Norms Regarding Purchasing ESA – Normative Beliefs

The subjective norms regarding purchasing ESA was measured using the Perrachio and Meyers Levy Scale (1994) consisting of eight items. The items were altered to focus on friends on social media and their perceptions of environmentally sustainable apparel products. Again an exploratory factor analysis was conducted with a promax rotation component and two components were found within three iterations. After Item #8 was eliminated, which was not related, these two clear components divided the items into the positive and negative worded items. Then when trying to force into one component it was still not possible. Again the clear two components may be due to the wording of the questions being so positively and negatively worded and confusing the participant. The two components had a KMO of .79 and explained 76.7% of the variance. The two new scales were found to be reliable with Items #1, #3, #5, and #7 being reliable at .89 and Items #2, #4, and #6 being reliable at .84 on the Cronbach's alpha test. As such only Factor 1 was retained for data analysis. Because the KMO value was above .7, it was considered a "middling" sampling adequacy factoring (Kaiser, 1974). Factor 1 was renamed with items #1, #3, #5, and #7 being named Normative Beliefs of SNS Friends Regarding ESA. Correlations between

Table 5.8a

KMO and Bartlett's Test of Sphericity for Normative Beliefs of SNS Friends Regarding ESA Scale

KMO	Chi Square	df	Sig.
.79	3108.71	21	.00

Table 5.8b

Subjective Norm Regarding Purchasing ESA- Normative Beliefs Factor Analysis and Factor Loadings

Subjective norm scale pre factor analysis	New scales post factor analysis	Factor loadings
	Factor 1 – Normative Beliefs of SNS Friends Regarding ESA Positively Worded Scale	
1. My friends on social media think I should purchase a sustainable apparel product.	1. My friends on social media think I should purchase a sustainable apparel product.	.79
2. My friends on social media think sustainable apparel is a mediocre product.	3. My friends on social media think sustainable apparel is a high quality product.	.90
3. My friends on social media think sustainable apparel is a high quality product.	5. My friends on social media think sustainable apparel a well- made product.	.90
4. My friends on social media think sustainable apparel is poor value product.	7. My friends on social media think sustainable apparel is a worthwhile product.	.88

5. My friends on social media think sustainable apparel a well- made product

6. My friends on social media think sustainable apparel is boring

7. My friends on social media think sustainable apparel is a worthwhile product.

8. My friends on social media think sustainable apparel is easy to find.

Eigenvalue= 3.43
Variance accounted for= 49.06%

Factor 2 – Normative Beliefs of SNS Friends Regarding ESA Negatively Worded Scale

2. My friends on social media think sustainable apparel is a mediocre product.	.83
4. My friends on social media think sustainable apparel is poor value product.	.90
6. My friends on social media think sustainable apparel is boring.	.87

Eigenvalue=1.94
Variance accounted for= 27.65%

these were also conducted to ensure multicollinearity was not present (see Table 5.8a and 5.8b).

Subjective Norms Regarding Purchasing ESA – Motivation to Comply Scale

The motivation to comply component of subjective norm was measured using the Shen et al. (2003) scale. The original scale had six items and those six were altered to specify friend's opinions on social media as an influencer on purchase decisions. With an exploratory factor analysis all items cleanly fit into one component with a varimax rotation component. This explained 79.8% of the variance with a KMO of .89. Because the KMO value was above .8, it was considered "meritorious" adequacy (Kaiser, 1974). The new scale was renamed Motivation to Comply of SNS Friends Regarding ESA Scale. Reliability was then conducted and Cronbach's alpha was .95 (see Table 5.9a and 5.9b).

Table 5.9a

KMO and Bartlett's Test of Sphericity for Motivation to Comply of SNS Friends Regarding ESA Scale

KMO	Chi Square	df	Sig.
.89	4951.87	15	.00

Table 5.9b

Subjective Norms Regarding Purchasing ESA-Motivation to Comply Factor Analysis and Factor Loadings

Subjective norms regarding purchasing ESA-motivation to comply scale pre factor analysis	New scales post factor analysis	Factor loadings
	Factor 1 – Subjective Norms Regarding Purchasing ESA-Motivation to Comply	

1. How often do your family members' opinions influence your apparel purchase decisions?	1. My friends' opinions on social media influence my apparel purchase decisions.	.84
2. How often do your friends' opinions influence your apparel purchase decisions?	2. My friends' opinions on Twitter influence my apparel purchase decisions.	.80
3. How often do salespersons' opinions influence your apparel purchase decisions?	3. My friends' opinions on Facebook influence my apparel purchase decisions.	.86
	4. My friends' opinions on Pinterest influence my apparel purchase decisions.	.84
	5. My friends' opinions on Instagram influence my apparel purchase decisions.	.79
	6. Retailers I follow on social media influence my apparel purchase decisions.	.65

Eigenvalue= 4.79
Variance accounted for= 79.81%

ESA Purchase Intention

To measure ESA purchase intentions the Hyllegard et al. (2012) two-item scale was used, altering it to specify environmentally sustainable apparel instead of "good" apparel. It is not possible to factor a two-item scale; therefore analysis of the ESA purchase intention scale did not include factor analysis.

Descriptive Statistics of Scales

The following section of the chapter presents descriptive statistics for all of the scales, including frequencies, means, and standard deviations.

Social Media Use and Perception of Facebook

In terms of how participants used and perceived their use of Facebook, they had very positive perceptions of the SNS. Facebook was a SNS that many respondents utilized to gain knowledge (62.9%), get news (71%), learn about shopping (56.9%), and connect with friends

(80.3%). They did not use it as strongly to enhance their education, with only 42.9% "somewhat" to "strongly" agreeing with this statement. While many respondents were neutral about whether they would want retailers to advertise and connect with them on Facebook they were more open to it than not (see Table 5.10).

Social Media Use and Perception of Twitter

The social media use and perceptions of Twitter amongst the research participants was overall neutral. Responses regarding using Twitter to enhance education were lower than Facebook, with only 27.7% "somewhat" to "strongly" agreeing that Twitter enhanced their education. Additionally, 50.8% of the participants used Twitter to learn news and 40.6% to gain knowledge. Participants were also very neutral about learning about friends through this SNS, with a little less than half (46.4%) "somewhat" to "strongly" agreeing that Twitter was useful for learning about friends. The answers regarding retailers using Twitter to access, connect with, and market to consumers were not near as strongly positive compared to Facebook, with only 37% "somewhat" to "strongly" agreeing that Twitter was an ethical way for retailers to engage participants (see Table 5.11).

Social Media Use and Perception of Instagram

The respondents most commonly used Instagram as a way to learn about friends (50.3%) and to enhance shopping (36.3%). Participants were more open to retailers connecting with them and marketing to them on Instagram compared to Twitter. However, the participants gave less indication that they used Instagram gain knowledge (32%) or enhance their education (23.7%), or learn about news (31.1%); and only 36.6% somewhat to strongly agreed that they perceived Instagram as appropriate resource for apparel shopping (see Table 5.12). This finding is not surprising given the image-based nature of the platform.

Social Media Use and Perception of Pinterest

Compared to the other SNS examined in this study, the participants perceived

Pinterest as being beneficial to enhance shopping, with 47.7% somewhat to strongly

agreeing. The participants also believed Pinterest was a positive SNS to gain both general

information (48.9%) and information specifically about apparel (44.9%). Retailers were also

welcome to engage with and market to participants on Pinterest (42.9%). Additionally,

compared to Twitter and Instagram, consumers were more open to apparel shopping directly

from Pinterest, with 41.3% agreeing to strongly agreeing (see Table 5.13).

Table 5.10

Social Media Use and Perception of Facebook

			Frequencies						
Item	M	SD	1	2	3	4	5	6	7
I use FB to gain knowledge.	4.73	1.77	8.3	6.8	6.0	16.0	24.8	21.8	16.3
I use FB to enhance my education.	4.01	1.89	14.6	12.4	8.4	21.7	18.3	14.3	10.3
FB is useful for learning about news.	5.03	1.61	6.3	3.6	2.9	16.2	28.6	23.8	18.6
FB is useful for learning about friends.	5.53	1.49	3.6	2.6	1.7	11.9	20.9	28.6	30.8
FB is useful for learning about shopping.	4.60	1.66	7.0	6.5	7.0	22.5	25.5	18.4	13.0
I would be interested in FB for information about apparel.	4.36	1.79	10.2	8.6	6.9	25.0	20.3	16.3	12.6
I would like apparel advertised to me by FB.	4.16	1.86	13.9	7.4	9.5	26.1	17.2	13.3	12.6
Retailers should use FB to enhance shopping.	4.41	1.79	10.6	6.9	6.8	25.5	20.3	16.6	13.3
FB is a professional way to assess retailers.	4.39	1.73	9.1	7.0	8.3	28.7	18.0	16.5	12.4
FB is an ethical way for retailers to engage participants	4.49	1.71	8.6	5.9	7.3	27.8	19.7	17.9	12.9
FB is an appropriate resource for apparel shopping.	4.39	1.77	10.1	7.0	7.9	26.1	19.4	16.7	12.8

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; FB = Facebook

Table 5.11

Social Media Use and Perception of Twitter

Item	M	SD	Frequencies						
			1	2	3	4	5	6	7
I use TWIT to gain knowledge.	3.87	2.05	20.3	12.1	7.0	19.9	15.3	12.1	13.2
I use TWIT to enhance my education.	3.38	1.87	22.3	17.4	9.6	23.0	12.5	8.7	6.5
TWIT is useful for learning about news.	4.30	1.91	14.8	7.8	4.3	22.2	21.2	16.2	13.4
TWIT is useful for learning about friends.	4.19	1.87	14.3	8.3	6.8	24.1	18.5	17.2	10.7
TWIT is useful for learning about shopping.	3.89	1.81	15.6	10.5	8.2	28.2	18.6	10.3	8.6
I would be interested in TWIT for information about apparel.	3.79	1.89	17.5	12.8	8.4	25.7	15.3	11.0	9.3
I would like apparel advertised to me by TWIT.	3.53	1.90	21.5	14.3	9.2	25.0	13.0	8.6	8.4
Retailers should use TWIT to enhance shopping.	3.80	1.86	17.5	11.4	7.0	30.9	13.2	11.0	9.1
TWIT is a professional way to assess retailers.	3.76	1.81	16.2	12.1	10.0	28.9	14.6	10.2	8.0
TWIT is an ethical way for retailers to engage participants	4.00	1.76	13.9	8.7	7.3	33.1	17.1	10.6	9.3
TWIT is an appropriate resource for apparel shopping.	3.80	1.80	16.3	10.3	9.1	32.6	13.5	9.3	8.8

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; TWIT = Twitter

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Table 5.12

Social Media Use and Perception of Instagram

Item	M	SD	Frequencies						
			1	2	3	4	5	6	7
I use INST to gain knowledge.	3.56	1.94	22.2	14.0	7.7	24.1	14.2	8.7	9.1
I use INST to enhance my education.	3.32	1.86	23.6	16.5	9.8	26.3	8.8	8.0	6.9
INST is useful for learning about news.	3.62	1.82	18.8	13.0	10.5	26.6	14.2	10.3	6.6
INST is useful for learning about friends.	4.30	1.82	13.5	6.6	5.5	24.5	21.8	18.0	10.5
INST is useful for learning about shopping.	3.90	1.81	16.1	9.6	7.2	30.9	15.7	12.8	7.8
I would be interested in INST for information about apparel.	3.80	1.87	17.9	11.0	8.4	27.1	15.2	12.1	8.3
I would like apparel advertised to me by INST.	3.67	1.92	21.2	11.1	8.2	27.1	12.4	11.5	8.6
Retailers should use INST to enhance shopping.	3.90	1.84	16.9	9.6	6.4	30.3	16.3	11.5	9.1
INST is a professional way to assess retailers.	3.81	1.80	16.7	10.3	7.9	32.2	14.0	11.0	7.8
INST is an ethical way for retailers to engage participants	4.01	1.76	14.2	8.6	6.6	32.7	17.5	12.0	8.4
INST is an appropriate resource for apparel shopping.	3.96	1.81	14.9	9.7	7.8	30.9	14.9	12.5	9.2

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; INST = Instagram

Table 5.13

Social Media Use and Perception of Pinterest

Item	M	SD	Frequencies						
			1	2	3	4	5	6	7
I use PIN to gain knowledge.	4.27	2.02	17.0	7.7	4.7	21.7	16.1	16.7	16.1
I use PIN to enhance my education.	3.86	1.93	18.3	11.1	7.2	26.1	14.7	12.3	10.5
PIN is useful for learning about news.	3.65	1.79	17.4	13.0	10.0	30.5	12.8	8.9	7.4
PIN is useful for learning about friends.	4.04	1.80	14.4	8.8	6.3	29.5	19.4	12.6	8.9
PIN is useful for learning about shopping.	4.32	1.82	13.0	6.3	5.1	28.0	19.8	15.1	12.8
I would be interested in PIN for information about apparel.	4.20	1.86	14.3	8.0	4.6	28.2	18.3	14.6	12.0
I would like apparel advertised to me by PIN.	3.92	1.93	18.3	9.2	6.9	27.7	15.8	10.2	11.9
Retailers should use PIN to enhance shopping.	4.13	1.86	14.8	8.6	5.6	27.3	18.9	13.4	11.4
PIN is a professional way to assess retailers.	4.09	1.82	14.3	7.9	6.5	30.9	17.4	11.9	11.1
PIN is an ethical way for retailers to engage participants	4.19	1.80	13.5	7.0	5.0	31.5	18.9	12.8	11.2
PIN is an appropriate resource for apparel shopping.	4.12	1.83	14.9	6.6	6.3	30.8	17.6	12.5	11.2

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; PIN = Pinterest

Environmental Sustainability Apparel Knowledge

Overall participants in this study had extremely low levels of knowledge regarding environmental issues in the apparel and textile industry, with 75% or more of the respondents answering most of the questions in the ESAK scale incorrectly. For example, 90% of the participants incorrectly believed that minimal fabric is wasted in the manufacturing of clothing, 89% incorrectly stated that a majority of garments thrown away by consumers are diverted from landfills and recovered for reuse or recycling, and 91.2% were incorrect in believing that by using more natural fibers it is possible to significantly decrease energy consumption in the AT industry. The participants seemed to be slightly more knowledgeable about the differences in environmental impact between cotton and polyester (Items #21-24). However, over half of the respondents still answered the majority these questions incorrectly (see Table 5.14).

Table 5.14

Environmental Sustainability Apparel Knowledge

Item	Frequencies	
	Correct	Incorrect
Globally, more agrochemical insecticides are applied to cotton than any other major crop. (True)	.38	.61
Growing enough cotton to make a pair of jeans (weighs 1.5 pounds) requires approximately 55% more water than what is needed to grow enough wheat for a loaf of bread weighs 2 pounds. (True)	21.5	78.5
The raw materials used to manufacture polyester and other synthetic fibers are derived from nonrenewable resources. (True)	27.0	73.0
The raw material needed to make virgin polyester and other synthetic fibers is abundantly available. (False)	13.9	86.1
Transforming the raw materials into polyester fibers is more energy intensive as cultivating cotton fiber. (True)	18.9	81.1
Though it takes little to no water to produce synthetic fibers, it consumes large amounts of energy. (True)	26.8	73.1

Statement		
Chemicals used in textile processing can remain in aquatic systems for fifty or more years. (True)	26.3	73.7
As much as 20% of ALL industrial water pollution comes from dyeing and finishing of textiles. (True)	27.6	72.3
Transforming cotton fiber into denim fabric is more energy intensive than manufacturing jeans. (True)	33.7	66.3
Many of the chemicals found in textile dyes are known and/or suspected carcinogens. (True)	24.3	75.7
Chemical pollutants are produced during the manufacturing of textiles. (True)	27.7	72.3
The manufacturing of clothing uses large amounts of energy. (True)	33.3	66.7
Minimal fabric is wasted in the manufacturing of clothing. (False)	10.0	90.0
A garment's fiber type affects the amount greenhouse gases emitted into the atmosphere during home laundering (washing and drying). (True)	30.5	69.3
Home laundering (washing and drying) of a 100% cotton t-shirt will have less of an environmental impact than the initial production of the cotton fiber and the manufacturing of the shirt. (False)	13.9	86.1
In an industrial landfill, a 100% cotton garment will biodegrade within one to two months. (False)	12.0	88.0
A majority of garments thrown away by consumers are diverted from landfills and recovered for reuse or recycling. (False)	11.0	89.0
The production of textile and apparel products uses minimal amounts of water. (False)	24.6	75.4
Though natural fibers such as cotton and wools are processed, dyed, and cleaned with large amounts of chemicals, they are still safe to the environment and people. (False)	24.0	76.0
The use of larger quantities of natural fibers will significantly decrease energy consumption within the textile industry. (False)	8.8	91.2
Which of the following consumes the most energy during fiber production? (Polyester)	38.6	61.4
Which of the following consumes the most water during fiber production? (Cotton)	40.7	59.3
Which consumes the least energy when drying in a home dryer: a load of 100% cotton items or a load 100% polyester? (The load of 100% polyester)	34.2	65.8
If placed in a home compost system, which would biodegrade faster? (A 100% cotton t-shirt)	54.8	45.0

Attitude Towards ESA

  Overall, study participants viewed ESA as well made (55.9%), high quality (59.1%), and a worthwhile product (67%). However, in terms of strength of answers, participants thought ESA was hard to find (32.8%) and of poor value (56.5%). Participants neither agreed nor disagreed that sustainable apparel was boring and many respondents indicated that they would purchase a sustainable apparel product (79.6%). However, the respondents were conflicting in their perceptions that ESA was a worthwhile product and of good quality. These conflicting responses demonstrate that the barriers of ESA consumption are seen in the responses. It is noted that consumers are willing to purchase and aware of sustainable apparel, but they are still hesitant regarding their attitudes towards the specifics of ESA (see Table 5.15).

Table 5.15

Attitude towards ESA

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
I would purchase a sustainable apparel product.	5.68	1.28	1.5	.5	1.3	17.1	16.5	31.3	31.8
Sustainable apparel is a mediocre product.	4.11	1.56	7.4	9.1	9.3	41.1	13.2	12.0	7.9
Sustainable apparel is a high quality product.	5.06	1.29	1.0	1.0	4.0	34.9	21.2	20.3	17.6
Sustainable apparel is poor value.	4.31	1.54	6.1	7.9	5.9	40.6	16.5	30.9	9.1
Sustainable apparel is a well-made made product.	4.97	1.26	1.1	1.3	2.6	39.1	20.9	20.4	14.6
Sustainable apparel is boring.	4.45	1.55	4.6	6.5	9.7	36.8	14.9	15.8	11.6
Sustainable apparel is a worthwhile product.	5.21	1.40	2.8	1.1	2.2	26.8	20.8	25.4	20.8
Sustainable apparel is easy to find.	4.11	1.52	4.6	10.0	15.7	36.9	13.9	9.8	9.1

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree

Social Influence of Peers to Use Facebook

Overall, participants in this study felt very strongly that people who influenced their behaviors thought they should use FB (63.9%) and those that are important to them (93.7%) think the participants should use Facebook. Additionally, there was a high percentage of participants who believed their peers (69.2%) and retailers supported their use of Facebook (51.6%) (see Table 5.16).

Social Influence of Peers to Use Twitter

Overall, the social influence of peers to use Twitter was lower than Facebook, with more respondents "disagreeing" that retail establishments support their use of Twitter (33.3%). Conversely, they did seem to think their peers were on Twitter or support the use of the system "somewhat strongly" (47.7%). However, the majority of respondents, based on their answers, seemed to "agree" rather than "disagree" that their peers support the use of Twitter (39.3%) (see Table 5.17).

Social Influence of Peers to Use Instagram

Instagram was similar to Twitter in terms of respondents being neutral in admitting to being influenced by peers to use Instagram (31.3%). However, there was much more support and pressure from important peers to be on Instagram (53.8%). Further, a majority of the respondents agreed that their peers in general (83.2%) and retail establishments (35.8%) supported the use of Instagram (see Table 5.18).

Table 5.16

Social Influence of Peers to Use Facebook

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
People who influence my behavior think I should use FB.	4.99	1.71	6.4	4.2	4.9	20.7	18.1	23.8	22.0
People who are important to me think I should use FB.	5.35	1.48	3.2	2.3	4.0	16.2	19.4	30.8	24.1
In general, my peers support the use of FB.	5.28	1.48	2.9	2.3	3.4	22.1	17.1	28.5	23.6
In general, retail establishments support the use of FB.	4.63	1.66	6.8	5.6	5.4	30.7	18.1	18.4	15.1

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; FB = Facebook

Table 5.17

Social Influence of Peers to Use Twitter

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
People who influence my behavior think I should use TWIT.	4.07	1.84	13.0	11.2	6.5	30.0	13.7	15.1	10.5
People who are important to me think I should use TWIT.	4.44	1.74	9.5	6.5	5.9	30.7	16.5	18.3	12.8
In general, my peers support the use of TWIT.	4.51	1.70	8.7	5.0	5.4	33.3	16.5	17.4	13.8
In general, retail establishments support the use of TWIT.	3.95	1.76	13.9	9.7	6.9	36.3	12.3	12.4	8.6

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; TWIT = Twitter

Table 5.18

Social Influence of Peers to Use Instagram

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
People who influence my behavior think I should use INST.	4.25	1.83	12.3	8.4	4.7	31.3	16.5	13.4	13.4
People who are important to me think I should use INST.	4.62	1.72	8.7	5.6	3.6	28.4	18.5	21.6	13.7
In general, my peers support the use of INST.	4.52	1.65	7.8	5.5	4.1	35.2	16.5	18.3	12.6
In general, retail establishments support the use of INST.	4.04	1.76	13.0	9.3	5.4	36.5	13.3	13.2	9.3

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; INST = Instagram

Social Influence of Peers to Use SNS Pinterest

Similarly to the other three systems, Facebook, Twitter and Instagram, responses were neutral regarding the influence of peers and retail establishments to use Pinterest. However, Pinterest was much higher than Twitter and Instagram in terms of people important to the respondents using the system (57.9%), peers being supportive of the SNS (50.3%), and those that influence their behavior thinking the respondents should use Pinterest (40.1%). Retailers also scored much higher as being supportive of the use of Pinterest (50.3%) (see Table 5.19).

Influence of SNS Systems on Purchase Behavior

Participants seemed to very strongly disagree or be neutral on the concept of SNS systems influencing their purchase behavior. If they did agree that SNS influence their behaviors, it was only "somewhat agreed" (see Table 5.20). The highest response of "strongly agree" was associated with social media influencing their purchase decisions. This is a promising finding in terms of there being a possibility for SNS systems to influence consumers purchase intentions. However, the response rate of "strongly agree" regarding this was still not high compared to most responses being "neutral." In terms of the specific social networking sites, only 28% of the respondents "somewhat" to "strongly" agreed that their involvement on Facebook influenced their purchase decisions, approximately 40% "somewhat" to "strongly" agreed that their involvement on Twitter influenced their purchase decisions, 29.8% on Instagram, and approximately 35% on Pinterest.

Subjective Norm: Normative Beliefs Regarding Purchasing ESA

The participants' normative beliefs regarding purchasing ESA were extremely neutral. Participants did not seem to consider what their friends on social media thought about ESA (see Table 5.21). In regards to whether they believed their friends on social media thought they should purchase ESA, 38.6% "somewhat" to "strongly" agreed with this

Table 5.19

Social Influence of Peers to Use Pinterest

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
People who influence my behavior think I should use PIN.	4.06	1.85	14.0	10.1	6.9	28.9	15.5	14.0	10.6
People who are important to me think I should use PIN.	4.68	1.65	8.0	4.6	4.7	24.8	20.2	27.1	10.6
In general, my peers support the use of PIN.	4.64	1.52	5.9	3.4	4.6	35.8	18.8	20.3	11.2
In general, retail establishments support the use of PIN.	3.93	1.73	14.0	8.8	7.7	36.4	13.3	12.5	7.3

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree; PIN = Pinterest

Table 5.20

Influence of SNS System on Purchase Behavior

Item	M	SD	1	2	3	4	5	6	7
			Frequencies (%)						
My involvement on social media influences my purchase decisions.	4.08	1.85	13.7	11.5	7.5	20.7	24.3	11.9	10.5
My involvement on Facebook influences my purchase decisions.	3.42	1.87	22.7	15.8	8.6	24.9	12.3	9.2	6.5
My involvement on Twitter influences my purchase decisions.	3.89	1.83	14.6	14.2	7.4	23.4	21.3	10.3	8.8
My involvement on Instagram influences my purchase decisions.	3.50	1.86	20.9	16.0	7.2	26.2	14.6	8.0	7.2
My involvement on Pinterest influences my purchase decisions.	3.71	1.89	18.8	13.9	7.9	24.1	15.6	11.7	7.9
Retailers I follow on social media influence my purchase decisions.	4.05	1.81	13.2	12.0	7.2	21.6	24.8	12.6	8.7

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree

Table 5.21

Subjective Norm: Normative Beliefs Regarding Purchasing ESA

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
My friends on social media think I should not purchase a sustainable apparel product.	4.47	1.53	4.6	6.8	3.8	46.2	13.0	11.9	13.7
My friends on social media think sustainable apparel is a mediocre product.	4.03	1.41	6.3	8.0	9.8	48.4	12.6	9.3	5.5
My friends on social media think sustainable apparel is a high quality product.	4.60	1.33	2.6	3.2	4.2	47.9	17.6	13.2	11.4
My friends on social media think sustainable apparel is poor value product.	4.21	1.38	5.0	6.1	8.7	47.3	15.6	11.0	6.4
My friends on social media think sustainable apparel a well-made product.	4.52	1.28	2.4	2.9	4.9	52.2	14.4	14.0	9.1
My friends on social media think sustainable apparel is boring.	4.19	1.41	5.9	5.1	10.0	47.8	12.5	12.5	6.3
My friends on social media think sustainable apparel is a worthwhile product.	4.65	1.35	2.7	3.4	4.9	42.7	18.3	17.8	10.3
My friends on social media think sustainable apparel is easy to find.	4.12	1.42	5.2	7.5	10.1	47.6	13.3	9.1	7.2

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree

statement. Among responses, 42.2% somewhat to "strongly" agreed with their friends

believing that ESA was of high quality, 33% agreed that their friends on social media thought

ESA was of poor value, 46.4% believed their friends thought ESA was worthwhile, and

31.3% believed their friends on social media thought ESA was a boring product. Overall

29.6% "somewhat" to "strongly" agreed that their friends on social media thought ESA was

easy to find. However, overall responses to these items were neutral and this may be because

ESA is not a big conversation on social media.

Subjective Norm: Motivation to Comply

Again consumers were extremely "neutral" or "strongly" disagreed with their

motivation to comply with their peers. Regarding whether or not retailers on social media

influenced purchase decisions (M=-.01, sd= 1.81), 13.9% strongly disagreed, 11.1%

disagreed, 9.3% somewhat disagreed, 20.8% neither agreed nor disagreed, 23.9% somewhat

agreed, 12.6% agreed, and 8.3% strongly agreed. Additionally, regarding whether or not

respondents were influenced by their friends on social media in general regarding their

purchase decisions (M=-.30, sd=1.93) 16.9% strongly disagreed, 17.2% disagreed, 11.5%

somewhat disagreed, 18.1% neither agreed nor disagreed, 16.6% somewhat agreed, 8.8%

agreed, and 10.9% strongly agreed (see Table 5.22).

ESA Purchase Intention

The research participants were also neutral in their intentions to purchase

environmentally sustainable apparel. However, more participants agreed they had intentions

to purchase ESA or tell a friend about ESA rather than disagreeing, giving hope to the

possibility that a real change in demand can occur (see Table 5.23). This data also indicates

that the barriers still exist regarding ESA leading to intention to purchase. Regarding whether

or not respondents intended to purchase an item of ESA 7.3% "somewhat" to "strongly"

Table 5.22

Subjective Norm: Motivation to Comply

Item	M	SD	Frequencies (%)						
			-3	-2	-1	0	1	2	3
My friends' opinions on social media influence my apparel purchase decisions.	-.30	1.93	16.9	17.2	11.5	18.1	16.6	8.8	10.9
My friends' opinions on Twitter influence my apparel purchase decisions.	-.65	1.86	22.6	17.1	11.1	23.1	11.4	7.5	7.2
My friends' opinions on Facebook influence my apparel purchase decisions.	-.36	1.87	18.1	16.1	10.2	19.0	20.4	8.0	8.0
My friends' opinions on Pinterest influence my apparel purchase decisions.	-.54	1.84	20.6	16.0	10.2	24.3	14.4	7.9	6.6
My friends' opinions on Instagram influence my apparel purchase decisions.	-.47	1.88	20.2	15.3	10.7	23.5	13.4	8.8	8.0
Retailers I follow on social medial influence my apparel purchase decisions.	.01	1.81	13.9	11.1	9.3	20.8	23.9	12.6	8.3

-3=Strongly disagree, -2=Somewhat disagree, -1=Disagree, 0=Neither disagree nor agree, 1= Agree, 2= Somewhat agree, 3=Strongly agree

Table 5.23

ESA Purchase Intention

Item	M	SD	Frequencies (%)						
			1	2	3	4	5	6	7
In the future I intend to purchase environmentally sustainable apparel.	5.12	1.36	1.5	3.3	2.3	27.8	25.8	19.3	19.9
In the future I intend to tell a friend about environmentally sustainable apparel.	4.96	1.41	2.3	2.8	5.4	28.6	24.9	19.2	16.9

1=Strongly disagree, 2=Somewhat disagree, 3=Disagree, 4=Neither disagree nor agree, 5=Agree, 6= Somewhat agree, 7=Strongly agree

disagreed and 65% "somewhat" to "strongly" agreed. Additionally, regarding whether or not respondents intended to tell others about ESA, 10.5% "somewhat" to "strongly" disagreed and 61% "somewhat" to "strongly" agreed.

Hypothesis Testing and Findings

After establishing validity and reliability of the scales and calculating descriptive statistics, a summed mean score of each of the scales was computed. These summed means were used in data analysis to test the hypotheses and answer the research questions. Once the factor analysis once conducted, summed means were then calculated on the new scales (see Table 5.24). This rest of the section of the chapter outlines the findings related to the research questions and hypotheses. Correlations, ANOVAs and a hierarchical regression were conducted to determine the relationships amongst the variables and the strength of the proposed research model.

Table 5.24

Summed Mean Variables

Scale	N	*M*	SD
ES AT Knowledge	783	.26	.21
ESA Attitude	783	5.22	1.10
Social Influence of Peers to Use Facebook	783	5.21	1.39
Social Influence of Peers to Use Twitter and Instagram	783	4.40	1.46
Social Influence of Peers to Use Pinterest	783	4.22	1.57
SMUP of Facebook	783	4.56	1.43
SMUP of Twitter	783	3.89	1.63
SMUP of Instagram	783	3.76	1.64
SMUP of Pinterest	783	4.11	1.63

Influence of SNS on Purchase Behavior	783	3.78	1.63
Subjective Norm- Normative Beliefs	783	4.56	1.20
Subjective Norm- Motivation to Comply	783	-.39	1.67

Relationships between Demographics and Knowledge about AT Related Environmental Sustainability Issues

The relationship between age and gender and knowledge about AT related environmental sustainability issues (as measured by LeHew and Hiller Connell, under development) was investigated using Pearson product-moment correlation coefficient. An ANOVA was conducted to understand the relationships between income, education, geographic regions and knowledge about AT environmental sustainability issues.

Hypothesis 1a stated there would be a significant and positive relationship between age and knowledge about AT related environmental sustainability issues. However, the data found no significance between age (r=-.03, p=.39, M=33.83, sd= 12.05) and knowledge of AT related ES issues (M=6.26, sd=4.94, p=.39). Therefore H1a is not supported (see Table 5.25).

Hypothesis 1b stated there would be no relationship between gender and knowledge about AT related environmental sustainability issues. The data found no significance between gender (r=-.00, p=.94, M=1.67, sd=.47) and knowledge of ES issues. Therefore H1b is supported (see Table 5.25).

Table 5.25

Correlations between Knowledge about AT Related Environmental Issues and Age and

Gender

	Knowledge of ES issues	Age	Gender
Knowledge of ES Issues	1	-.03	-.00

Hypothesis 1c stated there would be a significant and positive relationship between education and knowledge about AT related environmental sustainability issues. However, the data found no significance between education (*SS*=198.98, *df*= 4, *MS*= 49.75, *F*= 2.05, *p*=.09) and knowledge of ES issues. Therefore H1c is not supported (see Table 5.26).

Hypothesis 1d stated there would be a significant and positive relationship between income and knowledge about AT related environmental sustainability issues. However, the data found no significance in the relationship between income (0-9,999: *M*=6.11, sd=5.00, 10,000-19,999: *M*=6.68, sd=4.99, 20,000-29,999: *M*=5.89, sd=4.58, 30,000-39,999: *M*=6.84 , sd=5.35, 40,000-49,999: *M*=6.89, sd=5.16, 50,000-59,999: *M*=6.80, sd=4.97, 60,000-69,999: *M*=6.22, sd=4.62, 70,000-79,999: *M*=5.36, sd=4.82, 80,000-89,999: *M*=6.17, sd=4.84, 90,000-99,999: *M*=5.86, sd=4.48, 100+: *M*=6.12, sd=5.06, *SS*=148.96, *df*=10, *MS*=14.90, *f*=.61, *p*=.81) and knowledge of ES issues related to the AT industry. Therefore H1d is not supported (see Table 5.26).

Hypothesis 1e stated there would be a significant difference between geographic location and knowledge about AT related environmental sustainability issues. However, the data found no significant difference between any geographic regions (West: *M*=5.68, *sd*=4.48, Southwest: *M*=6.10, *sd*=4.65, Midwest: *M*=6.00, *sd*=5.10, Southeast: *M*=6.83,

sd=5.00, Northeast: *M*=6.24, *sd*=5.09) and knowledge about AT related ES issues

(*SS*=134.11, *df*=4, *MS*=33.53, *F*=1.38; *p*=.24). Therefore, H1e is not supported (see Table

5.26).

Table 5.26

Oneway ANOVA: Geographic Region, Income, and Education on Knowledge about AT Related ES Issues

Demographic variable	*M*	Std. dev	*n*	*SE*	*SS*	*df*	*MS*	*F*	Sig.
Geographic region									
West	5.68	4.48	119	.41	-	-	-	-	-
Southwest	6.10	4.65	78	.53	-	-	-	-	-
Midwest	6.00	5.10	172	.39	-	-	-	-	-
Southeast	6.83	6.83	248	.32	-	-	-	-	-
Northeast	6.24	6.24	154	.41	-	-	-	-	-
	-	-	-	-	134.11	4	33.53	1.38	.24
Income (in thousands)									
0-9,999	6.11	5.00	54	.68	-	-	-	-	-
10,000-19,999	6.68	4.99	60	.65	-	-	-	-	-
20,000-29,999	5.89	4.58	103	.45	-	-	-	-	-
30,000-39,000	6.84	5.35	103	.53	-	-	-	-	-
40,000-49,999	6.39	5.16	89	.55	-	-	-	-	-
50,000-59,999	6.80	4.97	86	.54	-	-	-	-	-
60,000-69,999	6.22	4.62	45	.69	-	-	-	-	-
70,000-79,999	5.36	4.82	66	.59	-	-	-	-	-
80,000-89,000	6.17	4.84	30	.88	-	-	-	-	-
90,000-99,999	5.86	4.48	42	.69	-	-	-	-	-
100,000+	6.12	5.06	102	.50	-	-	-	-	-

	M	SD	n			df			
	-	-	-	-	148.96	10	14.90	.61	.81
Education									
Less than High School	6.65	4.75	46	.70	-	-	-	-	-
High School/ GED	5.65	5.00	283	.30	-	-	-	-	-
Associate Degree	6.81	4.89	134	.42	-	-	-	-	-
Bachelor's Degree	6.31	4.83	207	.34	-	-	-	-	-
Graduate Degree	6.91	5.01	110	.48	-	-	-	-	-
	-	-	-	-	198.98	4	49.75	2.05	.09

Relationships between SMUP and Knowledge about AT Related Environmental Sustainability Issues

The relationship between social media use and perception (as measured by Wang et al., 2012) and knowledge about AT related environmental sustainability issues (as measured by LeHew & Hiller Connell, under development) was investigated using Pearson product-moment correlation coefficient.

The data from this study indicates a significant and positive relationship between knowledge about AT related ES issues and social media use and perception of Facebook (r=.20, p<.01, M=46.11, SD=14.35), Twitter (r=.22, p<.01, M=35.50, SD=14.88), Instagram (r=.28, p<.01, M=33.99, SD=14.95), and Pinterest (r=.25, p<.01, M=37.42, SD=14.82) (see Table 5.27). This indicates that there is a group of consumers who use SNS to gain knowledge and those individuals are more knowledgeable about AT environmental issues. However, despite the finding of some significant relationships, all of the r-values that were significant were less than .5, indicating a weak relationship. Therefore, although there appears to be some correlation between a few of these variables, they are not strong and not too much weight should be placed on any of the relationships.

Table 5.27

Correlation between Knowledge about AT Related Environmental Issues and SMUP

	Knowledge	SMUP (FB)	SMUP (TWIT)	SMUP (INST)	SMUP (PIN)
Knowledge	1	.20**	.22**	.28**	.25**

** Correlation is significant at the 0.01 level (2-tailed); Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Relationships between Demographics and Social Influence of Peers to Use SNS Sites

The relationship between age and gender and social influence of peers to use SNS sites (as measured by Venketesh et al, 2003) was investigated using Pearson product-moment correlation coefficient. The relationship between education, income, and geographic region, and social influence to use SNS were measured using three one way.

Hypothesis 2a stated there would be a significant and negative relationship between social influence of peers to use SNS and age. Accordingly, the data found a significant and negative relationship between the social influence of peers to use Instagram and Twitter and age (r=-.29, p<.01, M=14.70, SD=4.86). Additional significant and negative relationships were found between age and the social influence of peers to use Facebook (r=-.09, p<.01, M=12.10, SD=3.33) and age and social influence of peers to use Pinterest (r=-.20, p<.01, M=10.05, SD=3.68). Therefore H2a is supported (see Table 5.28). This hypothesis explains that as individuals get older, they are less influenced by peers to use SNS. However, again, the r-values are quite weak, therefore the relationship should not receive too much weight.

Hypothesis 2b stated there would be no significant relationship between gender and social influence of peers to use SNS. The data found no significant relationship between social influence of peers to use Instagram and Twitter and gender as predicted (Gender: M=1.67, SD=.469, Social Influence: r=-.05, p=.17, M=14.70, SD=4.86). Additionally, no

significant relationship was found between gender and social influence of peers to use

Facebook (*r*=.01, *p*=.72, *M*=12.10, *SD*=3.33). However, gender and social influence of peers

to use Pinterest showed a significant and positive relationship (*r*=.08, *p*<.05, *M*= 10.05, *SD*=

3.68) . Once the significant difference was determined, an independent t-test was conducted

to further assess the differences. Equal variances were assumed among females (*M*=10.25,

sd=3.48) and males (*M*=9.65, *sd*=4.04) and significant at the p<.05 level (*F*=10.20, *t*=-2.13,

df=781, *p*=.03). Therefore H2b is partially supported (see Table 5.28).

Table 5.28

Correlation between Social Influence of Peers to Use SNS and Age and Gender

	Social influence of peers (FB)	Social influence of peers (TWIT and INST)	Social influence of peers (PIN)
Age	-.09**	-.29**	-.20**
Gender	.01	-.05	.08*

** Correlation is significant at the 0.01 level (2-tailed); Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Hypothesis 2c stated there would be a significant and negative relationship between

education and social influence of peers to use SNS. However, there was actually a significant

and positive relationship found between social influence of peers to use Instagram and

Twitter and education at the p<.01 level (*SS*=326.34, *df*= 4, *MS*=81.59, *F*= 3.49, *p*<.05).

Additional significant and positive relationships were found between education and social

influence of peers to use Facebook (*SS*=128.26, *df*= 4, *MS*=32.06, *F*= 2.91, *p*<.05) and

education. There was not a significant relationship between social influence of peers to use

Pinterest (*SS*=114.22, *df*= 4, *MS*=28.56, *F*= 2.12, *p*=.08). Therefore H2c is not supported

(see Table 5.29). This finding implies that more the educated people are, the more likely they

are to be influenced by their peers to use SNS, specifically Facebook, Instagram and Twitter

(see Table 5.29).

Table 5.29

Oneway ANOVA: Education on Social Influence of Peers to Use SNS

Education	M	Std. dev	n	SE	SS	df	MS	F	Sig.
Social Influence of Peers – Facebook									
Less than High School	11.28	2.82	47	.41	-	-	-	-	-
High School/ GED	11.89	3.49	283	.21	-	-	-	-	-
Associate Degree	11.76	3.88	135	.33	-	-	-	-	-
Bachelor's Degree	12.57	2.97	208	.21	-	-	-	-	-
Graduate Degree	12.56	2.89	110	.28	-	-	-	-	-
	-	-	-	-	128.26	4	32.06	2.91	.02*
Social Influence of Peers – Instagram and Twitter									
Less than High School	14.15	4.36	47	.64	-	-	-	-	-
High School/ GED	14.05	5.28	283	.31	-	-	-	-	-
Associate Degree	14.51	4.99	135	.43	-	-	-	-	-
Bachelor's Degree	15.58	4.31	208	.30	-	-	-	-	-
Graduate Degree	15.19	4.56	110	.43	-	-	-	-	-
	-	-	-	-	326.34	4	81.59	3.50	.01*
Social Influence of Peers – Pinterest									
Less than High School	9.98	3.20	47	.47	-	-	-	-	-
High School/ GED	9.57	3.75	283	.22	-	-	-	-	-
Associate Degree	10.32	3.92	135	.34	-	-	-	-	-
Bachelor's Degree	10.46	3.63	208	.25	-	-	-	-	-
Graduate Degree	10.23	3.41	110	.32	-	-	-	-	-
	-	-	-	-	114.22	4	28.56	2.12	.08

* Significant at the 0.05 level

Hypothesis 2d stated there would be a significant negative relationship between social influence of peers to use SNS and income. However, there was no significant relationship between income and social influence of peers to use Instagram and Twitter (*SS*=264.08, *df*=10, *MS*=26.71, *f*=1.13, p= .34), Facebook (*SS*=177.60, *df*=10, *MS*=17.76, *f*=1.61, *p*=.10). However, there was a significant relationship with the Pinterest system (*SS*=327.05, *df*=10, *MS*= 32.71, *f*=2.46, *p*<.05). Therefore H2d is partially supported among the Pinterest system (see Table 5.30).

Table 5.30

Oneway ANOVA: Income on Social Influence of Peers to Use SNS

Income (in thousands)	*M*	Std. dev	*n*	SE	*SS*	*df*	*MS*	*F*	Sig.
Social Influence of Peers – Facebook									
0-9,999	11.61	3.42	54	.46	-	-	-	-	-
10,000-19,999	11.44	3.93	60	.50	-	-	-	-	-
20,000-29,999	12.04	3.28	103	.32	-	-	-	-	-
30,000-39,000	12.27	3.40	103	.33	-	-	-	-	-
40,000-49,999	12.63	2.96	89	.31	-	-	-	-	-
50,000-59,999	12.63	3.25	86	.35	-	-	-	-	-
60,000-69,999	12.50	2.95	45	.44	-	-	-	-	-
70,000-79,999	11.16	3.50	66	.43	-	-	-	-	-
80,000-89,000	12.72	3.35	30	.60	-	-	-	-	-
90,000-99,999	11.66	3.68	42	.57	-	-	-	-	-
100,000+	12.18	3.09	102	.31	-	-	-	-	-
	-	-	-	-	177.60	10	17.76	1.61	.10

Social Influence of Peers – Instagram and Twitter

0-9,999	14.83	4.65	54	.63	-	-	-	-	-
10,000-19,999	13.20	5.36	60	.69	-	-	-	-	-
20,000-29,999	14.55	5.07	103	.50	-	-	-	-	-
30,000-39,000	14.45	4.97	103	.49	-	-	-	-	-
40,000-49,999	15.13	4.96	89	.53	-	-	-	-	-
50,000-59,999	15.68	4.72	86	.51	-	-	-	-	-
60,000-69,999	14.61	5.28	45	.79	-	-	-	-	-
70,000-79,999	14.29	4.65	66	.57	-	-	-	-	-
80,000-89,000	14.93	4.30	30	.77	-	-	-	-	-
90,000-99,999	15.19	4.03	42	.62	-	-	-	-	-
100,000+	14.75	4.77	102	.47	-	-	-	-	-
	-	-	-	-	267.08	10	26.71	.1.13	.34

Social Influence of Peers – Pinterest

0-9,999	9.40	3.67	54	.50	-	-	-	-	-
10,000-19,999	8.84	4.29	60	.55	-	-	-	-	-
20,000-29,999	10.36	3.40	103	.33	-	-	-	-	-
30,000-39,000	9.80	3.74	103	.37	-	-	-	-	-
40,000-49,999	10.20	3.65	89	.39	-	-	-	-	-
50,000-59,999	10.87	3.63	86	.39	-	-	-	-	-
60,000-69,999	10.89	3.41	45	.51	-	-	-	-	-
70,000-79,999	9.17	4.02	66	.50	-	-	-	-	-
80,000-89,000	10.67	2.68	30	.48	-	-	-	-	-
90,000-99,999	11.02	2.92	42	.45	-	-	-	-	-

| 100,000+ | 9.84 | 3.74 | 102 | .37 | - | - | - | - | - |
| | - | - | - | - | 327.05 | 10 | 32.71 | 2.46 | .01* |

* Significant at the 0.05 level

Hypothesis 2e stated there would be a significant and positive relationship between geographic location and social influence of peers with using SNS. However, there was not a significant difference between geographic region and social influence of peers to use Instagram and Twitter (SS= 66.98, df= 4, MS= 16.75, F=.72), social influence of peers to use Facebook (SS= 11.13, df= 4, MS= 2.78, F=.26), and social influence of peers to use Pinterest (SS= 53.65, df= 4, MS= 13.41, F=.1.00; p=.41). Therefore, H2e is not supported (see Table 5.31).

Table 5.31

Oneway ANOVA: Geographic Region on Social Influence of Peers to Use SNS

Geographic region	*M*	Std. dev	*n*	SE	*SS*	*df*	*MS*	*F*	Sig.
Social Influence of Peers to Use Facebook									
West	11.98	3.37	120	.31	-	-	-	-	-
Southwest	12.00	3.48	78	.39	-	-	-	-	-
Midwest	12.32	3.30	172	.25	-	-	-	-	-
Southeast	12.11	3.27	248	.21	-	-	-	-	-
Northeast	12.20	3.17	156	.25	-	-	-	-	-
	-	-	-	-	11.13	4	2.78	2.60	.91
Social Influence of Peers to Use Instagram and Twitter									
West	15.08	4.76	120	.44	-	-	-	-	-
Southwest	14.52	4.75	78	.54	-	-	-	-	-
Midwest	15.12	4.72	172	.36	-	-	-	-	-
Southeast	14.59	4.94	248	.31	-	-	-	-	-
Northeast	14.38	4.87	156	.39	-	-	-	-	-
	-	-	-	-	66.98	4	16.75	.72	.58

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Social Influence of Peers to Use Pinterest

West	10.19	3.76	120	.34	-	-	-	-	-
Southwest	10.31	3.40	78	.39	-	-	-	-	-
Midwest	10.44	3.77	172	.29	-	-	-	-	-
Southeast	9.88	3.71	248	.24	-	-	-	-	-
Northeast	9.76	3.51	156	.28	-	-	-	-	-
	-	-	-	-	53.65	4	13.41	1.00	.41

Relationships between SMUP and Social Influence of Peers to Use SNS

The relationship between social media use and perception (as measured by Wang et al., 2012) and the social influence of peers to use SNS (as measured by Venketesh et al, 2003) was investigated using Pearson product-moment correlation coefficient.

There was a positive and significant relationship between the use and perception of a system and the social influence of peers to use that system. All relationships were found significant at the p<.01 level including SMUP and social influence of peers (r=.58, p<.01, M= 12.10, SD= 3.33) to use Facebook, SMUP and social influence of peers (r=.61, p<.01, M=14.70, SD=4.86) to use Instagram, SMUP and social influence of peers (r=.66, p<.01, M=14.70, SD=4.86) to use Twitter, and SMUP and social influence of peers (r=.67 p<.01, M=10.05, SD=3.68) to use Pinterest. All system use and perceptions were found to be correlated with the social influence of peers to use each system; however, since these correlations are not higher than .9, it is unlikely that there is multicollinearity of the scales. It may just be that if a person uses social media and perceives it in a certain way they are more likely to be influenced to use all SNS platforms. However, the rvalues were quite strong (above .5) therefore this relationship should be noted in further studies and more weight should be placed on the relationship (see Table 5.32).

Table 5.32

Correlation between SMUP and Social Influence of Peers to Use SNS

	SMUP (FB)	SMUP (TWIT)	SMUP (INST)	SMUP (PIN)
Social Influence of Peers (FB)	.58**	-	-	-
Social Influence of Peers (TWIT and INST)	-	.66**	.61**	-
Social Influence of Peers (PIN)	-	-	-	.67**

** Correlation is significant at the 0.01 level (2-tailed); Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Relationships between Demographics and Influence of SNS Systems on Purchase Behavior

The relationship between age and gender and the influence of SNS systems on purchase behaviors (as measured by Shen et al, 2003) was investigated using Pearson product-moment correlation coefficient. Only age was found significant (and a negative relationship) (age: $r=-.23$, $p<.01$, $M=33.83$, $SD=8.54$; gender: $r=-.05$, $p=.29$, $M=1.67$, $SD=.47$.) Although a significant relationship was found, the r-value was less than .5, indicating a weak relationship. Therefore, although there appears to be a negative significant correlation between age and the influence of SNS system on purchase behavior, it is very weak and not too much weight should be placed on the relationship (see Table 5.33).

Table 5.33

Correlation between Social Influence of SNS Systems on Purchase Behaviors and Age and
Gender

	Influence of SNS on purchase behavior
Age	-.23**
Gender	-.05

** Correlation is significant at the 0.01 level (2-tailed)

The relationships between geographic region, income, and education and influence of SNS on purchase behaviors were measured using a one-way ANOVA (see Table 5.34). There was not a significant difference between geographic region and the influence of SNS systems on purchase behavior (SS= 200.39, df= 4, MS= 50.10, F=.69, p=.60). This suggests that, compared to in the past, geographic region may not contribute to consumers' purchase behaviors, particularly in terms of SNS. Online mediums, unlimited access to, and availability of products from all over the world may possibly be creating a more generic online customer, limiting the role of location in shaping consumer behavior.

The relationship between income and the influence of SNS on purchase behavior income was found to be significant (SS= 1844.20, df= 10, MS= 184.42, F=2.58, p<.00). However, the relationship between education and the influence of SNS on purchase behavior was not significant (SS= 385.55, df= 4, MS= 96.39, F= 1.32, p= .26).

Table 5.34

Oneway ANOVA: Geographic Region, Income, and Education on Influence of SNS Systems
on Purchase Behavior

Demographic variable	M	Std. dev	n	SE	SS	df	MS	F	Sig.
Geographic region									
West	19.30	8.16	120	.75	-	-	-	-	-

	Mean	SD	N		Sum Sq	df	Mean Sq	F	p
Southwest	18.98	8.61	78	.97	-	-	-	-	-
Midwest	19.99	8.82	172	.67	-	-	-	-	-
Southeast	19.48	8.65	248	.55	-	-	-	-	-
Northeast	19.32	8.19	156	.66	-	-	-	-	-
	-	-	-	-	200.39	4	50.10	.69	.60

Income (in thousands)									
0-9,999	20.30	8.14	54	1.10	-	-	-	-	-
10,000-19,999	16.81	9.19	60	1.19	-	-	-	-	-
20,000-29,999	19.85	8.31	103	.82	-	-	-	-	-
30,000-39,000	18.44	8.56	103	.84	-	-	-	-	-
40,000-49,999	20.17	8.18	89	.87	-	-	-	-	-
50,000-59,999	21.77	8.44	86	.90	-	-	-	-	-
60,000-69,999	19.60	9.22	45	1.37	-	-	-	-	-
70,000-79,999	17.72	8.54	66	1.05	-	-	-	-	-
80,000-89,000	21.88	8.06	30	1.45	-	-	-	-	-
90,000-99,999	19.50	7.16	42	1.10	-	-	-	-	-
100,000+	17.48	8.66	102	.86	-	-	-	-	-
	-	-	-	-	1844.20	10	184.42	2.58	.00**

Education									
Less than high school	18.45	8.91	47	1.30	-	-	-	-	-
High school/ GED	18.76	8.38	283	.50	-	-	-	-	-
Associate degree	19.62	9.09	135	.78	-	-	-	-	-
Bachelor's degree	20.29	8.36	208	.58	-	-	-	-	-
Graduate degree	18.60	8.36	110	.80	-	-	-	-	-
	-	-	-	-	385.55	4	96.39	1.32	.26

** Significant at the 0.01 level (2-tailed)

Relationships between SMUP and Influence of SNS Systems on Purchase Behavior

The relationship between SMUP (as measured by Wang et al, 2012) and the influence of SNS systems on purchase behavior (as measured by Shen et al, 2003) was investigated using Pearson product-moment correlation coefficient (see Table 5.35). The data indicates a significant and positive relationship between the influence of SNS systems on purchase behavior (M=19.27, SD= 8.54) and social media use and perception of Facebook (r=.50,

p<.01, *M*= 46.11, *SD*=14.35), Twitter (*r*=.56, *p*<.01, *M*= 35.50, *SD*=14.88), Instagram (*r*=.62,

p<.01, *M*= 33.99, *SD*=14.95), and Pinterest (*r*=.55, *p*<.01, *M*= 37.42, *SD*=14.82). Since the *r*-

values of these correlations are strong (above .5), these relationships are of importance. The

more that consumers use and perceive SNS to be useful, the more likely they are to have their

purchase behaviors influenced by social networking sites.

Table 5.35

Correlation between Influence of SNS system on Purchase Behavior and SMUP

	SMUP (FB)	SMUP (TWIT)	SMUP (INST)	SMUP (PIN)
Influence of SNS system on purchasing behavior	.50**	.56**	.62**	.55**

** Correlation is significant at the 0.01 level (2-tailed); Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Relationships between Attitudes towards ESA and Knowledge about AT related

Environmental Issues

The relationship between attitudes towards ESA (as measured by Luna & Perrachio,

2001) and knowledge about AT related environmental sustainability issues (as measured by

LeHew and Hiller Connell, under development) was investigated using Pearson product-

moment correlation coefficient.

Hypothesis 3 stated that there would be a significant and positive relationship between

knowledge about AT environmental sustainability issues and attitudes towards ESA. As

predicted there was a significant and positive relationship between ES knowledge and ESA

attitudes (Attitude: *r*=.35, *p*<.01, *M*=17.00, *SD*=3.56). Therefore H3 is supported (see Table

5.36), and if a consumer has higher knowledge, he or she is more likely to have stronger

attitudes towards ESA. However, the correlation between these two variables is somewhat

weak (r=.35), as it is considered only a moderate relationship. This may be because ES knowledge was very low among the participants.

Table 5.36

Correlation between ES Knowledge and ESA Attitudes

	Knowledge
Attitudes	.35**

** Correlation is significant at the 0.01 level (2-tailed).

Relationships between Social Influence of Peers to Use SNS and Subjective Norm

The relationship between social influence of peers to use SNS (as measured by Venketesh et al., 2003) and subjective norm, including motivation to comply (as measured by Shen et al, 2003) and normative beliefs (as measured by Perrachio & Meyers-Levy, 1994) was investigated using Pearson product-moment correlation coefficient.

Hypothesis 4a stated that the social influence of peers to use SNS would have a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel. The data supported the hypothesis that the social influence of peers to use Instagram and Twitter (r=.40, p<.01), social influence of peers to use Facebook (r=.36, p=.00), and social influence of peers to use Pinterest (r=.50, p<.01) was significant and positively related to normative beliefs (M=14.74, SD= 3.94). Therefore, those more likely to be influence by peers to use SNS are more likely to be aware of what their peers and close friends on SNS are talking about and specifically their opinions of ESA. The r values were moderate so some weight should be placed on the relationship. However, it is not as strong as the next relationship between social influence of peers to use SNS and subjective norm motivation to comply (see Table 5.37).

The variable of motivation to comply (*M*=-2.31, *SD*=8.82) had a positive and significant relationship with social influence of peers to use Instagram and Twitter (*r*=.46, *p*<.01), social influence of peers to use Facebook (*r*=.30, *p*<.01), and social influence of peers to use Pinterest (*r*=.56, *p*<.01) at the p<.01 level. Therefore, H4a is also supported in relation to motivation to comply (see Table 5.37). The *r*-values of these relationship are moderate (.3-.5) to strong (.5-1.0). This means that those more likely to be influenced by peers to use SNS are more likely to be willing to comply with their peers and close referents on SNS. The relationship regarding this is strongest with Pinterest, with Facebook having the weakest relationship between motivation to comply and social influence of peers to use SNS.

Table 5.37

Correlation between Social Influence of Peers to Use SNS and Subjective Norm

		Social influence of peers (FB)	Social influence of peers (TWIT and INST)	Social influence of peers (PIN)
Subjective norm	Normative beliefs	.36**	.40**	.50**
	Motivation to comply	.30**	.46**	.56**

** Correlation is significant at the 0.01 level (2-tailed); Notes: FB = Facebook; PIN = Pinterest; INST = Instagram; TWIT = Twitter

Relationships between Social Influence of SNS System on Purchase Behavior and Subjective Norm

Hypothesis 4b stated that the social influence of SNS system on purchase behaviors would have a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel purchases. The influence of SNS on purchase behavior (*M*=19.27, *SD*= 8.54) was found to be significant and positive on purchase influence of ESA. Normative beliefs were found significant at the p<.01 level (*r*=.49, *p*<.01*)* and motivation to

comply was also found to be significant at the p< .01 level (*r*=.85, *p*<.01*)* Therefore, H4b was

supported (see Table 5.38). This relationship is notably strong, with the *r*-values being

between .5 and 1.0. This means that if a consumer is aware of their subjective norm and is

motivated to comply with their peers on SNS they are more likely to be motivated by their

involvement with SNS and be influenced by the SNS system itself regarding purchase

intentions.

Table 5.38

Correlation between Influence of SNS on Purchase Behavior and Subjective Norm

	Subjective norm	
	Normative beliefs	Motivation to comply
Influence of SNS on purchase behavior	.49**	.85**

** Correlation is significant at the 0.01 level (2-tailed).

Relationships between Attitudes Regarding ESA and ESA Purchase Intention

The relationship between attitudes regarding ESA (as measured by Luna & Perrachio,

2001) and ESA purchase intentions (as measured by Hyllegard et al., 2012) was investigated

using Pearson product-moment correlation coefficient.

Hypothesis 5a stated that there would be positive and significant relationship between

attitudes towards ESA and ESA purchase intentions. Attitudes towards ESA and ESA

purchase intention (*r*=.67, *p*<.01*, M*=7.60, *SD*=1.98) were found to have a significant and

positive relationship at the p<.01 level. Therefore, H5a is supported (see Table 5.39). This

also is a notably strong relationship when considering the *r*-value is above .5. This finding

indicates that if consumers have a positive attitude regarding ESA, they are much more likely

to intend to purchase ESA.

Table 5.39

Correlation between Attitudes towards ESA and ESA Purchase Intention

	ESA attitudes
ESA purchase intention	.67**

** Correlation is significant at the 0.01 level (2-tailed).

Relationships between Subjective Norm and ESA Purchase Intention

The relationship between subjective norm including motivation to comply (as measured by Shen et al., 2003) and normative beliefs (as measured by Perrachio & Meyers-Levy, 1994) and ESA purchase intention (as measured by Hyllegard et al., 2012) was investigated using Pearson product-moment correlation coefficient.

Hypothesis 6 stated that there would be a significant and positive relationship between ESA subjective norm and intention to purchase ESA. ESA purchase intention and subjective norm (normative beliefs) were found to be significant and positively related. ($r=.67$, $p<.01$). Additionally, ESA purchase intention and subjective norm (motivation to comply) was also positively and significantly related at ($r=.41$, $p<.01$). Therefore, H6 is supported (see Table 5.40). There is a notably strong relationship between ESA purchase intention and motivation to comply. Therefore if a consumer is more apt to comply with their peers, and vice-versa, then a consumer is more likely to also intend to purchase ESA. The *r*-value between normative beliefs and ESA purchase intention was a moderate level. It is still significant regarding the relationship between normative beliefs. Overall, subjective norm and ESA purchase intention deem significant consideration.

Table 5.40

Correlation between Subjective Norm and ESA Purchase Intention

	Subjective norm	
	Normative beliefs	Motivation to comply
ESA purchase intention	.67**	.41**

** Correlation is significant at the 0.01 level (2-tailed)

Hierarchical Regression of the Entire Model

In order to determine if the relationships between the social influence of peers to use SNS and the social influence of the SNS system on purchase behavior and subjective norms, including normative beliefs and motivation to comply, regarding purchasing ESA predict environmentally sustainable apparel purchase intention a hierarchical regression was conducted. The aim of this analysis was to determine if the previous mentioned variables (social influence of peers to use SNS, influence of the SNS system on purchase behavior, and subjective norms) are significant contributors to the model (in addition to the variables of knowledge about environmental sustainability issues and attitude towards ESA). It was found that the lower half of the proposed model (see Figure 3.3) was a significant contributor to the model, but, on its own, did not predict ESA purchase intention more significantly than knowledge and attitudes. As the literature indicates, attitude is the leading factor in terms of ESA purchase intention, with knowledge also being an important variable. However, combined, the two halves of the model, knowledge and attitudes coupled with social influence to use SNS, influence of SNS system on purchase behavior, and subjective norms, are a better predictor of ESA purchase intention rather than just knowledge and attitudes alone. The breakdown of *B* (unstandardized Beta) includes ES knowledge *B*=.03, ESA attitudes *B*=.21, influence of the SNS system *B*=-.00, peer influence on Facebook *B*=.03, peer

influence on Twitter and Instagram *B*=.00, peer influence on Pinterest *B*=.03, subjective norm

(motivation to comply) *B*=.02, subjective norm (normative beliefs) *B*=.17 (see Table 5.41).

Thus leading to the beta equation of the model: purchase intention= constant + .03knowledge

+ .21attitude + -.00social influence of SNS on purchase behavior + .03social influence of

peers to use FB + .00social influence of peers to use Twitter and Instagram + .03social

influence of peers to use Pinterest + .02subjective norm- motivation to comply +

.17subjective norm- normative beliefs.

    After running the hierarchical regression, correlations were examined and the

relationships showed no/low multicollinearity because they were all found to be <.9.

Table 5.41

Hierarchical Regression

Dependent Variable: Purchase Intention

Model	Variables	*B*	(SE)*B*	β	R^2	ΔR^2	*F*
1	-	-	-	-	.48	.48	353.35**
	Constant	1.38	.25	-	-	-	-
	ESA knowledge	.07	.01	.17	-	-	-
	ESA attitude	.34	.02	.61	-	-	-
2	-	-	-	-	.59	.11	34.61**
	Constant	.65	.32	-	-	-	-
	ESA knowledge	.03	.01	.07	-	-	-
	ESA attitude	.21	.02	.38	-	-	-
	Influence of SNS system on purchase behavior	-.00	.01	-.01	-	-	-
	Social influence of peers on FB	.03	.02	.05	-	-	-
	Social influence of peers on TWIT/INT	.00	.01	.01	-	-	-
	Social influence of peers on PIN	.03	.02	.06	-	-	-
	Subjective norm (motivation to comply)	.02	.01	.07	-	-	-

Subjective norm (normative beliefs)	.17	.02	.34	-	-	-

B, unstandardized beta; SE, standard error; β, standardized beta; R^2; variance; ΔR^2, change in variance; *F, F* statistic

**$p<$ .01

For a summary of research questions, hypotheses and the corresponding findings see

Table 5.42.

Table 5.42

Hypotheses Findings Summary

Relationship	Research question	Hypotheses	Supported/not supported
The Influence of Consumer Characteristics on Knowledge about AT Environmental Sustainability Issues	RQ1a: Is there a relationship between demographics and knowledge about AT related environmental sustainability issues?	H1a: There will be a significant and positive relationship between age and knowledge about AT related environmental sustainability issues.	Not supported
		H1b: There will not be a relationship between gender and knowledge about AT related environmental sustainability issues.	Supported
		H1c: There will be a significant and positive relationship between education and knowledge about AT related environmental sustainability issues.	Not supported
		H1d: There will be a significant and positive relationship between income and knowledge about AT related environmental sustainability issues.	Not supported

		H1e: There will be a significant difference between geographic location and knowledge about AT related environmental sustainability issues.	Not supported
	RQ1b: Is there a relationship between knowledge regarding AT ES Issues and SMUP?		Significant positive relationship
The Influence of Consumer Characteristics on Social Influence of Using SNS	RQ2a: Is there a relationship between demographics and social influence of peers to use SNS?	H2a: There will be a significant and negative relationship between age and social influence of peers to use SNS.	Supported
		H2b: There will be no significant relationship between gender and social influence of peers to use SNS.	Supported
		H2c: There will be a significant and negative relationship between education and social influence of peers to use SNS.	Not supported
		H2d: There will not be a significant relationship between income and social influence of peers to use SNS.	Supported
		H2e: There will be a significant difference between geographic location and social influence of peers to use SNS.	Not supported

	RQ2b: Is there a relationship between social media use and perception and social influence of peers to use SNS?		Significant positive relationship
	RQ2c: Is there a relationship between demographics and influence of SNS System on purchase behavior?		Partially significant negative relationship
	RQ2d: Is there a relationship between social media use and perception and influence of SNS system on purchase behavior?		Significant positive relationship
ESA Knowledge regarding ESA Attitudes	RQ3: Is there a relationship between knowledge about AT related environmental sustainability issues and attitudes towards ESA?	H3: There will be a significant and positive relationship between knowledge about AT environmental sustainability issues and attitudes towards ESA.	Supported
Social Influence of SNS Influence on Subjective Norms of ESA	RQ4: Is there a relationship between social influence of peers to use SNS and subjective norms regarding purchasing environmentally sustainable apparel?	H4a: The social influence of peers to use SNS has a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel.	Supported

		H4b: The social influence of SNS on purchase behaviors has a significant and positive relationship with subjective norm regarding purchasing environmentally sustainable apparel purchases.	Supported
ESA Attitudes Influence on ESA Purchase Intention	RQ5 Is there a relationship between attitude towards ESA and ESA purchase intentions?	H5a: There will be a positive and significant relationship between attitudes towards ESA and to ESA purchase intentions.	Supported
Subjective Norms regarding ESA's Influence on ESA Purchase Intention	RQ6: Is there a relationship between subjective norm towards ESA and ESA purchase intentions?	H6: There will be a significant and positive relationship between ESA subjective norm and intention to purchase ESA.	Supported
	RQ7: Do social influence of social networking sites and subjective norms regarding purchasing environmentally sustainable apparel predict environmentally sustainable apparel purchase intention in addition to knowledge about environmental sustainability issues and attitude towards environmentally sustainable apparel?		Significant positive relationship

Chapter Six: Summary, Discussion, Implications and Recommendations

This concluding chapter of the dissertation includes a summary of the research method and significant findings. It then discusses the implications and recommendations for AT practitioners (which include apparel manufacturers, retailers, marketing professionals, etc.) and educators. Finally, the chapter concludes with identification of study limitations, as well as recommendations for future research.

Summary of Research Design and Sample

The problem this study set out to address was to determine strategies to increase purchase intentions of environmentally sustainable apparel. The production and consumption of apparel and textile products creates a considerable amount of environmental damage. To reduce the environmental impacts of the AT industry and to encourage more AT firms to manufacture and sell environmentally sustainable apparel, the intention to purchase ESA needs to increase. Therefore, it is necessary to explore mechanisms for overcoming barriers preventing consumers from purchasing ESA. This study focused on consumer knowledge of environmentally sustainable issues in the apparel industry, attitudes towards ESA, and whether or not social networking sites may be considered a feasible way to increase purchase intention for ESA. This study proposed that, in the marketing of ESA, SNS might be an effective way to introduce ESA to the masses, track consumer attitudes, and utilize social influence to increase awareness of and intention to purchase ESA.

The following research questions guided this study:

1. a. Is there a relationship between demographics and knowledge about AT related environmental sustainability issues?

      b. Is there a relationship between social media use and perception and knowledge

        about AT related environmental sustainability issues?

2. a. Is there a relationship between demographics and social influence of peers to use

        SNS?

      b. Is there a relationship between social media use and perception and social influence

        of peers to use SNS?

      c. Is there a relationship between demographics and influence of SNS systems on

        purchase behavior?

      d. Is there a relationship between social media use and perception and influence of

        SNS systems on purchase behaviors?

3. Is there a relationship between knowledge about AT related environmental

    sustainability issues and attitudes towards ESA?

4. Is there a relationship between social influence of peers to use SNS and subjective

    norms regarding purchasing environmentally sustainable apparel?

5. Is there a relationship between attitude towards ESA and ESA purchase intentions?

6. Is there a relationship between subjective norm towards ESA and ESA purchase

    intentions?

7. Do social influence of social networking sites and subjective norms regarding

    purchasing environmentally sustainable apparel predict environmentally sustainable

    apparel purchase intention in addition to knowledge about environmental

    sustainability issues and attitude towards environmentally sustainable apparel?

Summary of the Data Collection

        An online survey was disseminated through an independent survey distribution

company and included scales to represent all of the variables important to the study. The

survey instrument consisted of six quantitative scales and 124 forced response questions

including one qualifying question that stated, "Do you consider yourself to be an active user of social media?" Respondents who answered 'yes' to this question were directed to the survey and those who answered 'no' were redirected to an end of survey message. All scales were placed on a Likert-scale system ranging from (1) strongly disagree to (7) strongly agree.

Summary of the Sample

The intention, at the outset of the study, was to mirror the demographics of the sample to the demographics of the US national population. However, the survey distribution company did not turn off the survey at the 300 purchased responses and 1,138 responses ended up collected, with 820 being useable. This could have skewed the mirroring of the population as 67.3% of the respondents were female and 32.7% were male.

Race was broken down to the following: White/Non-Hispanic at 54.0% (n=423), followed by Black/African American at 24.1% (n=189), Hispanic or Latino at 13.0% (n=102), Asian/Asian American at 3.4% (n=27), American Indian or Alaska Native at 1.8% (n=14), and finally Hawaiian or Other Pacific Islander at 0.8% (n=6). Additionally, 2.8% (n=22) of respondents identified themselves as "other."

Income had a mean between $40-49,999 and $50-59,999 (M=5.78) with a standard deviation of 3.10. The mean age of respondents was 33.83 years with a standard deviation of 12.05. Of the respondents, 15.3% were identified as being from the West (n=120), 10.0% from the Southwest (n=78), 22.0% from the Midwest (n=172), 31.7% from the Southeast (n=248), and 19.9% from the Northeast (n=156). Regarding education, among the participants 36.1% held a high school diploma or a GED certificate (n=283), followed by 26.6% with a bachelor's degree (n=208), 17.2% with an associate degree (n=135), 14% with a graduate degree (n=110), and lastly 6.0% with less than a high school diploma (n=47).

Summary of Data Analysis

Data analysis focused on understanding the relationships between the variables using simple bivariate correlations. In order to measure differences among consumers in varying geographic regions a one-way ANOVA was conducted. A hierarchical regression was conducted to determine whether social influence (of SNS system on purchase behavior and peers) as well as subjective norm regarding ESA (normative beliefs and motivation to comply) determined purchase intention beyond the variables of knowledge and attitudes.

Discussion and Implications of the Research Findings

This section of the chapter discusses the findings of the study within the context of each research question as well as previous research. Also included in this section is a discussion focusing on the implications for both the AT industry (including apparel manufacturers, brands, retailers, and marketers) as well as (when applicable) academia. The implications of this research provide a source of knowledge for ESA retailers and other marketers to understand how the general population is educated regarding environmental issues in the AT industry as well as how they are influenced on the specific SNS sites of Facebook, Twitter, Instagram and Pinterest. This information is viable for ESA retailers to begin to understand more fully their consumers in online realms and more effectively market ESA.

Research Question 1a: Is there a relationship between demographics and knowledge about AT related environmental sustainability issues?

The findings from this study indicated no significant relationships between demographics and individual knowledge about AT related environmental issues. No significant relationship existed between age, gender, income, race, geographic region, or education in regards to knowledge about AT environmental issues. This goes against the

previous research of Akhter (2003), Seock (2009), Butler and Francis (1997), Farr and Kang (2010), Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen (2003), Gam, Cao, Gilg, Bard and Ford (2005), Hustvedt and Bernard (2008), Hyllegard, Ogle and Dunbar (2004), Laroche, Bergeron and Barbaro-Forleo (2001), and Vasileva and Ivanova (2014). In these studies, at least one demographic variable played a role in consumer consumption and environmental knowledge, attitudes, and purchase intentions.

The contradictory findings of this study regarding the relationship between demographics and knowledge about environmental issues in the AT industry is most likely because respondents' knowledge about the issues was homogeneously very low across the sample. Therefore, this study lends support to previous research which also found low levels of consumer knowledge about environmental issues in the AT industry including Balderjahn (1988), Butler and Francis (1997), Kozar and Hiller Connell (2011), Stephens (1985), and Thorgerson (2000).

The limited knowledge of US consumers about environmental issues in the apparel and textile industry suggests a need to focus on educating consumers and instilling knowledge about the environmental consequences of their purchase decisions and what choices they are making with their dollars. Both AT academics and industry professionals should consider providing this knowledge. Retailers should contemplate ways in which to utilize SNS and become more transparent regarding their manufacturing processes. For example, they could indicate the amount of water they use in manufacturing garments versus their competitors through an image posted on Instagram, or communicating how the pollution of mainstream retailers are affecting the environment through videos on Facebook. An ESA retailer could also use Twitter, for example, to provide AT industry water consumption statistics or post fact regarding the industry's CO_2 emission levels.

Further, ESA retailers should consider not only how to inform consumers about what environmental issues are associated with the AT industry but also how their manufacturing processes are better for the environment. For example, on Twitter an ESA retailer could tweet statistics regarding their company's water conservation practices. Additionally, on Facebook they could post informative articles regarding the industry that also highlight how their business is working to combat these issues; and Pinterest could be used to visually communicate the reality of what the AT industry is doing to the environment. Through this type of marketing on social media consumers can possibly become more knowledgeable on the topic. With an increased understanding of what environmental impacts are associated with the AT industry, consumers can hopefully make more informed decisions when purchasing apparel.

Research Question 1b: Is there a relationship between social media use and perception and knowledge about AT related environmental sustainability issues?

When looking at the relationship between social media use and perception and knowledge about AT related environmental sustainability issues, this study found this relationship to be positively significant on Facebook, Twitter, Instagram, and Pinterest. The descriptive statistics related to social media use and perception indicated that there was, indeed, a group of social media users who do find SNS useful for gaining knowledge and connecting with retailers. Within this particular group of consumers there is an additional group who already have a small amount of knowledge about environmental issues in the AT industry. Therefore, ESA retailers and brands should find it possible to be successful in using their social networking sites to increase awareness of and knowledge about the environmental issues even further with this group of individuals. However, it is important to remember that the relationship between these two variables was very weak.

An important finding from the study is that many people do use social media to increase their knowledge on a range of issues, so SNS should be a good way to educate consumers. Therefore, although there were many participants who had very low knowledge about AT related environmentally sustainability issues, many of these participants also perceived SNS to be useful for gaining new knowledge. Therefore, ESA retailers and brands should utilize social media to educate those individuals about the environmental realities of apparel and textile production.

The social media use and perceptions of the participants in terms of utilizing Twitter to enhance education, learn news, and gain knowledge was neutral. Instagram was most commonly used by the respondents as a way to learn about friends and to enhance shopping, as was Pinterest. However, use and perceptions of Facebook indicated it was a beneficial place to gain knowledge and increase education. This information is valuable to ESA retailers as they determine how to educate consumers about environmental issues and their ESA most effectively. Based on the findings from this study, ESA retailers and brands wanting to increase consumer knowledge regarding these issues Facebook is the most appropriate SNS for that information.

The finding that consumers with higher levels of knowledge about environmental issues in the AT industry also had higher levels of social media use and more positive perceptions of social media supports similar findings of Kaplan and Haenlein (2009) that indicated that SNS were an effective way to pose knowledge to consumers and that the variable of social media use and perception looks to understand how consumers are already using SNS and how they prefer to use it with their peers and retailers. So, for example, if consumers perceive Facebook to be useful to gain knowledge, then they possibly are more apt to be open to acquiring new knowledge through that system. Therefore, ESA retailers can consider targeting this type of a consumer on Facebook by providing facts and articles

regarding the environmentally beneficial aspects of ESA production and retailingwithout offending or annoying their consumers.

Additionally Kabani (2013) and Mangold and Faulds (2009) call for SNS to be another part of the marketing mix in which retailers inform their consumers on SNS and become a part of their informational message instead of direct sellers. Therefore, in order to reach a more knowledgeable consumer base that perceives SNS as useful, retailers can target consumers on Facebook, Twitter, Pinterest, and Instagram. ESA retailers can also feasibly pose more advanced levels of environmental knowledge on SNS utilized by consumers already having a higher base level of environmental knowledge. Thus, ESA retailers should focus on using the specific SNS that their individual consumers perceive as useful, in order to get them to engage with their peers on those sites and create more information sharing. If users with higher knowledge about environmental issues in the AT industry have high use and positive perceptions of SNS, they could be more likely to act as word-of-mouth marketers for ESA retailers and influence their peer groups because they understand the environmental issues and how to use SNS more effectively. In order to better utilize SNS for ESA purchase intention purposes, more AT related environmental knowledge should be provided to individuals with higher SMUP – the goal being to increase their knowledge to a point where it also results in a change in attitudes towards and purchase intentions of ESA. Sharing and peer influence can also perhaps come to fruition through this strategy. For example, if a powerful image is shared on Facebook with a link to an informative article, there is a greater chance of consumers wanting to click on the link and possibly share it due to the share ability being a simple, one click process on Facebook. However, on Instagram there is less sharing ability, so this strategy would not be as useful. However, consumers may be willing to see an image and tag a friend on Instagram but ultimately less information would be posed and less knowledge instilled through this channel.

Research Question 2a: Is there a relationship between demographics and social influence of peers to use SNS?

The relationships between demographics (including age, gender, income, education and geographic region) and social influence of peers to use SNS were mainly telling in that demographics were not as relevant to understanding the online consumer as originally anticipated. Although, a few relationships were significant. Gender and social influence of peers on Pinterest showed a significant and positive relationship, but the relationship was not significant for Facebook, Twitter, or Instagram. This could be because, compared to men, more women are active on Pinterest or because there were more women than men in this sample population. The t-test of this relationship did not indicate a strong significant difference between the differences in gender. Therefore, not much weight should be placed on the relationship of gender and social influence of peers on Pinterest. However, ESA retailers would most likely want to still target women on Pinterest, particularly focusing on selling and promoting women's clothes on the site due to the fact that, compared to men, there are more women on Pinterest.

Another significant relationship found between demographic variables and the social influence of peers to use SNS was age, which was found to be negative on all SNS sites in the study. Therefore, there is a possibility that age continues to be an important demographic within social media marketing, with younger consumers possibly being more likely to be influenced by their peers to use some social networking sites. This indicates that the ways in which marketers approach different ages could be relevant to marketing strategies moving forward. For example, ESA retailers and marketers could focus on leveraging social influence in their marketing to younger consumers on Twitter by connecting with them and posting links to their Twitter site that have a fact about the nature of the AT industry, or highlight a younger consumer wearing their clothes on Facebook and a Q & A of why he or she likes the

clothes, a group of teens talking about the product on an Instagram video, or a younger styled board of ESA on Pinterest.

The study also found education to be related to social influence of peers to use social networking sites, specifically Facebook and Instagram and Twitter, with the higher the education of the individual, the more influenced to use SNS he or she may be. This indicates that more educated consumers are also more likely to be influenced by peers to use SNS. This may be because the concept of sustainable practices is more favorable and better understood amongst this population. Another possibility is that individuals with more education trust their peer groups to a greater degree and relate to their referent groups in a closer way. However, this relationship was not very strong and therefore the implications of this finding are likely very limited.

Income did play a role in whether or not consumers were influenced by their peers to use SNS, but only on the Pinterest system. Therefore, this study poses that consumers' economic status is not a strong factor in determining the social influence of peers on social networking sites. If the correlation between income and influence of peers to use SNS is a emphasis, it should be most focused on the Pinterest system. It also seems from this study that geographic region does not play a part in the influence of consumers by their peers on SNS and this is most likely due to the national acceptance of the Internet. The ability to get trends and make purchases very quickly, no matter where you live, may be an addition to the concept of the consumer demographics blending into an online persona.

For ESA retailers, the weak relationship between demographics and social influence of peers to use SNS has several implications. Primarily it means that they can likely reach a wide array of consumers in an online forum and not necessarily have to change their marketing strategies for specific demographics. It also points to a wide range of consumers may be influenced by their peers to use SNS and ESA retailers and brands can use this to

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their advantage by leveraging this social influence in their marketing campaigns. Therefore, this study asserts that ESA retailers and brands can consider paying more attention to a national online consumer that uses a specific site rather than a consumer who, for example, lives in the northeast and makes a certain amount of money. This is based off of a correlation between the variables, so more research is needed to fully understand how this relationship is fully explained. This could also possibly mean that consumers are consistently making choices based on how they are influenced by their peers to use SNS, site and preference specific, instead of for example, their income and education level. Marketers can possibly anticipate that there is a more influential group of consumers on SNS rather than within their specific target markets. The ability of an ESA retailer to offer their clothes in an online platform not only reaches more consumers, but from this research can maybe ensure they reach the right consumer on the right platform.

This finding regarding the limited relationships between demographics and social influence of peers to use SNS suggests that dividing consumers by their SNS use may be a more timely practice in terms of marketing, rather than targeting them by traditional demographic qualities. This supports findings from previous research, including Pookulangara and Koesler (2011) who looked at the influence of culture on consumer's usage of social media. The authors went as far as to say that social media is a massive convergence of culture and the evolution of a new culture. An assertion reinforced by this study.

Research Question 2b: Is there a relationship between social media use and perception and social influence of peers to use SNS?

In this study, the relationship between social media use and perception (how consumers use and perceive each site and their expectations of retailers on those sites) and social influence of peers to use SNS was very positively significant. This finding indicates that if consumers use SNS in certain ways, perhaps they can be influenced on those sites if

retailers connect with the consumers in those same ways. For example, if a consumer is open to gaining knowledge on Facebook then they are more apt to be influenced by news and informative articles that their peers are posting on Facebook (Gilbert & Karahalios, 2009).

Traditional marketing asserts that peers are a great source for word of mouth marketing when peers tell their friends about a product, an assertion supported by this study. Findings from this study support the idea that some people identify with their peers and are influenced to use SNS channels by their peers. More precisely in this study, when consumers have a high level of SMUP, they are also more likely to be influenced by peers to use SNS sites. Particularly related to ESA, this study found that social influence of peers to use SNS is related to social media use and perception of particular SNS sites and that influence is significant amongst peers specific to an individual site. Therefore, this could possibly mean that if a consumer has a high SMUP for Facebook then they could have a higher chance to be influenced by their peers on Facebook as well. These relationships prove to be a possible addition to influencing consumers to purchase ESA beyond subjective norm. Therefore peers can be an additional marketing tool to use SNS and can perhaps loosely have a stronger influence on ESA purchase intention.

There are a number of strategies ESA retailers and brands can utilize to engage with consumers and establish themselves directly into consumers' peer influence. For example, if an ESA retailer and brand posts an informative article about water pollution in the dyeing industry on Facebook and if that article connects with consumers' SMUP, there could be a greater chance of consumers wanting to share it on Facebook. Additionally, retailers and brands can tag targeted consumers in posts that the consumer thinks will be useful to them on Twitter and Instagram. They can also talk to the consumer on Twitter and facilitate a conversation by encouraging their users to give their input by posing a question about what they think about ESA or what is going on in the AT industry. Retailers could possibly

comment on their consumers' posts and add upon what the consumer seems to enjoy, by including related articles or information in the comments section. ESA retailers can also engage with consumers and become part of their peer groups by responding to a link a consumer posted on Facebook about a cute jacket they want to buy. The retailer or brand could interact with the consumer by letting her know what ESA products they offer that are similar, where she can get them, and why their products are more environmentally positive. Other strategies would be to link products on Pinterest back to their e-commerce websites and include a tag on the Pinterest photos that indicate they are environmental preferably. ESA retailers and brands can also post photos and, particularly on Instagram, explaining the process of how their clothes are made, what product assortment they carry, and how these compare to mainstream clothing that are not environmentally responsible.

If, as indicated by this research study, peers on social networking sites could possibly hold influence over other consumers, and if that is so then it is important for ESA retailers and brands to take advantage of this relationship. Not only do they need to leverage the peer-to-peer influence already present on SNS, using numerous social media marketing strategies, some of which are discussed above, the retailers and brands themselves should work to become peers of the consumers.

Research Question 2c: Is there a relationship between demographics and influence of SNS systems on purchase behavior?

Similar to other findings regarding demographics, there was only a significant and negative relationship between age and the influence of SNS systems on purchase behavior – indicating that younger consumers are more likely to have their purchase behaviors influenced by social networking sites. In order to take advantage of this insight, retailers need to find ways to appeal to younger consumers. For example, an ESA retailer could choose to target a younger consumer with a paid advertisement on Facebook or a paid, boosted post

through a SNS site that involves a message indicating "all their friends are doing it." Retailers should also highlight items that they want purchased that are styled with younger, more relatable models to that specific demographic. A boosted post is a paid post that is directly targeted to a specified demographic. Through this process, an ESA retailer could more explicitly determine the type of user they wanted to see a post, which in this case would be a younger demographic. If we know that younger users are more influenced on Facebook then making them the focus of a boosted post is a better utilization of marketing dollars than perhaps an older group on Facebook. However, this relationship was a weak correlation and not as strong of a consideration should be placed on this relationship. It was also found that income was significantly correlated with social influence of the SNS system on purchase behavior. However, more research is needed in order to make an implication of this relationship.

This study agrees with the literature from Brenner (2013) and Liu, Zhang, and Li (2013) who found that friends and close norms influence purchase intentions and White and Dahl (2006) who found that consumers purchase based on their group norms. Similar findings were found by Hustevedt and Dickson (2009) who discovered that consumers were more likely to purchase organic food if their peers were doing it. Hogg and Reid (2006) discuss that consumers go with the majority rather than individual thought also support this study. Additionally, Kim and Kwon (2011) found that consumers behave with retailers in the same way as personal relationships and that they trust them and build loyalty in the same way they would friends versus acquaintances. Similar to Kaplan and Haenlein (2009) who believe a higher social presence a consumer has the more influence they have from their peers and Raacke and Bonds-Raacke (2008) who found that SNS facilitate relationship building.

Based on this finding and the previous findings related to demographics, the significant implication is that demographics are not a very feasible way to profile consumers

when using social media marketing. Pinpointing how and why consumers are using social networking sites seems to be a more effective direction to connect with consumers based on this study. ESA retailers possibly need to look at online personalities as groups of consumers, rather than traditional market segments. Additionally, retailers can use the understanding of how consumers use and perceive SNS sites to more effectively connect with them and become an actual part of consumers' peer groups in order to influence them on SNS directly and sway their ESA purchase behaviors. The additional findings of this research brings an understanding that it could perhaps be time to change consumer behavior analytics and focus more on what SNS consumers identify with, what they like, and how they are using those sites as a means to target consumers rather than looking at their demographics such as age, gender, geographic region, and education.

Research Question 2d: Is there a relationship between social media use and perception and influence of SNS systems on purchase behavior?

The relationship between SMUP and influence of the SNS systems on purchase behavior was significant, with individuals who scored more "positively" on the SMUP scale, were also more likely to have SNS influence their purchase behaviors on the correlating SNS site. This means how consumers are using SNS and their perceptions of how useful SNS are for things like gaining knowledge, enhancing education, or learning about friends etc. could perchance be an important consideration for ESA retailers regarding how to approach their consumers on specific SNS sites. For example, if a consumer believes that ESA retailers and brands should advertise to them on Facebook, there is possibly more likelihood of them not being offended by the advertising on Facebook and influenced by the marketing. If the advertising was to encourage them to purchase an ESA item, it could possibly influence that customer enough to take action by actually purchasing an item. However, even just sharing that activity on their own social media, clicking through to the ESA retailer's website, or

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interacting with the advertisement specifically is a possible positive action that the consumer could take and hopefully a positive outcome for the retailer or brand.

ESA retailers can take note of the hopeful relationship between SMUP and the SNS site influence on purchase intention by becoming involved and understanding where their consumers like to be connected through SMUP; thus, leading ESA retailers to possibly be more influential on the specific SNS site. This could be a great strategy for ESA promotions and for encouraging participation by customers on SNS. For example, ESA retailers offering contests or coupons for consumers to purchase an ESA item or visit an ESA site, or deciding where to spend their marketing dollars to promote posts can be more effective than without this knowledge of SMUP and SNS site influence on purchase intention.

For retailers, if consumers are influenced by their peers on SNS then ESA retailers should start to find ways to become part of the peer groups of consumers. Perhaps they need to motivate consumers to "like" their FB pages and follow them on Twitter, Instagram, and Pinterest. This study agrees with the literature from Engel et al. (2011), Park and Stoel (2005), Amato-McCoy (2011) and Kim and Kwon (2011) that if retailers can become a part of consumers direct peer groups instead of simply salespeople, but more friends in online realms, there will be a greater chance of affecting intention to purchase and creating influence through higher educated consumers in this case. For example strategies for this include posting articles and photo albums on Facebook, tweeting powerful facts to their consumers or sharing product images on Instagram. They could possibly also utilize Pinterest to exhibit products offered that link back to their site. Informative blogs is also an effective way to tie all of the SNS sites back to larger amounts of information located on their websites.

As discussed in the descriptive statistics of the scale in Chapter Five, among the participants of the study, the social influence of the SNS system on purchase behavior was found to be neutral. The highest response of "strongly" agree was associated with social

media influencing their purchase decisions. In terms of the specific social networking sites, only 28% of the respondents "somewhat" to "strongly" agreed that their involvement on Facebook influenced their purchase decisions, approximately 40% agreed that their involvement on Twitter influenced their purchase decisions, 29.8% on Instagram, and approximately 35% on Pinterest. Therefore, based on these data, Twitter could be the most viable site to utilize when trying to influence purchase behaviors and may be an effective social networking site for ESA retailers or brands to employ boosted posts and pair advertising. Considering the findings from this study, Pinterest is a possible second tier SNS for this type of paid social media marketing. The social media use and perceptions of Twitter amongst the research participants was overall neutral. Responses regarding using Twitter to enhance education were only 27.7% and 50.8% of the participants to learn news and 40.6% to gain knowledge. Therefore, when advertising on Twitter possibly an informative newsworthy ad would be most effective. This is the first study looking at this relationship therefore no previous literature has been supported, but a need to continue to examine these relationships is encouraged due to the strong correlation values.

Research Question 3: Is there a relationship between knowledge about AT related environmental sustainability issues and attitudes towards ESA?

In this study, the relationship between knowledge about AT related environmental sustainability issues and attitudes towards ESA holds true to previous research. The more knowledge consumers have, the stronger the attitudes they have regarding ESA. This study agrees with past literature that discusses the idea of more knowledge leading to favorable attitudes, specifically from Buenstorf and Cordes (2008), D'Souza, Taghian, and Lamb (2006), Hyllegard, Yan, Ogle, and Lee (2012), Leary, Vann Mittelstaedt, Murphy and Sherry (2013, Kang and Kim (2013), Kang et al. (2013), Niinimaki (2010), Thorgerson and Olander (2003).

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This study supports the assertions that if consumers are presented with an informative marketing strategy and provided knowledge regarding environmental issues in the AT industry, there is a better chance of fostering positive attitudes towards ESA. This means it could be a good idea for ESA retailers and brands to educate consumers about environmental issues and share their sustainability strategy stories. As consumers' knowledge about the environmental impact of the AT industry increases, data from this study indicates it is possible that positive attitudes towards ESA could increase.

Because this study has demonstrated that a significant portion of adult social media users in the US use SNS to gain knowledge, ESA retailers and brands could focus on using SNS to inform their consumers about environmental issues in the AT industry. Furthermore, these companies also need to promote their ESA products through SNS – with the intention of increasing knowledge and positively impacting consumers' attitudes towards ESA, which could ultimately lead to increased ESA purchase intention. Examples include, an ESA brand posting an article relating to waterless dying technology and a photo album on Facebook of products that use that specific technology available for purchase from their website. Tweeting to their consumers about the large number of gallons of water it takes to produce one pair of jeans and a bitly link driving consumers to an article on their blog discussing more details about the water problems in the AT industry and images of related products that they sell that use dry dying techniques for denim. Another possibility is sharing a video on Instagram about the facilities they use to make their products and linking it back to their main Instagram profile with their website linked to their site that shows the actual products created in the environmentally sustainable facility. Instagram could also be a great place to show the negative side of what is happening in AT production via a video that highlights the differences between environmentally sustainably made clothing versus non sustainable and the implications of the differences in production. An ESA retailer or brand could also utilize

Pinterest to exhibit basic ESA products that are styled in trendy manners, along with a link back to their e-commerce website. A specific example of this would be to promote with a banner across the corner of the pin explaining that it is an environmentally sustainable product, like a stamp of sorts, perhaps stating "organic cotton" across the pin, or highlighting that it is moderately priced.

Research Question 4: Is there a relationship between social influence of peers to use SNS and subjective norms regarding purchasing environmentally sustainable apparel?

This study found the relationship between the social influence of peers to use SNS and subjective norms regarding purchasing environmentally sustainable apparel to be quite promising. In this study, respondents who felt the need to comply with their peers were also significantly likely to be influenced by their peers to use SNS. While the relationships among all four of the social networking systems and motivation to comply were significant, the strongest relationship was with Twitter, Instagram, and Pinterest. This finding leads to the possible assumption that if a consumer is concerned with complying with their peers they are much more likely to be influenced by peers to use SNS. Therefore, ESA retailers can become a part of the peer group of their consumers through active participation on their consumer's individual SNS sites; that strategy could be through shares, comments, facilitating conversations, or connecting "at (@)" their followers. Marketing materials and promotional items should encourage connecting and using SNS systems on which the ESA retailer or brand are active. Once this fluid networking becomes a normal occurrence, retailers then will have built up a relationship with these consumers so they can engage and suggest posts on SNS that deal with environmental sustainability issues in the AT industry and ESA products. Once that engagement between the retailer or brand and the consumer happens, there could be a greater chance that the consumer will also be motivated to comply with the retailer itself because of the established relationship and trust.

In terms of normative beliefs and social influence of peers, there was a stronger positive relationship between the two variables on Facebook than Twitter, Instagram, or Pinterest. This may be because Facebook is a more in depth SNS and provides more information about peers and referent groups. Facebook also allows for longer status updates, the posting of articles and other types of media, and accommodates the uploading of entire photo albums. These more detailed types of items allow Facebook to communicate what peers think about certain topics and issues more effectively, thus making it easier for consumers to really know what the normative beliefs of their peers truly are and provide a more holistic understanding.

Pelling and White (2009), Claburn (2011), Burke, Marlow, and Lento (2010), deVries, Gensler, and Leeflang (2012), and Yoh, DamHorst, Sapp, and Laczniak (2003) all discuss the possibilities of retailers being able to bridge the gap between themselves and their online consumers and how this can facilitate identity and strengthen ties among consumers and encourage consumer loyalty. Data from this study indicates that Facebook is possibly a more ample place to focus on strengthening ties with consumers compared to the other SNS sites examined in this study (Twitter, Pinterest, and Instagram) due to its significant findings related to normative beliefs. On the basis of this study, Facebook could be an effective social networking site for communicating normative beliefs and for taking advantage of group conformism and influence that SNS provides.

If indeed social networking sites are a place for normative beliefs to be communicated, this is good news for ESA retailers, brands, and marketers because if they can become a direct part of their target market peer group they can be more influential and communicating their company's normative beliefs regarding sustainability to their consumers on SNS. ESA retailers can become a part of consumers direct peer group by being more personable in their online strategy. As stated earlier this can come in the form on direct posts,

comments, likes, and supporting and facilitating conversations that interest the consumer. By sharing and interacting with their consumers there is a better chance that the retailer will be trusted by consumers through this strategy of being their "friends;" not just a company trying to make a sale.

Through word-of-mouth marketing, ESA retailers and brands also have a great opportunity to leverage the loyalty of customers to communicate these normative believes within their SNS peers and influence additional potential consumers. For example, if an ESA retailer has effectively engaged with a consumer through social networking sites and built a meaningful relationship between the company and the consumer, when the company shares an interesting article about the use of water in cotton farming on Facebook, the consumer may be more apt to share the article with their friends. This online activity has the potential to then influence a completely new group of individuals that the retailer did not have direct access to, thus influencing the knowledge about environmental issues in the AT industry to a much great extent.

Additionally, it could possibly be if a consumer believes certain outcomes (normative beliefs) will come from performing a certain action, they could be more likely to be influenced by their peers on Facebook, Twitter, Pinterest, and Instagram. If marketers recognize their target market, understand the social networking sites on which the target markets are active, and how the target market perceives and is using the SNS sites, the marketers can feasibly more easily connect with those particular groups. Those target groups, indicated through this research, are those most influenced by their friends on the certain SNS sites and in turn are more likely to pose information that can be relevant to normative beliefs as well as motivation to comply.

Research Question 5: Is there a relationship between attitude towards ESA and ESA purchase intentions?

As previous literature has stated (Balderjahn, 1988; Stephens, 1985; Thorgerson, 2000) this study supports the positive relationship between attitude and intention to perform a behavior. In this case, ESA attitudes and ESA purchase intention is a significant and positive relationship that lends support to the Theory of Reasoned Action and previous studies. People tend to have unfavorable attitudes about ESA because they think that it is not as fashionable or mainstream as regularly produced clothes and that ESA is hard to obtain (Hiller Connell, 2010). ESA has the stereotype of being non-form fitting with "hippy" construction style and fabrics, such as hemp, that are not perceived as comfortable (Hiller Connell, 2010). These negative attitudes limit the purchase intentions of consumers. Arbuthnott (2009) continues that inconvenience and habits are main barriers to this ultimate attitude and action change. Therefore this study agrees that positive attitudes can possibly lead to positive intention to purchase. However, this study also asserts there is a need to change attitudes about ESA. There needs to be more consumers with positive attitudes about ESA and their willingness to pay for it. Therefore, it could be necessary to focus on using SNS and the social influence that is present on SNS to change attitudes regarding ESA and ultimately increase purchase intentions of ESA.

If ESA retailers can change attitudes regarding their products through creating a trusting online relationship with their customers and providing environmental knowledge on SNS, then they maybe can overcome the barriers laid out by Hiller (2010). The barriers include financial risk and perceived lack of trendiness in ESA clothing. By overcoming attitudes there can be a possible change in consumer's intention to purchase ESA.

Research Question 6: Is there a relationship between subjective norm towards ESA and ESA purchase intentions?

The ability to promote products and encourage engagement among consumers to be more involved in the product and marketing process through connecting with their consumers and encouraging the relationship between subjective norms and purchase intention is important. Goldstein, Cialdini and Griskevicius (2008) and Nolan, Schulz, Cialdini, Goldstein and Griskevicius (2008) found that subjective norm can be a major motivating factor in the concept of purchasing sustainable products. Kallgren, Reno, and Cialdini, (2000) also agree that subjective norm is one of the most important components for retailers to focus on because subjective norm is the most motivating factor that leads to the actual behavior at the time it is occurring. Additionally, retailers can categorize their consumers through understanding of their consumer's subjective norm and understand that if their consumers want to comply with their peers they will be more likely to perform the intended behavior.

Therefore if retailers can find ways to become a part of consumers peer network and also get consumers to influence their peers, they will be more likely to not only possibly influence purchase intention through creating trust, connecting with the consumer, posing social norms on SNS platforms, and motivating them to comply, but also have the ability to reach a larger online audience. Ultimately, through this research we know that subjective norms could be effective in encouraging certain behavior intentions. Further, we assume that SNS can communicate to the social norm of consumers and affect their normative beliefs and motivation to comply on specific social networking sites.

Research Question 7: Do social influence of social networking sites and subjective norms regarding purchasing environmentally sustainable apparel predict environmentally sustainable apparel purchase intention beyond knowledge about environmental sustainability issues and attitude towards environmentally sustainable apparel?

When looking at whether or not social influence of SNS and subjective norm, in addition to knowledge about ES issues and attitude towards ESA, regarding purchase intention of ESA this study was determined to find a viable finding in possibly adding to the Theory of Reasoned Action; there was a promising possible addition. The adding of these variables seems to strengthen the TRA model, within the context of social networking sites, and future research should continue to examine these relationships. If ESA retailers can provide not only knowledge about environmental issues in the AT industry but also find ways to become influential "peers" on social networking platforms, findings from this study suggest ESA firms may increase consumers' intentions to purchase ESA. It is also necessary to note that consumers in general across the US population have a very low knowledge of the environmental issues associated with apparel and textiles. SNS may be an effective place to provide that type of information based on the relationships between social media use and knowledge found in this study.

Additionally, the public can use this research to understand better ways to overcome the main barriers to consumption of ESA and to use SNS as source of knowledge. What is happening in the industry and what consumer dollars are funding do make a direct impact on the environment, and consumers need to understand their role in their purchase behavior. The lack of knowledge regarding the issues in the AT industry needs to be brought to light on a mass scale and consumers need to be educated on their role they play in contributing to the

environmental impacts of apparel production. If consumers have a greater intention to purchase ESA there can eventually lead to great consumer demand of ESA.

According to Kozar and Hiller Connell (2011) knowledge about environmental issues in the AT industry changes consumer attitudes and ultimately purchase behavior – leading to the conclusion that knowledge gained equals a more favorable attitude towards ESA as well as more awareness when purchasing clothing. This study lends possible support to those findings. In this case, knowledge of environmental issues regarding apparel and textile manufacturing has a significant relationship with attitudes towards ESA which also leads to a significant relationship between attitudes and purchase intention. Therefore, if ESA retailers can then provide the knowledge of the issues within the AT industry there is a better likelihood of consumers intending to purchase their product. Additionally, educators can provide knowledge of the issues within the AT industry which can lead to attitudes and a change in intention, the more intention to purchase ESA the greater the chance for that demand to make a difference on the environment. Specifically if a consumer is open to peer influence and wants to comply with those peers, social networking sites are a place to provide that knowledge to consumers in the hopes that their subjective norms will be influenced and purchase intention will become even greater towards ESA. ESA retailers can pose their presence on these sites as peers to make a more direct impact on the influence of purchase intentions. Retailers, through social influence and subjective norm on SNS, can influence to make change to intention and behavior. Online mediums such as SNS provide a mass amount of consumers to create the demand needed from consumers in order for general retailers to start changing their practices to be more sustainable. With enough demand, the price of ESA will go down, as well as provide more offerings of trendy and stylish ESA items.

Implications for Academia

Overall, the implications of this study for educators include that if retailers and brands are going to be increasingly using SNS in their marketing strategies and if ESA brands want to leverage social influence, educators need to consider: a) learning about SNS and how they are being used as a marketing tool, and b) develop curriculum and courses that focus on teaching students about social media marketing and how SNS can be used to educate, change attitudes, socially influence, and impact ESA purchase intention. Both apparel and marketing educators can possibly use this research to inform their students how they can better understand and utilize SNS to connect with their consumers on SNS and ultimately relate it back to influence purchase behavior as future marketers.

Additionally educators can also use the findings from this study as part of possible marketing tactics within the classroom through employing an understanding of how consumers are using SNS. Educators can be more detailed in how they educate their students to market on SNS and create more meaningful strategies for students to understand and take with them into the workforce. Therefore, educators can use information regarding the relationship between SMUP and social influence of peers to use SNS to apply consumer characteristic knowledge in their classroom as a part of a consumer behavior change. Specifically, when looking at SNS there is a way to create SMUP target markets rather than looking at cohorts within demographics.

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Theoretical Implications

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Based on the findings of this study a new model regarding TRA is proposed. This model indicates that SNS is a viable addition to the original model when examining online purchase intentions and looking to influence behaviors. The addition of peers to use SNS as a possible influencer of subjective norm has possibly strengthened the original TRA model as

well as the social influence of the SNS system on purchase behavior. Knowledge also had a significant relationship with attitudes. Demographics did not play as much of a role therefore the only consumer characteristics to continue to focus on based on the findings is social media use and perception of Facebook, Twitter, Instagram, and Pinterest. In the future, SMUP may become its own variable within the model, not just a consumer trait, but also an actual consumer classification. Additionally, subjective norm, both normative beliefs and motivation to comply, also support the Theory of Reasoned Action leading to intention. In this study normative belief compared to motivation to comply was a stronger relationship to purchase intention in regards to ESA. Therefore this study possibly supports that subjective norm and attitudes have significant relationships with purchase intention and knowledge can possibly be a significant predictor of attitude and social influence of SNS and of peers to use SNS can possibly be a significant predictor of the subjective norm component.

However, it is necessary to conduct more research to understand the relationships and their validity in contributing to TRA. See Figure 6.1 for the final proposed model of this study.
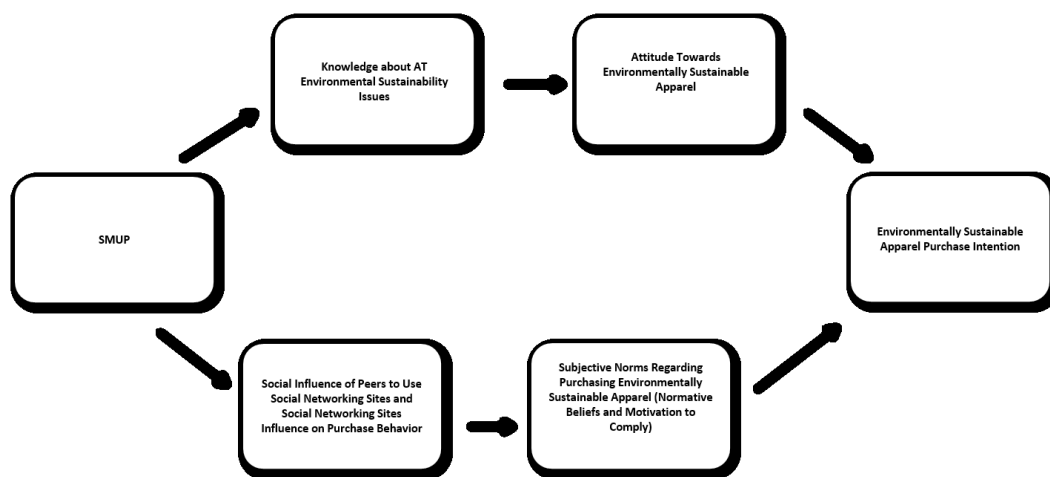

Figure 6.1. New Theory of Reasoned Action for intention to purchase ESA

Additionally, this study added to the reliability and validity of the SMUP and ESAK scales used. This study added more depth and validity to the SMUP scale by dividing it into

the four individual SNS systems of Facebook, Twitter, Instagram, and Pinterest. Also, this study contributes to the establishment of the validity and reliability for the ESAK scale. Data from this study will be used to guide refinement of the ESAK scale and move towards final development.

Limitations of the Study

Limitations of the study included the sample of the US population accrued. Only those that were participants of ERI were a part of the sample and not a truly random sample of the US population. This could have changed the study because those that are active on ERI already are familiar with the internet, computers and being online. Additionally, the ratio of adult men to women living in the US was not accurately represented in the sample. This could possibly change the study if it was found that women are more active in online shopping, more active on SNS than men, or more likely to be influenced by peers. Further research should determine if gender is an important factor. Also geographic regions and income ranges were categorized slightly different than the US Census Bureau. Additionally, quantitative research can oftentimes be so restricted to hard science and facts that there leaves no ability for explorations and new findings, but simply identifying or not identifying. Because this was an exploratory study, a qualitative study could have been more flexible in what variables and items were considered in the model and the survey.

Recommendations for Future Research

Future research includes examining the direct relationship of demographics to the social media use and perception scales of Twitter, Facebook, Pinterest, and Instagram, as well as further studies that strengthen the validity the new scales posed in this research. Demographics were not of much significance in this study specifically but demographics are

still of importance to further examine and better understand, especially on new platforms on communication and marketing such as social networking sites. Additionally, there should be a breakdown of each of the social media use and perception questions to understand how consumers are specifically using and perceiving each of the sites. The author noted that many of the questions seemed to be unrelated when it came to creating a very detailed strategy of each individual SNS site and the consumer cohorts. Further research should examine the use and perception of newer social networking sites in order to keep retailing strategies time relevant and up to date. SNS should continue to be applied to the Theory of Reasoned Action in order to bring the theory to a more current status in regards to technology to serve online marketing strategies for retailers and marketers. A possible suggestion is to examine the relationship between social media use and perception and knowledge further to understand how consumers are using the sites. It is also important to note that social influence of peers to use SNS and the SNS sites themselves could possibly have a place in examining the relationship of SNS to knowledge; particularly, using SNS as a tool for knowledge integration and attitude change. A structural equation model should also be conducted to determine if the new proposed model holds true. More research should also be conducted to understand how to overcome the barriers to ESA consumption and to continue to build upon the literature regarding environmental sustainability knowledge related to the AT industry and ESA attitudes.

Conclusions

This study set out to determine the feasibility of utilizing social influence on SNS as a possible variable in increasing ESA purchase intentions. Overall, the idea of incorporating SNS into the Theory of Reasoned Action holds merit and deems further research to comprehend more fully the implications of this new understanding.

This study also determined that segmenting consumer groups through classic consumer demographics might not be the most effective way to classify consumers in online realms. Perhaps this is a new finding of beginning to characterize consumers as Facebook users or seekers of news on Twitter or window shoppers on Instagram instead of just focusing on the age, gender, and income of consumers. We see a change with technology that consumers' locales are no longer imperative to their shopping habits. The new frontier of "geography" is the tools used (such as smart phones and tablets) to access these sites and to interact with retailers. Retailers need to become a part of consumers' lives on a daily, and even hourly, basis, changing the traditional face of retailing and marketing strategies. Additionally, this study makes a call to action to look at a consumer in a new way, as an online consumer instead of in the traditional demographic labelling that has been predominately relied upon in the past.

Finally, the study found that knowledge of environmental issues in the apparel industry is extremely low and that is a barrier of utmost concern in order to change attitudes and create demand of ESA which will in turn overcome the existing barriers such as financial risk and trendiness of ESA. An increase in consumer knowledge can be facilitated through SNS. Additionally, SNS users influence their peers on those sites. It is now understood that consumers are socially influenced on specific social networking sites and that information needs further examination to understand online consumers better. SNS poses a place for real widespread change to occur. The hopes of this study is that eventually the intention to purchase ESA will be so robust and the understanding of the issues within the apparel industry will be widely known so that there is a real change in the impact on the environment from the AT industry.

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Appendix A:

SURVEY

<u>**QUALIFYING QUESTION**</u>

Do you consider yourself to be an active user of social media?

- Yes

- No

<u>**CONSUMER CHARACTERISTICS**</u> **[including demographics (Income, Age, Gender, Education, Race, Geographic Location) and SMUP]**

<u>**DEMOGRAPHICS**</u>

1. What is your yearly household income level?

    - 0- 9,999

    - 10,000-19,999

    - 20,000- 29,999

    - 30,000- 39,999

    - 40,000-49,999

    - 50,000- 59,999

    - 60,000-69,999

    - 70,000-79,999

    - 80,000-89,999

    - 90,000-99,999

    - 100,000+

2. What Level of education have you obtained?

    - <High School

    - High School Graduate/GED

- Associate Degree

- Bachelors

- Graduate Level +

3. What is your age?

- Fill in the blank

4. What state do you live in?

- Fill in the blank

5. To which racial or ethnic group(s) do you most identify? (Mark more than one if applicable.)

- White/Non-Hispanic

- Black/African American

- American Indian or Alaska Native

- Hispanic or Latino

- Asian/Asian American

- Hawaiian or Other Pacific Islander

6. Other

What form(s) of technology do you employ to access social media? (Check all that apply.)

- Cell phone

- Laptop

- Tablet Device

- Work computer

- Home computer

- Other:_____

7. Out of the following what types of social media are you an active user?

- Twitter

- Facebook

- Pinterest

- Instagram

- Other

8. How many hours do you employ social media per week?

- 0-5

- 5-10

- 10-15

- 15-20

- 20+

SOCIAL MEDIA USE AND PERCEPTION

Source of Scale: SMUPI (Social Media Use and Perception Instrument.) Wang, Sadhu,

Wittich, Mandreaker, & Beckman (2012)

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

Please answer the following questions regarding Facebook.

1. I use Facebook to gain knowledge.

2. I use Facebook to enhance my education.

3. Facebook is useful for learning about news.

4. Facebook is useful for learning about friends.

5. Facebook is useful for learning about shopping.

6. I would be interested in using Facebook for finding out information about apparel.

7. I would like apparel advertised to me by Facebook.

8. Retailers should use Facebook to enhance shopping.

9. Facebook is a professional way to assess retailers.

10. Facebook is an ethical way for retailers to engage consumers.

11. Facebook is an appropriate resource for apparel shopping.

Please answer the following questions regarding Twitter.

12. I use Twitter to gain knowledge

13. I use Twitter to enhance my education

14. Twitter is useful for learning about news.

15. Twitter is useful for learning about friends.

16. Twitter is useful for learning about shopping.

17. I would be interested in Twitter for finding out information about apparel.

18. I would like apparel advertised to me by Twitter.

19. Retailers should use Twitter to enhance shopping.

20. Twitter is a professional way to assess retailers.

21. Twitter is an ethical way for retailers to engage consumers.

22. Twitter is an appropriate resource for apparel shopping.

Please answer the following questions regarding Instagram.

23. I use Instagram to gain knowledge

24. I use Instagram to enhance my education

25. Instagram is useful for learning about news.

26. Instagram is useful for learning about friends.

27. Instagram is useful for learning about shopping.

28. I would be interested in Twitter for finding out information about apparel.

29. I would like apparel advertised to me by Instagram.

30. Retailers should use Instagram to enhance shopping.

31. Instagram is a professional way to assess retailers.

32. Instagram is an ethical way for retailers to engage consumers

33. Instagram is an appropriate resource for apparel shopping.

Please answer the following questions regarding Pinterest.

34. I use Pinterest to gain knowledge

35. I use Pinterest to enhance my education

36. Pinterest is useful for learning about news.

37. Pinterest is useful for learning about friends.

38. Pinterest is useful for learning about shopping.

39. I would be interested in Pinterest for finding out information about apparel.

40. I would like apparel advertised to me by Pinterest.

41. Retailers should use Pinterest to enhance shopping.

42. Pinterest is a professional way to assess retailers.

43. Pinterest is an ethical way for retailers to engage consumers.

44. Pinterest is an appropriate resource for apparel shopping.

KNOWLEDGE ABOUT AT ENVIRONMENTAL SUSTAINABILITY ISSUES

Source of Scale: Knowledge of sustainable apparel will be measured using the Environmental Apparel Sustainable Knowledge scale (ESAK) by LeHew and Hiller Connell (under development).

Response options for Questions 1 - 20: True, False, I Don't Know

Response options for Questions 21 – 24: Cotton, Polyester, I Don't Know

1. Globally, more agrochemical insecticides are applied to cotton than any other major crop.

2. Growing enough cotton to make a pair of jeans (weighs 1.5 pounds) requires approximately 55% more water than what is needed to grow enough wheat for a loaf of bread (weighs 2 pounds).

3. The raw materials used to manufacture polyester and other synthetic fibers are derived from nonrenewable resources.

4. The raw material needed to make virgin polyester and other synthetic fibers is abundantly available.

5. Transforming the raw materials into polyester fibers is more energy intensive as cultivating cotton fiber.

6. Though it takes little to no water to produce synthetic fibers, it consumes large amounts of energy.

7. Chemicals used in textile processing can remain in aquatic systems for fifty or more years.

8. As much as 20% of ALL industrial water pollution comes from dyeing and finishing of textiles.

9. Transforming cotton fiber into denim fabric is more energy intensive than manufacturing jeans.

10. Many of the chemicals found in textile dyes are known and/or suspected carcinogens.

11. Chemical pollutants are produced during the manufacturing of textiles.

12. The manufacturing of clothing uses large amounts of energy.

13. Minimal fabric is wasted in the manufacturing of clothing.

14. A garment's fiber type affects the amount greenhouse gases emitted into the atmosphere during home laundering (washing and drying).

15. Home laundering (washing and drying) of a 100% cotton t-shirt will have less of an environmental impact than the initial production of the cotton fiber and the manufacturing of the shirt.

16. In an industrial landfill, a 100% cotton garment will biodegrade within one to two months.

17. A majority of garments thrown away by consumers are diverted from landfills and recovered for reuse or recycling.

18. The production of textile and apparel products uses minimal amounts of water.

19. Though natural fibers such as cotton and wools are processed, dyed, and cleaned with large amounts of chemicals, they are still safe to the environment and people.

20. The use of larger quantities of natural fibers will significantly decrease energy consumption within the textile industry.

21. Which of the following consumes the most energy during fiber production?

22. Which of the following consumes the most water during fiber production?

23. Which consumes the least energy when drying in a home dryer: a load of 100% cotton items or a load 100% polyester?

24. If placed in a home compost system, which would biodegrade faster?

ATTITUDE TOWARDS ENVIRONMENTALLY SUSTAINABLE APPAREL

Source of Scale: Perrachio and Meyers-Levy (1994).

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

1. I would not purchase a sustainable apparel product.

2. Sustainable apparel is a mediocre product.

3. Sustainable apparel is a high quality product.

4. Sustainable apparel is a poor value product.

5. Sustainable apparel is a well- made product.

6. Sustainable apparel is boring.

7. Sustainable apparel is a worthwhile product.

8. Sustainable apparel is easy to find.

SOCIAL INFLUENCE OF PEERS ON SOCIAL NETWORKING SITES

Source of Scale: UTAUT Scale Venkatesh, Morris, Davis, and Davis (2003)

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

Please answer the following questions regarding Pinterest.

1. People who influence my behavior think I should use the system.

2. People who are important to me think I should use the system.

3. In general, my peers support the use of this system.

4. In general, retail establishments support the use of this system.

Please answer the following questions regarding Instagram.

5. People who influence my behavior think I should use the system.

6. People who are important to me think I should use the system.

7. In general, my peers support the use of this system.

8. In general, retail establishments support the use of this system.

Please answer the following questions regarding Twitter.

9. People who influence my behavior think I should use the system.

10. People who are important to me think I should use the system.

11. In general, my peers support the use of this system.

12. In general, retail establishments support the use of this system.

Please answer the following questions regarding Facebook.

13. People who influence my behavior think I should use the system.

14. People who are important to me think I should use the system.

15. In general, my peers support the use of this system.

16. In general, retail establishments support the use of this system.

Influence of System on Purchase Behavior

Source of Scale: Shen, Dickson, Lennon, Montalto, and Zhang. (2003)

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

1. My involvement on social media influences my purchase decisions.

2. My involvement on Facebook influences my purchase decisions.

3. My involvement on Twitter influences my purchase decisions.

4. My involvement on Instagram influences my purchase decisions.

5. My involvement on Pinterest influences my purchase decisions.

6. Retailers I follow on social media influence my purchase decisions.

SUBJECTIVE NORMS REGARDING PURCHASING ENVIRONMENTALLY SUSTAINABLE APPAREL

Normative Beliefs

Source of Scale: Perrachio and Meyers-Levy (1994)

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

1. My friends on social media think I should not purchase a sustainable apparel product.

2. My friends on social media think sustainable apparel is a mediocre product.

3. My friends on social media think sustainable apparel is a high quality product.

4. My friends on social media think sustainable apparel is poor value product.

5. My friends on social media think sustainable apparel a well- made product.

6. My friends on social media think sustainable apparel is boring.

7. My friends on social media think sustainable apparel is a worthwhile product.

8. My friends on social media think sustainable apparel is easy to find.

Motivation to Comply with Subjective Norm

Source of Scale: Shen, Dickson, Lennon, Montalto, and Zhang (2003)

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

1. My friends' opinions on social media influence my apparel purchase decisions.

2. My friends' opinions on Twitter influence my apparel purchase decisions.

3. My friends' opinions on Facebook influence my apparel purchase decisions.

4. My friends' opinions on Pinterest influence my apparel purchase decisions.

5. My friends' opinions on Instagram influence my apparel purchase decisions.

6. Retailers I follow on social media influence my apparel purchase decisions.

ENVIRONMENTALLY SUSTAINABLE APPAREL PURCHASE INTENTION
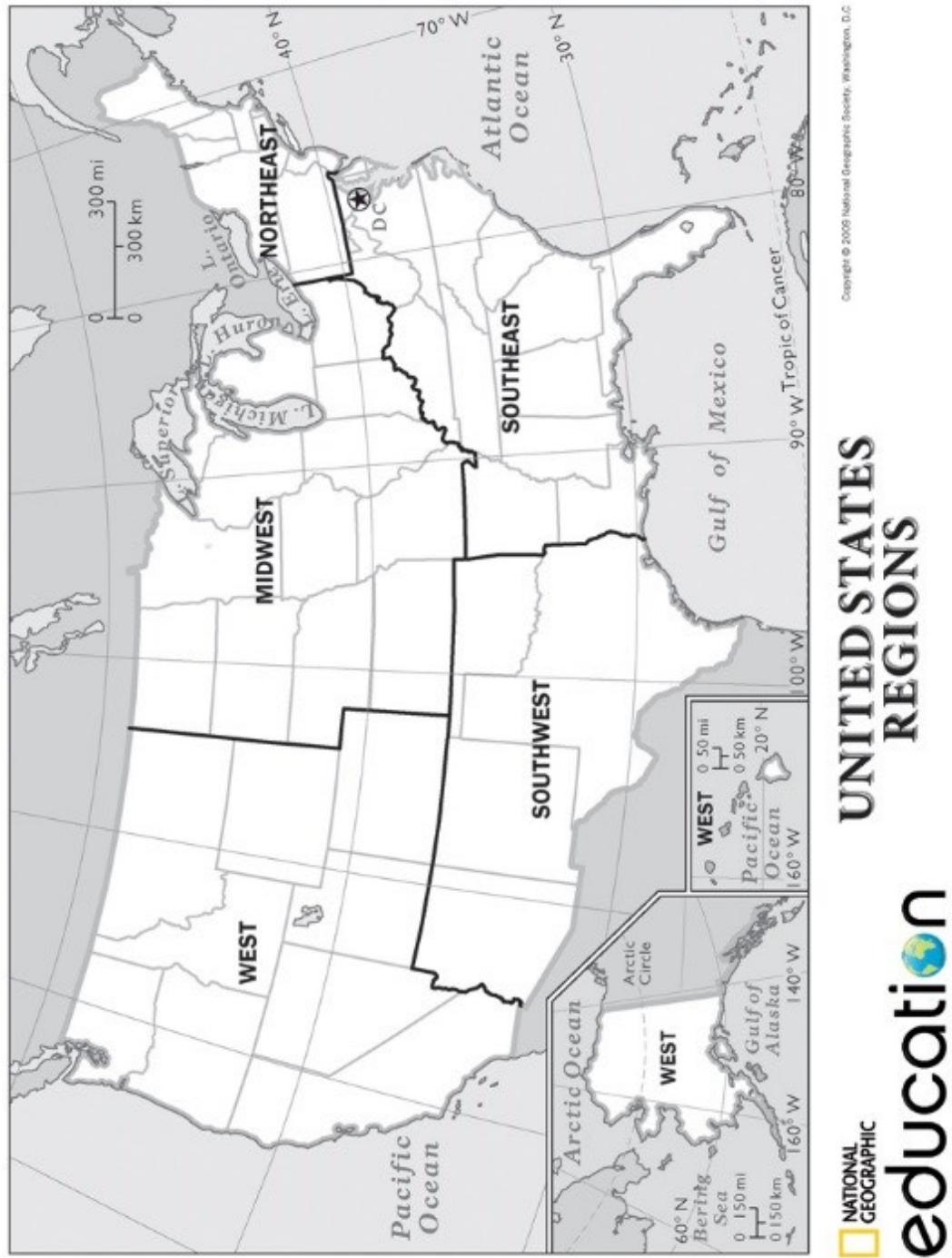
Source of Scale: Hyllegard, Yan, Ogle and Lee (2012)

Response Options: 7 = Strongly Agree, 1= Strongly Disagree

1. In the future I intend to purchase environmentally sustainable apparel

2. In the future I intend to tell a friend about environmentally sustainable apparel.

Appendix B:

Map of Geographic Regions

Appendix C:

Scholarly Manuscript

Fulfillment of this requirement of the dissertation has been met by providing a scholarly manuscript based on the findings of the study to the student's major professor, Dr. Kim Hiller Connell. This manuscript will be submitted for review to the International Journal of Consumer Studies.