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Environmental Values and Clothing Consumption:
Do Clothing Purchases Reflect Environmental Values?

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A senior thesis
Submitted in partial fulfillment of the
Requirements for the degree of
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Abstract

“Fast fashion” refers to inexpensive clothing items that are typically of low quality and that are produced quickly and cheaply to satisfy rapidly changing market demands (Ferne & Sparks); fast fashion also refers to the business model that supports the rapid production of cheap clothing items (Preuit, 2016). In places like Mexico and Bangladesh, the rise of fast fashion has led to a race to the bottom when it comes to clothing production practices (Rosen, 2002). Fast fashion has negative effects on both human communities and the environment. Negative social effects of fast fashion include proximity to carcinogenic compounds (Timmerman, 2009), dangerous working conditions (Yardley, 2013), and salaries as low as 12 – 18 cents per hour (Claudio, 2007). Negative environmental impacts include the pollution of waterways (Antanavičiūtė & Dobilaitė, 2015), the release of greenhouse gases (Climate Works Foundation, 2018, Nature, 2018), and the contribution of discarded clothes to landfills across the globe (Remy, Speelman, and Swartz, 2017).

Given these ill-effects of fast fashion, my work seeks to determine if people with strong environmental values make more sustainable clothing purchasing decisions. In order to do this, I conducted a survey that collected information about the clothes participants were wearing at the time of taking the survey, then used that information to create a sustainability clothing score for each respondent. Respondents also answered questions from two indices, Mayer & Frantz’s connectedness to nature scale (CNS) as well as Haws, Winterich, & Naylor’s GREEN scale. The two indices were then compared to their clothing score in order to see if there was any correlation between the magnitude of environmental values and a higher clothing score.

It was found that CNS was not significantly related to clothing score, but that GREEN scores were. Additionally, no significant differences were found between environmental and non-environmental majors. However, there was a relationship between self-reported behavior and clothing score.

My work contributes to a larger body of behavioral economics research that explores the dissonance between stated values and actual decisions, known as the knowledge-behavior gap, or more specifically in environmental circles, the green gap.

Keywords: Fast fashion, clothes, environmental values, knowledge-behavior gap, green gap

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Introduction

You are walking by the mall when a huge red sign catches your eye. Emblazoned in bold letters: “SALE – Styles up to 80 percent off!” You were not planning on going shopping today, but you walk in and rifle through the racks until something catches your eye – a mauve velvet dress, originally priced at \$19.99, now marked down to just \$5.00. Sure, you have another dress like it at home, but velvet is in right now and after all, it will only set you back \$5.00. You slap some cash on the counter and leave the store proud of your thrifty find. When you get home, you hang the dress in your closet where it will remain largely untouched. Maybe you wear it once or twice for a special event, but after a couple washes, the polyester begins to pill. A few more months go by and you cannot remember why you liked the dress so much to begin with. Velvet is out – so is mauve. The cut of the hem is no longer trendy, nor the style of the straps. Besides, you can find another, newer, more stylish dress in the same store that you bought this one in. At \$5.00, it was no big investment, so maybe you donate the retired dress, or maybe you simply throw it in the trash.

This story is missing its beginning. This dress is made of 88 percent polyester and 12 percent spandex, both synthetic fibers that require the extraction of petroleum in order to produce (Black, 2015). The creation of these fibers uses energy and water in addition to the petroleum base. Once these fibers are spun into cloth, they need to be dyed. The dye process will take in more energy and water and will yield toxic byproducts, including heavy metals like copper and known carcinogens, which will be released from the factory as wastewater and may contaminate nearby waterways, harming human and ecosystem health (Antanavičiūtė & Dobilaitė, 2015; Brooks, 2015; Fletcher and Grose, 2012; Timmerman, 2009). The dyed textiles will be sent to a factory to be cut and sewn, perhaps requiring overseas transit (Cline, 2012). In this case, the textiles are sent to a factory in Vietnam (Forever 21, 2018) where workers may earn less than 12 cents an hour (Cline, 2012). In addition to low wages, these garment workers may be on factory lines up to eleven hours a day (Claudio, 2007) and may be subjected to unsafe working conditions that could be deadly in the case of an event like a fire (Rosen, 2002). It is possible that child labor was used in the making of this dress, as corporations have little oversight of the factories that produce their goods (Arnold, 2009). Once the dress is completed, it will be shipped across the ocean, consuming even more carbon via transit. It will end up in a warehouse where it will either be sent to a physical store or sold online. In either case, this dress ends up being

overstocked – there is not enough demand for the quantity that was produced. The retailer adapts and lowers the price; the labor was so cheap and the volume of their sales so high that they do not take a loss, even at a \$5 price point. That is when you find it on the sale racks and take it home.

This story is also missing its ending. Should this dress be donated, it will potentially end up being resold to another local consumer. However, it will likely be shipped overseas to be sold for cheap in an international marketplace. Not only does this shipping consume carbon, but Western consumers' leftovers have the potential to disrupt local economies and drive down prices of locally made goods. The abundant supply of cheap secondhand items saturates the clothing market and eliminates demand for domestically-produced clothing (Brooks, 2015). Thus, even donating a clothing item can have negative impacts abroad. If we choose the other route and the dress is thrown in the trash, it could remain there for more than 200 years, since petroleum-based polymers take decades to break down (Black, 2008). Even then, it will persist in the form of smaller pieces, as plastics do not biodegrade (Barnes, 2009).

This is the nature of fast fashion, a system of clothing production and consumption that dominates the industry today. It is resource-intensive, high-waste, and often relies on unjust labor practices. Alternatives for fast fashion do exist, but people keep buying from retailers like Forever 21, H&M, and Zara. Why? While it would seem that pro-environmental values would manifest as an avoidance to this industry, prior research has shown that pro-environmental values have only a weak correlation to corresponding purchasing decisions (Jacobs et al. 2018; Manchiraju & Sadachar, 2014). The knowledge-behavior gap that examines the discrepancy between expressed values and action decision making has already received considerable study (Butler & Francis, 1997; Gleim & Lawson, 2014; Harris, Roby, & Dib, 2015; Hassan, Shiu, & Shaw, 2014; Johnstone & Tan, 2015). With this research I aim to further explore whether the strength of an individual's environmental values actually manifest in their clothing purchasing decisions and, if so, to quantify the magnitude of this correlation.

Literature Review

Fast Fashion

Overview

“Fast fashion” refers a division of the fashion industry that is able to rapidly take trends from runways around the world and reproduce them for everyday consumers. Fast fashion clothing items have the key characteristics of being produced quickly and cheaply. Sold at chain retailers like H&M, Zara, and Primark, these items have a short life cycle because trends change and render items obsolete (Black, 2018), because items are of lower quality and deteriorate quickly (Cline, 2012), or because people perceive them to be of lesser value and thus are more willing to dispose of them (Joung, 2013). Rapidly changing trends are a hallmark of fast fashion. Up until the late 20th century, there were two fashion seasons – spring/summer and fall/winter. Department stores would replenish their merchandise, on average, only 3.3 times each year (Rosen, 2002). However, with the fast fashion model, styles change far more frequently; some stores now put out as many as 50-100 microseasons per year (Ross & Morgan, 2015). There are two fundamental theories about the high turnover rate of clothes: consumer-side explanation and a production-side explanation. The practice of rapidly churning out cheaply made goods is known as a quick response strategy (Rosen, 2002). This frames high turnover as a market response to consumer demand, which is shaped by trends from runways and social media. It suggests that corporations are maintaining their competitive edge by quickly accommodating the whims of their shoppers. However, other theorists argue that the cycle of consumption that defines fast fashion is driven by producers putting out new goods that render last week’s styles obsolete (Brooks, 2015).

History of Fast Fashion

For much of history, clothing production was a cottage industry - women would construct clothes for their family or rely on the skills of their neighbors (Black, 2018). This changed in the mid-19th century with the invention of the sewing machine. Production lines were created in order to facilitate large-scale clothing production. As technology became more refined, clothing items were able to be produced at faster and faster rates. Predictions about the inevitable takeover of the fashion industry by techniques of mass production appear as early as 1940 (Hawes, 1940). While the Industrial Revolution opened the possibility of mass clothing

production, it was not until the 1980s that the fast fashion system as it operates today truly took off.

The explosion of fast fashion during this time can be understood as being driven by both supply-side and demand-side changes. From the supply-side, apparel retailing in the United States had become more and more concentrated with time – by 1987, the five largest clothing retailers accounted for 35 percent of all retail sales (Rosen, 2002). Market dominance by a few large companies necessitated the development of innovative strategies by smaller retailers hoping to maintain a competitive edge (Tyler, Heeley, and Bhamra, 2006). A subsequent restructuring among the industry occurred which prioritized quick response to fashion trends seen on runways (Bhardwaj and Fairhurst, 2010). This strategy of quick response led to a massive shift in the functioning of the fashion industry. Rather than focusing on producing original designs, retailers began competing to see who could replicate runway trends the fastest and cheapest (Black, 2008). Quick response models of clothing production resulted in a transition from local to overseas sourcing, which allowed clothing producers to churn out clothing items while maintaining low prices (Bhardwaj and Fairhurst, 2010). The outsourcing of clothing production was also facilitated by increased enforcement of labor laws in the United States. For example, the clothing company Guess produced 97 percent of its apparel domestically in the 1990s, but after being fined for violating labor laws, they subsequently moved 65 percent of their production to Mexico (Rosen, 2002). This globalization of the clothing manufacturing industry did not slow down after the 1980s. In fact, in 1990, the United States made about 50 percent of the clothing it consumed; today, only 2 percent of clothing purchased by its citizens is made in the country (Cline, 2012).

Fast fashion's takeoff can also be viewed as a result of changes on the demand-side. During the 1980s, increased globalization rendered information more salient. Improved modern technologies allowed for the rapid transmittance of new ideas; trends were able to quickly diffuse across the world and generate consumer demand (Cline, 2012; Gabrielli, Baghi, and Codeluppi, 2012). Similarly to the outsourcing of labor, this trend has only continued in recent years. Social media facilitates unprecedented access into the lives of friends, coworkers, and even celebrities, which allows trends to be put on show and intentionally (or even unintentionally) advertised.

Impacts of Fast Fashion

Textile Production

There are many inputs that go into making clothes. Raw materials are required to produce textiles that will be cut and sewn into clothes. Textiles are made out of natural materials, synthetic materials, or a blend of the two. Natural materials include cotton, wool, and leather, while synthetic materials include polyester, nylon, and spandex. Most textiles today are synthetic – estimates suggest that polyester accounts for as much as 52 percent of global textile production (Black, 2008). Synthetic textiles are derived from petroleum, the extraction of which can be damaging to the environment. Additionally, the production of this class of textiles is very energy intensive and produces large quantities of hazardous waste (Gordon & Hill, 2015). However, many natural fibers do not fare much better under a critical lens of sustainability. Cotton, for example, accounts for a disproportionate amount of agrochemical use. Globally, 2.4 percent of agricultural land is dedicated to cotton, but cotton growing accounts for 24 percent of insecticide use and 11 percent of herbicide use (Brooks, 2015). According to the World Health Organization, these toxic pesticides kill 20,000 farmers every year (Arnold, 2009).

Once the raw materials which will be used in textile production have been either harvested or synthesized, they are spun into yarn at a textile mill. This yarn is then knit, woven, or used to produce non-woven fabric. Various processes are used to pre-treat the fabric, including washing, scouring, and bleaching. The input of chemicals at this stage does more than just clean the fabric; it also can imbue the fabric with desirable qualities, such as improved durability and capacity to accept dye (International Chemical Secretariat, 2019). Next, the fabric is dyed and printed, after which it will receive more chemical treatments to finalize the textile product. These final chemical treatments add desirable properties like anti-wrinkling, anti-pilling, or water resistance (International Chemical Secretariat, 2019). However, these processes use chemicals that ultimately end up as waste products. In places where environmental regulations are not effectively enforced or are not stringent enough the wastewater from these processes is discharged into local waterways (Black, 2008). This wastewater is rife with dissolved paint and other chemicals that increase turbidity (impeding photosynthesis), deplete dissolved oxygen in aquatic ecosystems, and do not biodegrade (Antanavičiūtė & Dobilaitė, 2015). This is just a part of the process, as conventional dyes have relatively low fixation rates. For example, only 65 percent of dye will affix to a cellulose-based fabric like cotton, and the rest

will be washed away and downstream (Fletcher and Grose, 2012). This has negative effects on not only ecosystem health, but also human health (Timmerman, 2009). One example of this is the compounds in indigo dye (used in denim jeans), which were found to elicit toxic effects when exposed to other compounds and to independently be a nongenotoxic carcinogen (Rannug, Bramstedt, and Nilsson, 1992). Another health hazard is toxic effluent from copper, a heavy metal that is used to achieve color-fastness in bright shades like turquoise and kelly greens (Fletcher and Grose, 2012). According to the Agency for Toxic Substances and Disease Registry, ingesting higher than normal levels of copper, may cause “nausea, vomiting, stomach cramps, or diarrhea” and exceptionally high intakes of copper can cause “liver and kidney damage and even death” (2004).

Accessory Production

Clothing production takes more than just fabric. There are also various trims and notions that will be used to accessorize clothing garments, like buttons, zippers, sequins, and grommets. While these elements may seem like minor details, they produce their own environmental impacts. For example, the metal buttons that serve as fasteners for jeans can produce an immense amount of waste. Metal hardware sometimes undergoes a process called electroplating, which prevents rusting. However, the waste byproducts of this process include contaminants like cyanide and oil, substances that are toxic to aquatic species (Fletcher and Grose, 2012). It is estimated that for every 3,300 metal buttons produced, 500 grams of hazardous sludge is also produced (Fletcher and Grose, 2012). This requires special treatment and storage but is not always properly disposed of.

Another tiny product that has major consequences is glitter. Glitter and sequins are both used to add sparkle to articles of clothing but can ultimately end up as a pollutant in aquatic environments. Glitter and sequins are typically made of etched aluminum bonded to polyethylene terephthalate (PET), a form of polyester (Bramley, 2018). As a result of washing, or just regular wear-and-tear, glitter and sequins can come loose from clothes. These shiny specks are small enough they may not be caught by filtration systems in sewage facilities and can end up as microplastic pollution in waterways (Parker, 2017).

Clothing Factories

Fabric and notions literally come together at a clothing factory. Clothing factories are contracted by brands to produce specific garments (Cline, 2012). Once a design has been sent to the clothing factory, a sample of the item is produced and reviewed by the brand, then put into production. This occurs on a massive scale. One clothing factory in the Dominican Republic with a staff of 107 workers produces over 1,300 articles of clothing daily (Cline, 2012), an example of the high level of productivity demanded in the fast fashion market. DIRD Group, based in Bangladesh, controls two major factories: DIRD Garments Ltd and DIRD Composite Textiles. DIRD Garments Ltd, whose clients include Walmart and Gymboree, employs 1,075 workers and has a daily capacity of 12,000 pieces (“DIRD Garments Ltd,” 2017). DIRD Composite Textiles has 11,000 workers and can churn out 3,000,000 pieces monthly from its 1,221,844 square foot facility (“DIRD Composite Textiles Ltd,” 2017).

Cutting of fabrics is designed for efficiency, with machines being programmed to optimize use of surface area when cutting out patterns. However, there will still be scraps of fabric that are too small to be of use. Some companies, like Marc Jacobs and Express, collect their fabric scraps for recycle and reuse via third-party organizations, though many companies will incinerate these scraps or send them to a landfill (“FABSCRAP,” 2019).

The garment industry still has not seen the technological advances that would allow for it to be fully automated. While spinning and weaving can largely be done on machines, an individual must program these operations (“Sewing clothes still needs,” 2017). While some companies are developing sewing robots, this operation currently remains too detailed to be automated (“Sewing clothes still needs,” 2017). In this sense, all clothes are handmade. Every contemporary article of clothing that exists today, from shirts and dresses to underwear and socks, was sewn by a human being. The only difference is whether it was sewn entirely via hand-stitching (handmade) or whether a sewing machine was used to aid in the construction of a garment (machine-made). The mantle of ‘machine-made’ is deceptive, as sewing machines still require a pair of human hands to guide the fabric through the machine (Santos, 2017). Most fast fashion clothing items are manufactured assembly-line style, with different workers sewing different parts of the same garment and then passing it on to the next worker (Rosen, 2002;

Cline, 2012). One t-shirt may be handled by fourteen different people before it is ready to be shipped out for sale (Cline, 2012).

Demand for inexpensive clothes has fueled an outsourcing of clothing production from the United States to countries with more relaxed labor laws, like El Salvador and Bangladesh. However, these relaxed labor laws mean that garment workers around the world often suffer poor conditions like long work days, little pay, and dangerous factories. In El Salvador, women working in factories that source clothes for Wal-Mart and Kmart work eleven-hour shifts, six-days a week, earning 15 cents for each pair of pants that they sew (Claudio, 2007; Rosen, 2002). In the Philippines and China, forced overtime is rampant – refusal to render overtime work is punishable with dismissal, and there are documented cases of three-day shifts when “workers [were] forced to sleep under their machines” (Klein, 1999). Garment factories may also be unsafe. In 1993, 2,500 Chinese workers were burned in dormitory fires (Rosen, 2002) and in 2010, a factory fire – which began at 9pm, when workers should have already been home – occurred at a facility in Gazipur, killing 21 people (Cline, 2012). Child labor is also sometimes a problem. While corporations try to avoid contracting factories that employ children, there is often little oversight to ensure this. For example, UK-based retailer Primark was found to be subcontracting work to three different companies in India that were using child labor (Arnold, 2009). While they claimed not to know about the underage workforce and terminated their contracts with these factories, it goes to show that corporations are often not carefully monitoring the factories that they work with. Even when monitoring does occur, it still is not always enough. A 2012 fire in Pakistan claimed close to 300 lives at a factory that inspectors had recently deemed to be safe (Gordon & Hill, 2015). Subsequent investigation revealed that company managers received prior notice of the inspection and instructed their employees to lie to them under threat of termination (Gordon & Hill, 2015). These poor working conditions are possible because countries rely on these exports to support their economy, but importers (the fast fashion companies that contract producers) are not legally responsible for conditions in their factories since garment workers are employed by the factories, not by the retailer (Cline, 2012).

These problems are widespread. There are an estimated 40 million garment workers worldwide; most of them are women (Arnold, 2009). Factory workers often have no other choice but the garment industry. In countries like the Honduras, where one in four people are unemployed, daily wages of \$4 to \$5 are still better than no wages (Timmerman, 2009). Some

economists justify the ills of unjust labor practices on this basis, arguing that these factories elevate the economies of poor countries (Myerson, 1997) and that outlawing child labor may be immoral if it means that the child will starve (Timmerman, 2009). Others refute the “better than” defense as a dangerous moral ground that creates a fallacious dichotomy that is “ethically unacceptable” (Gordon & Hill, 2015; Black, 2008; Ross, 2007).

Retailers

Once the clothing garments have been checked for quality, they are shipped to distribution centers and then to retailers internationally. Stores will mark clothing up to a minimum of double the wholesale price, though cheap labor ensures that prices will still remain low (Cline, 2012). Most fast fashion retailers rely on economies of scale to turn a profit. Brands like Forever 21 and H&M can sell clothing at an extremely low price because the high volume of sales ensures a profit - in 2004, H&M was producing 500 million pieces of clothing a year (Cline, 2012). The global market for jeans alone is estimated to be worth about \$60 billion (Brooks, 2015). Also, the fast fashion market is only growing. In 2014, the average consumer bought 60 percent more clothing than in 2000 but kept each garment only half as long (Drew & Yehounme, 2017).

Consumers

The environmental impacts of clothing continue even once a garment has been purchased. Upkeep can be a significant driver of resource use. In fact, the washing and drying of clothes can use as much as six times the energy that was required to make the clothing item in the first place (Zoltkowski, 2017).

The production of microplastics is another environmental impact of laundering clothes. Microplastics, defined as plastic particles less than 5 millimeters in size, and nanoplastics, defined as plastics less than 100 nanometers in size, can come from a variety of sources. They are created from textiles when petroleum-based fibers come loose from clothing during the wash or dry cycle. These fibers are often too small to be filtered out by sewage treatment facilities, so they end up being released into waterways. A single garment can release over 1,900 fibers during one wash cycle (Browne et al., 2019). That adds up. It is estimated that textiles account for 190,000 tons of aquatic microplastic annually (Eunomia, 2016).

Microplastics are now ubiquitous in marine environments (Rochman et al., 2015; Duncan, 2019). These tiny plastic pieces pose a myriad of threats to both wildlife species and human health. In marine environments, micro- and nanoplastics may be accidentally ingested and can physically block the digestive tracts of certain species or impede their appetite, potentially leading to malnutrition or even death (Rist et al., 2016; Henry, Laitala, & Klepp, 2019; Wang et al., 2019). Additionally, as textile-derived microplastics (and other, larger forms of plastic pollutants that are present in the water column) break down, they may release some of the compounds that were used as additives to imbue the plastic product with certain desirable qualities (Wang et al., 2019). Some of these additives are endocrine-disrupting compounds (EDCs) that can bind to microplastics, which more readily adsorb contaminants due to their high surface area to volume ratio (Rocha-Santos & Duarte, 2015; Andrews, 2019; Lu et al., 2019; Strungaru, 2019). These compounds may have toxic effects on a variety of marine species (Rochman et al., 2013; Zettler et al., 2013; Rochman et al., 2015; Rist et al., 2016).

There are also concerns about the potential effects of microplastics on human health. In Peixoto's review of microplastics in commercial salt for human consumption, microplastics were found in 88 to 100 percent of salt samples in every cited study (2019). Microplastics have also been identified in seafood, drinking water, and beer (Henry, Laitala, & Klepp, 2019). Microplastics are able to move up trophic levels via bioaccumulation (Barnes et al., 2009) and EDCs and other toxins that bind to microplastics could be transmitted to humans at high concentrations due to biomagnification (Rochman et al., 2013; Batel et al., 2016; Carberry et al., 2018; Andrews, 2019). Up to ten percent of ingested micro and nanoplastics could be absorbed into the human bloodstream during digestion, and while there is a need for further research in this area, bioaccumulation could potentially lead to a variety of negative human health impacts (Henry, Laitala, & Klepp, 2019; Peixoto et al., 2019; Zhang et al., 2019).

End of Use

Evolving trends quickly render last season's clothes obsolete, and outdated clothing is either stored or disposed of. Clothing items can be disposed of via gifting, donation, recycling, or sending to a landfill. It is estimated that 74 percent of purchased clothes are thrown away (Arnold, 2009). Clothes may end up in landfills because consumers are not aware that unwearable clothes could still potentially be recycled, or it may simply be due to an

unwillingness to invest time into bringing clothes to a donation center. The time between production and disposal of clothing items is very short – 60 percent of all clothing is sent to a landfill or incinerated within a year of its production (Remy, Speelman, & Swartz, 2017). These clothing items are filling up landfills because synthetic materials, made of petroleum-based polymers, can take more than 200 years to break down (Black, 2008).

Certain fabrics can be recycled and made into new clothing. For example, natural fibers, like wool, and synthetics, like nylon, can both be re-processed to be used in new garments (Gordon & Hill, 2015). While the recycling process also has its own negative environmental externalities, it solves the problem of filling landfills.

Donating clothes is also an option, though that has its own impacts as well. Most donated clothes are not actually used or resold by donation centers like thrift stores. Only one fifth of donated items will be used by the thrift stores (Claudio, 2007). The remaining items will be sold to textile recyclers who will either reprocess the clothing items into some other market good or, as is the fate of nearly half of the clothes sent to recyclers, it will be baled and shipped for sale in other countries (Claudio, 2007). Not only does the transportation of this clothing back across the ocean result in more carbon emissions, but it can also undermine local industries. Clothes are not in short supply, and second-hand items from the US can inundate the market, driving prices down. While some locals will benefit from sales of baled second-hand clothing items, others will see their livelihoods threatened as their local products cannot compete with this cheaper alternative (Brooks, 2015).

Carbon Emissions

The fast fashion industry contributes heavily to global carbon emissions. Textile production creates 1.2 billion tons of CO₂ equivalent (CO₂e) per year, accounting for 5-10 percent of total global emissions (Climate Works Foundation, 2018, Nature, 2018). In fact, the production of a single cotton t-shirt can account for approximately 4.6lb of carbon emissions (Climate Works Foundation, 2018). These emissions are a result of not only the energy inputs of manufacture, but also the transportation demands of sending raw materials to textile factories, textiles to clothing factories, and finished goods to distribution centers and retailers. These high inputs are amplified by the incredible consumption that the cycle of fast fashion creates. People need clothes, but they buy far more than what is necessary. American consumers own an average

of 6.7 pairs of jeans (Brooks, 2015). During the process of writing her book, “Overdressed: The Shockingly High Cost of Cheap Fashion,” author Elizabeth Cline tallied her wardrobe and counted:

Sixty-one tops, sixty T-shirts, thirty-four tank tops, twenty-one skirts, twenty-four dresses, twenty pairs of shoes, twenty sweaters, eighteen belts, fifteen cardigans and hooded sweatshirts, fourteen pairs of shorts, fourteen jackets, thirteen pairs of jeans, twelve bras, eleven pairs of tights, five blazers, four long-sleeved shirts, three pairs of workout pants, two pairs of dress pants, two pairs of pajama pants, and one vest. Socks and underwear not included, [she] owned 354 pieces of clothing. (p. 4)

While this may seem extreme, it is precisely on average for the American consumer (American Apparel & Footwear Association, 2008). Thus, the environmental impacts of fast fashion must be considered in this context of mass production.

Environmental/ Consumer Behaviors

Values-Based Decision-Making

There are a variety of factors that affect decision-making, including values, social norms, habit, choice architecture, perception, and economic constraints (Balmford et al., 2017). Values have been found to be a predictor of decision-making, albeit a weak one. Maio et al. (2003) found that the effect of values on decision-making is “occasionally weak,” but that values had stronger effects on decision-making when these values were perceived to be central to self-identity. They found that “primed environmental values influenced behavior more strongly when the values were perceived as more closely connected to the person’s sense of self” (Maio et al., 2003).

Homer and Kahle (1988) proposed a theoretical framework called the value-attitude-behavior hierarchy (VABH), which posits that abstract values shape specific attitudes which in turn drive behavior. This model can be used to make sense of certain decision-making processes that consumers experience. The value-behavior model is especially useful when explaining why the same rationale for clothing purchasing decisions would lead to different outcomes for different consumers. In an exploration of fashion consumers, Watson and Yan (2013) found that fast fashion consumers and slow fashion consumers both referenced themes of remorse avoidance, utilitarianism, hedonism, and style/self-image congruence. Within these themes, there

was divergence between the two types of consumers because of different values. For example, fast fashion consumers buy cheap clothes so that they do not experience buyer's remorse from spending a lot of money, while slow fashion consumers purchase more expensive clothing items that are of higher quality to avoid the same feeling. Both fast fashion and slow fashion consumers cited utilitarianism as a reason for their style of purchasing, but the fast fashion camp found more utility in having a greater number of items while the slow fashion purchasers found greater utility in having fewer goods of higher quality (Watson & Yan, 2013). Manchiraju & Sadachar (2014) found values to be an explanatory factor for behavioral intentions toward ethical fashion consumption. The strongest explanatory values were self-enhancement and openness to new experiences. Jacobs et al. (2018) found a "considerable" gap between positive attitude towards sustainable clothing and actual sustainable clothing purchasing behavior. However, values, as opposed to attitudes, were determined to be an "adequate" explanation for sustainable clothing purchasing behavior. Biospheric and altruistic values were found to enhance sustainable clothing purchasing behaviors, while egoistic and hedonistic values hindered sustainable decisions.

Behavioral Gaps/ The Green Gap

For as many models that exist predicting a relationship between values and behaviors, there are an equal number of studies demonstrating a dissonance between the two. The attitude-behavior gap refers to the phenomenon where people say that they care about something but then do not take appropriate corresponding action to manifest their stated preferences. This has been highlighted particularly in regard to sustainability issues and framed as the green gap. Put succinctly by Gleim & Lawson (2014), the green gap "refers to the distance between the stated importance of protecting the environment and the actual behavior to help the environment." This has been demonstrated in numerous studies (Butler & Francis, 1997; Gleim & Lawson, 2014; Harris, Roby, & Dib, 2015; Hassan, Shiu, & Shaw, 2014; Johnstone & Tan, 2015). Factors that cause the gap include price, poor perceptions of quality, lack of green product availability, and brand loyalty (Gleim & Lawson, 2014). Also, the gap is especially prominent with regards to clothing buying decisions. In focus groups, respondents were selectively ethical, expressing concern and willingness to change behavior for certain categories of goods but not others. Fashion was one area where consumers were less willing to sacrifice status quo purchasing for

ethical purchasing. Carrigan (2001) noted that this is possibly due to the importance of brands among fashion consumers, stating that “unless they can buy ethically and still retain fashion status, consumers will not boycott unethical brand leaders.” This is a problem unique to the clothing industry. While their observations have less to do with the perception of others on brand loyalty, Johnstone & Tan (2015) also describe a trend of brand attachment, noting that some individuals have used the same brands for decades and are reluctant to change, despite ethical concerns.

Another nuance of decision-making has to do with personal values and the perception of an object’s value. Regarding the end of life treatment of clothes, a correlation has been demonstrated between pro-environmental values and the donation or recycling of clothing items, as opposed to sending these items to a landfill (Joung & Park-Poaps, 2013). Additionally, people are more likely to recycle if they perceive items to be valuable (Joung, 2013). Environmentalists perceive value in fast fashions where other consumers do not because they recognize the environmental impacts of clothing production and disposal. Also, greater knowledge leads to higher rates of recycling behaviors. There is a relationship between environmental knowledge and clothing disposal behaviors – education has proven effective in increasing the perceived importance of recycling (Joung, 2013). Lack of knowledge is a main factor in sending clothes to a landfill. 95 percent of clothing that is sent to landfills could be recycled, but in a survey conducted by the thrift store chain Savers (2017), 62 percent throw away items because they do not think that a donation center would take them.

Ethical Consumption

Ethical consumption refers to the conscious choice or avoidance of certain goods and services based on political, spiritual, environmental, social, or other motives (Manchiraju and Sadachar, 2014). The textile and clothing sectors lag behind other targets of ethical consumption, like food and coffee, that have successfully mobilized consumers into environmentally friendly shopping behaviors (Boström, 2016). The reasons for this align directly with the reasons behind the green gap. Engagement in ethical consumption requires a degree of altruism (Harris, Roby, & Dibb, 2015) that fashion purchases lack. Fashion-oriented impulse buying has been shown to be connected to positive emotional states (Park, Kim, & Forney, 2006). Feelings of happiness and excitement tend to reduce decision complexity, allowing for impulsive purchases. Ethical

consumers must consciously override this, sacrificing the psychological reward of impulse purchasing for some greater good. This is especially difficult because small-scale, everyday environmentally-friendly actions generally do not have any visible reward to the individual. While there can be a psychological reward to an individual who feels like they have done the right thing, choosing green practices can be seen as a sacrifice with little benefit (Johnstone & Tan, 2015). Ethical decisions can seem futile, and individuals justify their actions by telling themselves that what one person does will not matter (Johnstone & Tan, 2015).

Identity

Consumer Identity

Clothes offer a particularly interesting niche for exploration as an individual's style of dress often serves as a visual representation of the self. In the post-modern world, one's identity as a consumer can become one's dominant identity in the face of the fragmentation of family life, as well as changing of class identities and social priorities (Gabrielli, Baghi, and Codeluppi, 2012). Individuals are defined by the objects that they purchase rather than by traditional societal roles. Thus, clothes offer a tangible way of solidifying one's self-conception (Bishop, 2018; Gabrielli, Baghi, and Codeluppi, 2012). Not only do clothing items invoke a certain feeling for the wearer, but they also serve as signals to other people. Garments have the potential to convey narrative and shape interpersonal interactions (Bishop, 2018; Agins, 1999). Thus, there is pressure to keep up with the latest trends if a consumer wants to present the appearance of being in style (Boström, 2016; Cline, 2012). Clothes are like a metaphorical second skin that allow people to show the world who they are, and signal to the world to respond accordingly. Commodities like fast fashion can be understood as props to be used in the process of creating one's identity (Warde, 1994). Woodward (2007), in explaining why women wear what they wear, names five key factors that shape decisions about clothes: the attachment of memories to these material objects, the feeling of self-confidence that can come from getting dressed, expectations about the perceptions of others, fulfilling roles in relationships, and engaging with fashion trends. She further explains that articles of clothing represent different aspects of a woman's social self and that when a woman chooses an outfit, she is actualizing a specific version of herself (Woodward, 2007).

Environmental Identity

There is much to be said about the ways that people conceptualize their identity through clothing items, but there are other factors that also shape identity. Clayton (2003) describes an environmental identity as:

A sense of connection to some part of the nonhuman natural environment, based on history, emotional attachment, and/or similarity, that affects the way we perceive and act towards the world; a belief that the environment is important to us and an important part of who we are. (p. 47)

This conception of self encompasses the natural world around an individual and the sense of connection that a person may feel with it. It can also manifest as feeling connected to a specific species, like black bears (Myers & Russell, 2003). An environmental identity can result from a general sense of mindfulness that encourages connection to nature (Andersen, 2017), but can also be understood similarly to the conceptualizing of self through clothes. Much like neutral articles of clothing are imbued with subjective values that subsequently shape peoples' self-conceptions (a leather jacket is "edgy," a floral skirt is "feminine," etc.) so too can nature be understood as an objective thing onto which humans place normative values (wolves as "noble," oceans as "peaceful," etc.). As part of the environmental self-identity, there is an understanding of self in relation to the natural world (Myers & Russell, 2003). As people derive meaning from their relationship with clothes, they also derive meaning from their relationship with nature. The establishment of a sense of self through clothes does not preclude finding identity from other places, so materialistic and ecological conceptions of self can and do coexist.

Methods

A self-administered online survey was developed to measure environmental values and clothing purchasing and use habits. Environmental values were measured using Mayer and Frantz's connectedness to nature scale (CNS), which has been found to be predictive of pro-environmental behaviors (Andersen, 2017) and measures a more general environmental consciousness, as well as Haws, Winterich, & Naylor's GREEN scale, which reliably captures green consumption values.

This survey also captured information about the clothes that the respondent was wearing at the time that they took the survey. Respondents were asked if they were wearing certain clothing items: a shirt, bottoms (pants, shorts, or a skirt), a dress, a jacket, and shoes. For each item that the respondent answered 'yes' to, they were then asked to report the brand of the clothing item, where the item was made, when they purchased the item, how frequently they wear the item, and if they bought the item new or used. Respondents were also given the option to report this same information for additional clothing items. Respondents could report up to ten items, though the maximum number of reported items for a single respondent was five.

Survey respondents were then asked a series of questions about their clothing purchasing behaviors. Respondents were asked to report how many of their clothes were purchased new, how frequently they purchased clothes, and to what extent they considered social and environmental impacts when purchasing clothes. They were also asked to rank the factors that they consider when making a clothing purchasing decision.

Demographic information was also collected, including gender, age, and major, as well as personal and family income.

Prior to the release of this survey, the researcher successfully completed Institutional Review Board (IRB) – Human Subjects Research training through the Collaborative Institutional Training Initiative (CITI Program). She received a Category 2 exemption for her survey following review by UVM's Research Protections Office. In March of 2019, the survey was distributed to University of Vermont undergraduate students via academic major email lists. Email list administrators were contacted for all undergraduate majors at UVM, though not all administrators chose to share the questionnaire with their students. The survey was hosted through LimeSurvey. To prevent duplicate entries, respondents were required to enter their email address in order to receive a token which allowed them unique access to the survey. However,

the respondent's email address was not associated with their survey response, so all responses were anonymous. Participation was incentivized with the chance to win a \$15 gift card. This gift card was funded by the researcher and was awarded to a respondent that was randomly selected. Additionally, this research was presented to Professor Brendan Fisher's ENVS 188 course; students in that class who completed the survey were awarded credit for it as a completed homework assignment.

A total of 443 surveys were completed by undergraduate students at UVM. Descriptive statistics employing IBM SPSS version 25 was utilized to analyze the collected data. Given the large sample size, an alpha level of .01 was chosen for identifying significance.

Variables were determined as follows:

Connectedness to Nature (CNS)

The CNS questions are:

1. I often feel a sense of oneness with the natural world around me.
2. I think of the natural world as a community to which I belong.
3. I recognize and appreciate the intelligence of other living organisms.
4. I often feel disconnected from nature.
5. When I think of my life, I imagine myself to be part of a larger cyclical process of living.
6. I often feel a kinship with animals and plants.
7. I feel as though I belong to the Earth as equally as it belongs to me.
8. I have a deep understanding of how my actions affect the natural world.
9. I often feel part of the web of life.
10. I feel that all inhabitants of Earth, human, and nonhuman, share a common 'life force'.
11. Like a tree can be part of a forest, I feel embedded within the broader natural world.
12. When I think of my place on Earth, I consider myself to be a top member of a hierarchy that exists in nature.
13. I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees.
14. My personal welfare is independent of the welfare of the natural world.

Respondents answered on a Likert scale from 1 to 5. Prior to analysis, questions 4, 12, and 14 were reverse scored, as per Mayer and Frantz's methodology (2004). The CNS score for each respondent was determined by averaging the coded responses to the above questions.

GREEN Score

The GREEN questions are:

1. It is important to me that the products I use do not harm the environment.
2. I consider the potential environmental impact of my actions when making many of my decisions.
3. My purchase habits are affected by my concern for our environment.
4. I am concerned about wasting the resources of our planet.
5. I would describe myself as environmentally responsible.
6. I am willing to be inconvenienced in order to take actions that are more environmentally friendly.

Respondents answered on a Likert scale from 1 to 5. The GREEN score for each respondent was determined by averaging the coded responses to the above questions.

Environmental Major

Respondents were asked to report their major of study. Respondents were classified as being an environmental major if they reported studying: Environmental Studies; Environmental Sciences; Natural Resources; Forestry; Parks, Recreation, and Tourism; or Wildlife and Fisheries Biology. These majors were classified as environmental majors because they either have a program of study that focuses on environmental issues or because they are housed in a college at UVM that has an explicit focus on environmental and sustainability issues.

Reported Behaviors

The reported behaviors questions are:

1. Think about all of the clothes that you own. How many of these items would you say that you purchased new?
2. How often do you generally make clothing purchases?

3. To what extent do you consider environmental impacts (e.g. carbon footprint, water use, waste, etc.) when purchasing clothing items?
4. To what extent do you consider social impacts (e.g. wages of workers, factory safety, effects on health, etc.) when purchasing clothing items?

Answers to these questions were coded as numerical values and averaged in order to produce a reported behaviors value.

Clothing Score

The sustainability of the clothing that the respondent was wearing at the time of taking the survey was captured in the clothing score. The clothing score was determined by averaging the sustainability of each item that the respondent was wearing. Sustainability of individual items was determined based on whether the item was bought new or obtained in some other way, how long the respondent has owned the item, and how frequently the participant wears the item. This information, which was reported by respondents, was coded as numerical values in order to calculate the clothing score of each item. Items bought new got a 1, while items bought used or obtained in some other way got a 2. Items obtained in 2018 and 2019 got a 1, while items obtained prior to 2018 got a 2. Items that were not worn frequently or were worn only a few times a month got a 1, while items that were worn a few times a week or almost every day got a 2. Thus, the lowest score that a single item of clothing could have was a 1, and the highest score that a single item of clothing could have was an 8. The clothing score was calculated by averaging the sustainability score of all items for which the respondent reported information.

There was some concern that jackets and shoes, as more durable items that people may be wearing frequently, particularly in winter, might be artificially inflating the clothing score of respondents. Thus, a second clothing score (Clothing Score 2) was calculated from the average sustainability score of the shirt and pants or dress that the respondent was wearing at the time of taking the survey. Comparing the significance of relationships between measures for both clothing scores allowed the researcher to confirm the validity of the clothing score.

Results

Table 1. Summary of correlations between CNS, GREEN, and self-reported behavior.

		CNS	GREEN	Behavior
CNS	Pearson Correlation	1	.576**	.388**
	Sig. (2-tailed)		<0.001	<0.001
GREEN	Pearson Correlation	.576**	1	.531**
	Sig. (2-tailed)	<0.001		<0.001
Behavior	Pearson Correlation	.388**	.531**	1
	Sig. (2-tailed)	<0.001	<0.001	

A bivariate Pearson correlation showed that CNS scores, GREEN scores, and self-reported behavior scores all have statistically significant ($p = <.001$) correlations.

Table 2. Results of a t-test comparing CNS, GREEN, and self-reported behavior scores for environmental and non-environmental majors.

	Sig. (2-tailed)	Mean		Mean Difference	Std. Error Mean		Std. Error Difference
		Non-ENVS	ENVS		Non-ENVS	ENVS	
CNS	<0.001	3.60	4.04	-0.44	0.04	0.04	0.06
GREEN	<0.001	3.86	4.29	-0.43	0.04	0.04	0.06
Behavior	<0.001	2.87	3.17	-0.30	0.04	0.05	0.06

An independent samples t-test showed that there was a statistically significant [$p = <.001$] difference in CNS scores, GREEN scores, and self-reported behavior scores for environmental and non-environmental majors. However, the mean difference was relatively small. Environmental majors and non-environmental majors had a mean difference of 0.44 for CNS scores, 0.43 for GREEN scores, and only 0.3 for self-reported behavior scores.

Table 3. Summary of correlations between CNS, GREEN, and self-reported behavior scores and clothing score (tested in two ways).

		CNS	GREEN	Behavior	Clothing Score
Clothing Score	Pearson Correlation	0.069	.188**	.342**	-
	Sig. (2-tailed)	0.151	<0.001	<0.001	-
Clothing Score 2	Pearson Correlation	0.023	.159**	.303**	.854**
	Sig. (2-tailed)	0.630	0.001	<0.001	<0.001

The relationship between CNS score and clothing score is not significant, but there is a statistically significant relationship ($p = <.001$) between GREEN and self-reported behaviors score and clothing score. The relationship between self-reported behavior and clothing score is stronger than the relationship between GREEN and clothing score. The same relationships were significant for clothing score 2, though to slightly different degrees. The two clothing scores had a high degree of correlation.

Table 4. Results of a t-test comparing the clothing scores of environmental and non-environmental majors.

	Sig. (2-tailed)	Mean		Mean Difference	Std. Error		Std. Error Difference
		Non-ENVS	ENVS		Non-ENVS	ENVS	
Clothing Score	0.038	2.94	3.17	-0.24	0.07	0.09	0.11

There is not a statistically significant relationship between the clothing scores of environmental and non-environmental majors, as $p = .038$.

Table 5. Average sustainability score for various clothing item categories.

	Avg. Sustainability Score
Shirt	2.66
Pants	2.95
Dress	1.33
Jacket	4.20
Shoes	3.16

Jackets had the highest average sustainability score, followed by shoes, then pants, shirts, and dresses.

Table 6. Interaction effect of major and gender on CNS.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Major	14.295	1	14.295	43.308	<0.001

Gender	2.794	1	2.794	8.465	0.004
Major * Gender	0.034	1	0.034	0.103	0.748
Error	140.942	427	0.330		
Corrected Total	163.587	430			

A two-way ANOVA was used to identify any interaction effect between major and gender on CNS score. No significant interaction effects between major and gender were found for this measure.

Table 7. Interaction effect of major and gender on GREEN.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Major	13.875	1	13.875	41.848	<0.001
Gender	0.006	1	0.006	0.017	0.896
Major * Gender	0.141	1	0.141	0.426	0.514
Error	141.574	427	0.332		
Corrected Total	161.407	430			

A two-way ANOVA was used to identify any interaction effect between major and gender on GREEN score. No significant interaction effects between major and gender were found for this measure.

Table 8. Interaction effect of major and gender on self-reported behavior.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Major	6.279	1	6.279	15.392	<0.001
Gender	0.514	1	0.514	1.259	0.262

Major * Gender	0.662	1	0.662	1.624	0.203
Error	174.176	427	0.408		
Corrected Total	186.435	430			

A two-way ANOVA was used to identify any interaction effect between major and gender on self-reported behavior. No significant interaction effects between major and gender were found for this measure.

Table 9. Interaction effect of major and gender on clothing score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Major	0.967	1	0.967	0.701	0.403
Gender	2.733	1	2.733	1.981	0.160
Major * Gender	6.358	1	6.358	4.607	0.032
Error	586.474	425	1.380		
Corrected Total	604.849	428			

A two-way ANOVA was used to identify any interaction effect between major and gender on clothing score. No significant interaction effects between major and gender were found for this measure.

Table 10. Partial correlation to determine any effect of personal or family income on measures

Control Variables		CNS	GREEN	Behavior	Clothing Score	
Personal Income & Family Income	CNS	Correlation	1.000	0.583	0.380	0.048
		Significance (2-tailed)		<0.001	<0.001	0.324
	GREEN	Correlation	0.583	1.000	0.536	0.184
		Significance (2-tailed)	<0.001		<0.001	<0.001

	Behavior	Correlation	0.380	0.536	1.000	0.334
		Significance (2-tailed)	<0.001	<0.001		<0.001
	Clothing Score	Correlation	0.048	0.184	0.334	1.000
		Significance (2-tailed)	0.324	<0.001	<0.001	

A partial correlation was used in order to determine if personal income or family income had a significant impact on the results of Table 1. While controlling for these demographic variables changes the degree of correlation slightly, it does not impact the overall determination of which measures have a significant relationship.

Chart 1. Where UVM students get their clothes

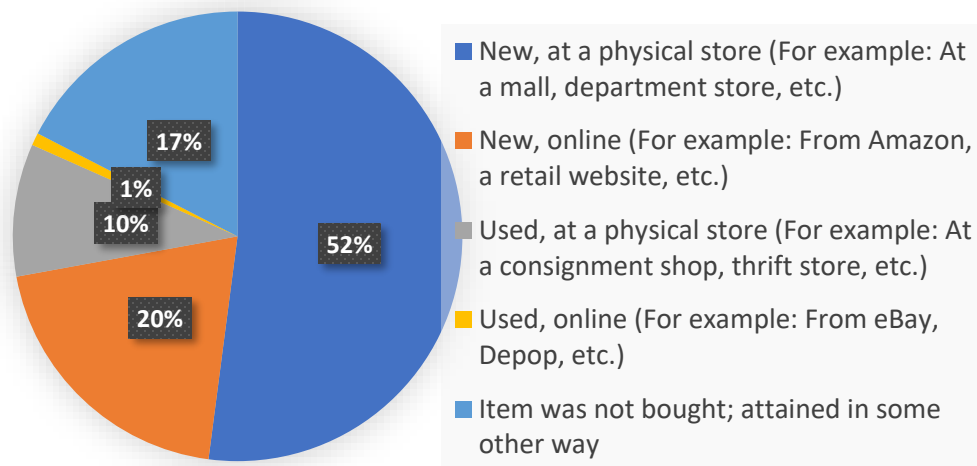
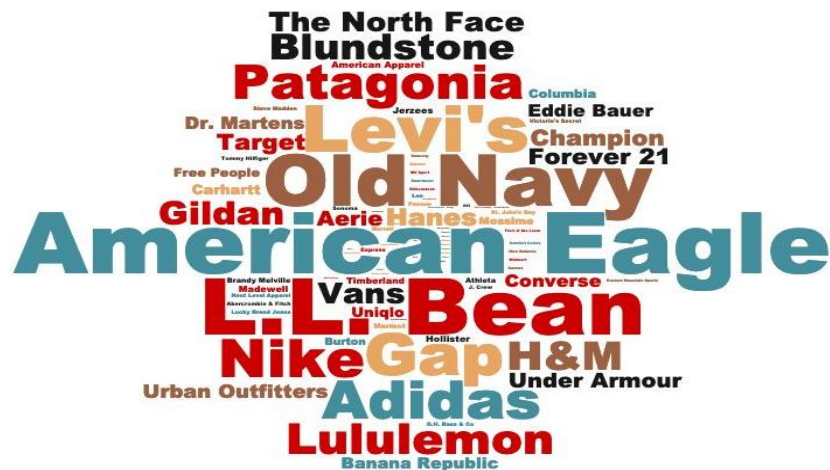


Chart 2. What brands do UVM students buy?



Discussion

Measures of Sustainability

CNS, GREEN, and self-reported behavior scores were all found to be significantly [$p < .001$] correlated with each other (See Table 1 in Results). The correlation between GREEN and self-reported behavior [$r = .531$] was expected, as the GREEN measure was developed as an indicator of purchasing intentions and behaviors. Thus, it should accurately represent similar data to that gleaned from explicit self-reporting. The correlation between CNS and GREEN [$r = .576$] indicates a potential relationship between connectedness to nature and sustainable consumption habits, as does the correlation between CNS and self-reported behavior [$r = .388$]. The higher correlation between CNS and GREEN versus CNS and self-reported behaviors may be due to the GREEN questions being more generally about making environmentally-friendly consumer decisions, as opposed to the self-reported behaviors questions, which were specific to clothing purchasing decisions.

An independent samples t-test showed that there was a significant [$p < .001$] difference between CNS, GREEN, and self-reported behavior scores of environmental and non-environmental majors (See Table 2 in Results). However, the mean difference for each measure was relatively small (See Table 3 in Results). Between environmental and non-environmental majors, there was a mean difference of -0.44 for CNS scores, -0.43 for GREEN scores, and -.3 for self-reported behavior scores. This indicates that the high level of significance may be due to the large sample size [$n = 443$].

Measures of Sustainability x Clothing Score

Due to concern that jackets and shoes would artificially inflate the clothing score due to their high average sustainability scores (see Table 5), two clothing scores were tested. However, as reported in Table 3, there was not a significant difference in relationships or correlations between the various measures of interest and clothing score or clothing score 2. Thus, the original clothing score (an average of all reported clothing items) is accepted and subsequent discussion refers to only this clothing score. GREEN results and self-reported behaviors were found to be related to clothing score, but connectedness to nature (CNS) and enrollment in an environmental major were not.

The GREEN scale has been found to be a reliable method of predicting relative preference for environmentally-friendly products, willingness to pay more for environmentally-friendly products, and likelihood of purchasing environmentally-friendly products (Haws, Winterich, & Naylor, 2014). In my study, GREEN scores were found to be positively related to a high clothing score [$r = 0.188$, $p = <0.001$] (See Table 4), indicating respondents with higher GREEN scores had more sustainable clothing consumption habits.

Self-reported behavior had the highest degree of correlation with clothing score [$r = 0.342$, $p = <0.001$] (See Table 3). This demonstrated that the respondents were reliable self-reporters of their clothing consumption habits. There was concern that social desirability response bias would make self-reported habits an unreliable gauge of the clothing decisions of respondents, but statistical results indicate that this concern was unnecessary.

CNS and enrollment in an environmentally-related major were found to not have a significant relationship to clothing score. As many studies have found a discrepancy between knowledge and behavior (Butler & Francis, 1997; Gleim & Lawson, 2014; Harris, Roby, & Dib, 2015; Hassan, Shiu, & Shaw, 2014; Johnstone & Tan, 2015), these results could be interpreted as an addition to the current literature describing the knowledge-behavior gap. However, CNS is better understood as a measure not of knowledge, but of sentiment. Thus, the lack of relationship between CNS and clothing score is better understood as being indicative of a gap between feeling and acting. The lack of relationship between enrollment in an environmental major and clothing score is indicative of the knowledge-behavior gap as it is traditionally understood.

Controlling for Other Variables

Various statistical tests were conducted to control for potentially confounding demographic variables. As Table 6 – Table 10 show, gender, personal income, and family income did not have significant effects on the determination of statistically significant interactions between measures.

Limitations

Scoring Clothes

Originally, I intended to calculate a clothing score based on brand, whether the item was from a sustainable line, where it was made, and if it was bought new or used. However, this approach was ultimately unfeasible. While there are third-party non-profits that rank sustainability of

clothing brands, many smaller brands were not represented in these databases. Even when brands were present in the databases, they would receive low scores if they did not report certain information. For example, Good on You, a platform run by the non-profit group Ethical Consumers Australia that provides sustainability rankings of various brands, rates fast fashion retailers H&M (3 out of 5) and Forever 21 (2 out of 5) as more sustainable than popular outdoor brand L.L. Bean (1 out of 5) on the basis that L.L. Bean provides insufficient information on how they are reducing their environmental impacts (Good on You, n.d.). However, given L. L. Bean's commitment to responsible cotton, responsible down, fabric made from recycled bottles, and monitoring of overseas factories (L. L. Bean, 2019), a ranking of 1 out of 5 seems inaccurate. For this reason, it was decided that while basing the clothing score on brands seems intuitive, it would be too complicated.

Incorporating the country of origin into the clothing score was similarly complicated. Labor conditions are different across the span of a country. Even if a shirt was made in the USA, it could have been made by underpaid, undocumented workers or it could have been made by a worker making a fair wage. With no way of knowing, this measure of sustainability was also struck from the clothing score.

Ultimately, the clothing score was based off of whether an item was bought new or not, how long the respondent has owned the item, and how frequently they wear the item. These more behavior-based metrics are the antithesis of fast fashion and represent behaviors that are pro-environmental. Buying an item used offsets almost all of the impacts that come with buying newly made clothes; using it for a long time and wearing items frequently indicates that items are not just taking up space in a closet but that the respondent is actually getting meaningful use out of them. While some respondents may generally practice these habits, there is the chance that they happened to be wearing something that they had just purchased while they took the survey. However, the large sample size [n=443] should make these anomalies negligible. There was some concern that respondents wearing jackets and shoes may have artificially inflated scores, as these items are generally worn frequently and for a long time – however, as previously addressed, there was not a significant change in results when these items were excluded from analysis.

UVM Sample

The University of Vermont (UVM) has a reputation for sustainability and a student population that is heavily involved in groups like the Outing Club and the Ski and Snowboard Club. Certain results, like the lack of relationship between environmental and non-environmental majors and clothing score, may be due to students having similar values as UVM students regardless of what academic path they are pursuing. A more general sample might have different results.

Lack of Knowledge

This survey did not ask any questions to gauge knowledge about the environmental or social impacts of clothing production. Thus, the lack of relationship between CNS and clothing score and environmental majors and clothing score may not indicate a disconnect between values and behaviors, but rather, a lack of knowledge about the harm of this industry. If respondents do not realize the impacts that purchasing a lot of cheap clothes has, they would not change their behaviors even if they care about and feel connected to the planet. Another study should be conducted to see if educating people about the harms of fast fashion improves their pro-environmental decision-making.

Conclusion

There are environmental impacts and social ills at every step of the fast fashion supply chain, and yet consumers still engage with and perpetuate this industry. While prior research has shown the disconnect between knowledge and behavior (Butler & Francis, 1997; Gleim & Lawson, 2014; Harris, Roby, & Dib, 2015; Hassan, Shiu, & Shaw, 2014; Johnstone & Tan, 2015), this study suggests a disconnect between feelings and behavior in showing no relationship between connectedness to nature and pro-environmental clothing-purchasing habits. While the disconnect between connectedness to nature and sustainable clothing decision-making may be cause for concern, it may be the case that respondents are simply unaware of the impacts that clothing production has on the environment. More research is needed to determine if behaviors change with education on an issue.

Buying clothes does not have to be associated with the negative social and environmental impacts that are characteristic of fast fashion. Engaging with this industry just takes some thought. Buying used, supporting sustainable brands, and sharing clothes are just a few ways to reduce the impacts that come with this industry. Consumers should be aware of where their clothes are coming from, who is making them, and whether a \$5 dress is really worth the many externalities that come with it.

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Appendix I. Questionnaire

Environmental Values and Clothing Purchases

Thank you for participating in this survey! Please read the following information before continuing. Once you have read this information, select 'Next' at the bottom of the page to begin the survey.

Title of Study: Environmental Values and Clothing Consumption: Do Clothing Purchases Reflect Expressed Environmental Values

Principal Investigator (PI): Jessica NeJame

Faculty Sponsor: Professor Jane Kolodinsky

Funder: Environmental Studies Department and the Honors College

Introduction

You are being invited to take part in this research study because you are an undergraduate student at the University of Vermont. This study is being conducted by Jessica NeJame at the University of Vermont.

Purpose

The purpose of this study is to better understand the clothing purchasing habits of people who have different environmental values.

Study Procedures

If you take part in the study, you will be asked to complete a survey that will be used to gauge your environmental and consumer values. You will also be asked to record some basic information about the clothes that you are currently wearing. Finally, you will be asked some demographic questions.

This survey should take you approximately 10-15 minutes to complete. You can opt out of this survey at any time.

Benefits

A possible benefit of participating in this study is increased awareness of your clothing purchases. There are no other direct benefits to you anticipated from participating in this study. However, it is hoped that the information gained from the study will help researchers to better understand the gap that exists between environmental values and environmentally-conscious behavior.

Risks

We will do our best to protect the information we collect from you during this study. At the end of the survey, you will be asked for your name and email, which will be used for purposes of awarding reimbursement. You can choose not to provide this information. Information gathered for this purpose will be stored separately from your survey to avoid any potential risk for an accidental breach of confidentiality.

Costs

There will be no costs to you for participation in this research study.

Compensation

For taking part in this research study, you will be entered into a drawing for a \$15 gift card. If you are selected as a gift card recipient, you will be contacted by April 15 and asked to pick up your gift card from the Bittersweet House.

Confidentiality

All information collected about you during the course of this study will be stored without any identifiers. No one will be able to match you to your answers.

At the end of the survey, you will be asked for some information about yourself that will be used for purposes of awarding reimbursement. Information gathered for this purpose will be stored separately from your survey.

Voluntary Participation/Withdrawal

Taking part in this study is voluntary. You are free to not answer any questions or withdraw at any time. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study.

Questions

If you have any questions about this study now or in the future, you may contact Jessica NeJame at 401-374-8725. If you have questions or concerns about your rights as a research participant, then you may contact the Director of the Research Protections Office at (802) 656-5040.

Participation

Your participation is voluntary, and you may refuse to participate without penalty or discrimination at any time.

Please print this information sheet for your records before continuing.

CLOTHING SCAN

The following questions ask about the clothes that you are currently wearing.

The requested information can be found on the tags of your clothes, which may be located on the inside collar of shirts and dresses, on the inside of the waistband of pants and skirts, or on the side seam on the inside of any article of clothing.

Please record this information for at least two articles of clothing, but feel free to record additional items!

Are you currently wearing a shirt?

- Yes
- No

Please record the following information about your shirt.

Only answer this question if the following conditions are met: Answer was 'Yes' at question 1 (Are you currently wearing a shirt?)

- What is the brand of your shirt? (For example: H&M, Levi's, Forever 21, etc.)
- Where was your shirt made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase your shirt? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this shirt?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 1 (Are you currently wearing a shirt?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy your shirt?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 1 (Are you currently wearing a shirt?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Are you currently wearing pants, shorts, or a skirt?

- Yes
- No

Please record the following information for your pants/ shorts/ skirt.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 5 (Are you currently wearing pants, shorts, or a skirt?)

- What is the brand of your pants/ shorts/ skirt? (For example: H&M, Levi's, Forever 21, etc.)
- Where was your pants/ shorts/ skirt made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase your pants/ shorts/ skirt? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this pair of pants/ pair of shorts/ skirt?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 5 (Are you currently wearing pants, shorts, or a skirt?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy your pants/ shorts/ skirt?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 5 (Are you currently wearing pants, shorts, or a skirt?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Are you currently wearing a dress?

- Yes
- No

Please record the following information about your dress.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 9 (Are you currently wearing a dress?)

- What is the brand of your dress? (For example: H&M, Levi's, Forever 21, etc.)
- Where was your dress made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase this dress? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this dress?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 9 (Are you currently wearing a dress?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy your dress?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 9 (Are you currently wearing a dress?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Are you currently wearing a jacket?

- Yes
- No

Please record the following information for your jacket.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 13 (Are you currently wearing a jacket?)

- What is the brand of your jacket? (For example: H&M, Levi's, Forever 21, etc.)
- Where was your jacket made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase your jacket? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this jacket?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 13 (Are you currently wearing a jacket?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy your jacket?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 13 (Are you currently wearing a jacket?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Are you currently wearing shoes?

- Yes
- No

Please record the following information for your shoes.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 17 (Are you currently wearing shoes?)

- What is the brand of your shoes? (For example: H&M, Levi's, Forever 21, etc.)
- Where were your shoes made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase your shoes? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear these shoes?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 17 (Are you currently wearing shoes?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy your shoes?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 17 (Are you currently wearing shoes?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Would you like to record another article of clothing?

- Yes
- No

Pick another article of clothing that you are currently wearing and record the following information for that article of clothing.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 21 (Would you like to record another article of clothing?)

- What kind of clothing is it? (For example: Shirt, dress, pants, skirt, shoes, etc.)
- What is the brand of your clothing item? (For example: H&M, Levi's, Forever 21, etc.)
- Where was this clothing item made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase this article of clothing? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 21 (Would you like to record another article of clothing?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy this clothing item?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 21 (Would you like to record another article of clothing?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Would you like to record another article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 21 (Would you like to record another article of clothing?)

- Yes
- No

Pick another article of clothing that you are currently wearing and record the following information for that article of clothing.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 25 (Would you like to record another article of clothing?)

- What kind of clothing is it? (For example: Shirt, dress, pants, skirt, shoes, etc.)
- What is the brand of your clothing item? (For example: H&M, Levi's, Forever 21, etc.)
- Where was this clothing item made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase this article of clothing? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 25 (Would you like to record another article of clothing?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy this clothing item?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 25 (Would you like to record another article of clothing?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Would you like to record another article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 25 (Would you like to record another article of clothing?)

- Yes
- No

Pick another article of clothing that you are currently wearing and record the following information for that article of clothing.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 29 (Would you like to record another article of clothing?)

- What kind of clothing is it? (For example: Shirt, dress, pants, skirt, shoes, etc.)
- What is the brand of your clothing item? (For example: H&M, Levi's, Forever 21, etc.)
- Where was this clothing item made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase this article of clothing? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 29 (Would you like to record another article of clothing?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy this clothing item?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 29 (Would you like to record another article of clothing?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Would you like to record another article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 29 (Would you like to record another article of clothing?)

- Yes
- No

Pick another article of clothing that you are currently wearing and record the following information for that article of clothing.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 33 (Would you like to record another article of clothing?)

- What kind of clothing is it? (For example: Shirt, dress, pants, skirt, shoes, etc.)
- What is the brand of your clothing item? (For example: H&M, Levi's, Forever 21, etc.)
- Where was this clothing item made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase this article of clothing? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 33 (Would you like to record another article of clothing?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy this clothing item?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 33 (Would you like to record another article of clothing?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

Would you like to record another article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 33 (Would you like to record another article of clothing?)

- Yes
- No

Pick another article of clothing that you are currently wearing and record the following information for that article of clothing.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 37 (Would you like to record another article of clothing?)

- What kind of clothing is it? (For example: Shirt, dress, pants, skirt, shoes, etc.)
- What is the brand of your clothing item? (For example: H&M, Levi's, Forever 21, etc.)
- Where was this clothing item made? (For example, the tag may say: Made in Mexico, Made in China, Made in the US, etc.)
- Approximately when did you purchase this article of clothing? (For example: 2012, last month, Fall of 2017, etc.)

How frequently do you wear this article of clothing?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 37 (Would you like to record another article of clothing?)

Choose one of the following answers

- Almost every day
- A few times a week
- A few times a month
- I do not frequently wear this item

Where did you buy this clothing item?

Only answer this question if the following conditions are met:

Answer was 'Yes' at question 37 (Would you like to record another article of clothing?)

Choose one of the following answers

- New, at a physical store (For example: At a mall, department store, etc.)
- New, online (For example: From Amazon, a retail website, etc.)
- Used, at a physical store (For example: At a consignment shop, thrift store, etc.)
- Used, online (For example: From eBay, Depop, etc.)
- I did not buy this clothing item, I attained it some other way

ENVIRONMENTAL VALUES

Please answer each of the following questions in terms of the way you generally feel.

I often feel a sense of oneness with the natural world around me

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I would describe myself as environmentally responsible.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I think of the natural world as a community to which I belong.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I recognize and appreciate the intelligence of other living organisms.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I often feel disconnected from nature.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

When I think of my life, I imagine myself to be part of a larger cyclical process of living.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I often feel a kinship with animals and plants.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I am willing to be inconvenienced in order to take actions that are more environmentally friendly.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I feel as though I belong to the Earth as equally as it belongs to me.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

It is important to me that the products I use do not harm the environment.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I have a deep understanding of how my actions affect the natural world.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I often feel part of the web of life.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I feel that all inhabitants of Earth, human, and nonhuman, share a common 'life force'.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I consider the potential environmental impact of my actions when making many of my decisions.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Like a tree can be part of a forest, I feel embedded within the broader natural world.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

When I think of my place on Earth, I consider myself to be a top member of a hierarchy that exists in nature.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree

- Somewhat agree
- Strongly agree

My purchase habits are affected by my concern for our environment.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

My personal welfare is independent of the welfare of the natural world.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I am concerned about wasting the resources of our planet.

Choose one of the following answers

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

PURCHASING BEHAVIORS

Think about all of the clothes that you own. How many of these items would you say that you purchased new?

Choose one of the following answers

- All or close to all of my clothes
- Most of my clothes
- Half of my clothes
- Some of my clothes
- None or almost none of my clothes

How often do you generally make clothing purchases?

Choose one of the following answers

- Every day
- Every week
- Every month
- Every 3 months
- Every 6 months
- Every 12 months

- More than 12 months

To what extent do you consider environmental impacts (e.g. carbon footprint, water use, waste, etc.) when purchasing clothing items?

Choose one of the following answers

- Not at all
- A little
- Somewhat
- A lot
- It is my primary consideration

To what extent do you consider social impacts (e.g. wages of workers, factory safety, effects on health, etc.) when purchasing clothing items?

Choose one of the following answers

- Not at all
- A little
- Somewhat
- A lot
- It is my primary consideration

What factors are most important to you when considering purchasing an item of clothing?

Please number each box in order of preference from 1 to 7

- Cost
- Quality
- Brand
- Style
- Environmental impacts
- Social impacts
- Where the item was made

DEMOGRAPHIC INFORMATION

What is your gender identity?

Choose one of the following answers

- Woman
- Man
- Nonbinary

What is your ethnicity?

Please choose **all** that apply:

- White
- Hispanic or Latinx
- Black or African American
- Native American
- Asian/ Pacific Islander
- Other:

What is your age?

Please write your answer here:

What year are you in school?

Choose one of the following answers

- First year
- Sophomore
- Junior

- Senior
- Other

What is your major?

Please write your answer here:

What is your (approximate) personal annual income?

Choose one of the following answers

- Less than \$4,999
- \$5,000-\$9,999
- \$10,000-\$14,999
- \$15,000-\$19,999
- \$20,000-\$24,999
- \$25,000-\$49,999
- \$50,000-\$74,999
- \$75,000 +

What is your family's (approximate) annual income?

Choose one of the following answers

- Less than \$24,999
- \$25,000-\$49,999
- \$50,000-\$74,999
- \$75,000-\$99,999
- \$100,000-\$124,999
- \$125,000 +

Thank you for completing this survey! If you would like to be entered to win a \$15 gift card, please click the following link and enter your contact information: <https://survey.uvm.edu/index.php/791279?lang=en>.

Appendix II. Brand Frequencies

76	American~Eagle	5	G.H.~Bass~&~Co
54	L.L.~Bean	5	Steve~Madden
47	Old~Navy	5	Express
41	Levi's	5	J.~Crew
36	Gap	5	Merrell
33	Adidas	5	Sonoma
33	Nike	5	Pacsun
31	Patagonia	5	Lee
27	Lululemon	4	Eastern~Mountain~Sports
27	H&M	4	Fruit~of~the~Loom
26	Blundstone	4	Comfort~Colors
25	Gildan	4	New~Balance
25	Vans	4	Birkenstock
20	The~North~Face	4	Smartwool
16	Hanes	4	MV~Sport
15	Forever~21	4	Arizona
15	Champion	4	Saucony
15	Target	4	Walmart
14	Under~Armour	4	Canvas
14	Aerie	4	REI
13	Urban~Outfitters	3	Universal~Thread
12	Dr.~Martens	3	Russell~Athletic
12	Eddie~Bauer	3	Vermont~Flannel
12	Converse	3	Vineyard~Vines
11	Banana~Republic	3	Port~&~Company
10	Carhartt	3	Urban~Pipeline
10	Uniqlo	3	Cynthia~Rowley
9	Free~People	3	Anthropologie
9	Columbia	3	Aeropostale
8	Mossimo	3	Lucky~Brand
8	Burton	3	Fabletics
7	American~Apparel	3	Handmade
7	Timberland	3	Woolrich
7	Hollister	3	Jansport
7	Madewell	3	Everlane
7	Jerzees	3	Danskin
6	Brandy~Melville	3	Dickies
6	Athleta	3	Kohl's
6	Marmot	3	Mango
5	Abercrombie~&~Fitch	3	ASICS
5	Next~Level~Apparel	3	Fila
5	Lucky~Brand~Jeans	3	Oboz
5	Victoria's~Secret	3	Zara
5	St.~John's~Bay	3	EMS
5	Tommy~Hilfiger	3	BD

