

PUTTING THE BRAKES ON FAST FASHION:
UNDERSTANDING THE GAP BETWEEN SUSTAINABLE AWARENESS AND ACTION

by

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Ryerson University, 2015, University of Toronto, 2011

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Abstract

Using a mixed-methods approach, this study addressed two related research questions. First, is there a discrepancy between consumers' sustainable values and sustainable behaviour? While separate studies suggest that this disconnect exists, it has not been empirically validated within the same individuals in a single study. Second, if this discrepancy exists, what are the barriers to sustainable fashion consumption? It was found that, on average, subjective sustainable values were higher than objective sustainable behaviour. A one-sample *t*-test revealed that this difference was significantly different from zero, with a 99.9% margin of certainty. To identify the barriers that might explain why sustainable values do not appear to be translating into sustainable behaviour, interviews were conducted in participants' wardrobes based on guided tour and personal inventory frameworks. Style, social repercussions, and wardrobe maintenance and disposal behaviour were the most frequently reported barrier-related themes. Results are discussed in light of promoting sustainable fashion consumption.

Keywords: fast fashion, objective sustainable behaviour, slow fashion, subjective sustainable values, sustainable consumption, sustainable fashion

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Dedication

To my grandparents.

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Chapter 1: Introduction

Beyond cluttering closets, the growing consumption of inexpensive, fast fashion by Western societies is having ubiquitous and detrimental societal and environmental effects, such as unfair wages, poor working conditions, exploitation of workers and consumers, air and water pollution, depletion of natural resources and ecosystems, and excessive waste (Black, 2008, 2013; Cline, 2012; Fletcher, 2008; Morgan & Birtwistle, 2009; Niinimäki, 2010; Wanders, 2009). In 2013 alone, Canadians spent roughly \$125 billion on clothing and accessories (Statistics Canada, 2013). When considered in relation to the number of Canadians, this would average to approximately one clothing-related purchase every week. Although most consumers are aware of the social and environmental strains associated with the consumption of fast fashion (i.e., low cost garments that mimic current fashion trends), few report engagement in alternative sustainable behaviour (Nickerson, 2003). Similarly, despite the fact that select companies and designers offer sustainable fashion, fast fashion consumption is steadily increasing (Bain, 2016a; Wanders, 2009; Wicker, 2016).

In contrast to fast fashion, researchers and activists have proposed sustainable fashion, which is perpetuated, in part, through reduced or slower consumption (e.g., Cline, 2012; Fletcher, 2007). In comparison to fast fashion consumers, those participating in sustainable consumption purchase high-quality and long-lasting garments less often. Additionally, sustainable fashion considers the entire life cycle of a garment, from fibre and textile production to its final stage of life in a landfill. Sustainable fashion designers and retailers introduce fewer annual collections, with many releasing only one or two each year (Fletcher, 2008). Well-known large companies that have embraced the tenets of sustainable fashion include Eileen Fisher, Patagonia, and People Tree.

In response to society's sluggish adoption of sustainable fashion products, campaigns, scientists, government agencies, and policy makers have sought to increase awareness of the harms associated with fast fashion (Niinimäki, 2013; Strong, 1996). Notable ongoing examples include Greenpeace's Detox campaign to raise awareness of the harmful toxic chemicals endemic to the fast fashion process and Fashion Revolution's annual Fashion Revolution Week, which takes place on the anniversary of the 2013 Rana Plaza clothing factory collapse. The event rallies for systemic change of the fashion industry, including greater transparency within the supply chain. These initiatives have seen some success in the strictest sense, as more businesses and consumers are aware of these issues (Joy, Sherry, Venkatesh, Wang, & Chan, 2012). In fact, *Vogue*, an American fashion and lifestyle magazine, identified the environment as a rising fashion trend (Lundblad & Davies, 2016). However, this awareness has not translated into significant industry-wide change. Sustainable fashion accounts for as little as one-percent of today's fashion market (Niinimäki, 2010; Palomo-Lovinski & Hahn, 2014) and immediate and tangible changes to the current fashion landscape remain a necessity.

Thus, we are left with the overarching problems that this study addresses. First, despite having an abundance of sustainable fashion options and an awareness of fast fashion's harm, consumers have yet to adopt sustainable fashion on a large enough scale to overcome the current dominance of fast fashion consumption. While independent lines of research suggest a discrepancy between consumers' sustainable values and behaviours (Bader, 2015; Bain, 2016a; Dickson, 2001; Freestone & McGoldrick, 2008; Joy et al., 2012; Tomolillo & Shaw, 2004; Wicker, 2016), there is currently no empirical research exploring this discrepancy within a single study. The current study addresses this gap by assessing the fashion-related values and actual fashion consumption of eight female participants. Subjective ratings of sustainable and

unsustainable values were collected, followed by an objective wardrobe analysis. Based on separate findings in the literature (Bader, 2015; Bain, 2016a; Dickson, 2001; Freestone & McGoldrick, 2008; Joy et al., 2012; Tomolillo & Shaw, 2004; Wicker, 2016), it was predicted that sustainable values would be more prevalent than actual evidence of sustainability in each of the participants' wardrobes. If this proposed disconnect between sustainable values and behaviour exists, it is important to identify why it is happening. Thus, this study also conducted open-ended interviews to unearth perceived and actual barriers to sustainable fashion consumption. Research on the barriers of sustainable behaviour in general (McKenzie-Mohr, 2000; Middlemiss, 2008; Osbaldiston & Sheldon, 2003) was consulted to develop guiding questions and topics for the current study's interview portion. Given the dearth of qualitative research on sustainable fashion consumption per se, the researchers remained open to a variety of barrier-related themes.

Chapter 2: Literature Review

To provide an understanding of the research related to the current study, the literature that follows will be broken into four sections: the birth of fast fashion, the dark days of fast fashion, the rise of sustainable fashion, and existing campaigns and gaps in the research. The first two sections will describe the birth and growth of fast fashion. That is, following the birth of mass production in the 1960s and 1970s, there has been a growing trend towards cheap, fast fashion. With new styles frequently introduced at low prices, consumers are able to refresh their wardrobes with minimal monetary investment (Cline, 2012). These benefits, however, come with their fair share of negative side effects on people and ecosystems around the world. For instance, approximately 80% of the cotton used to make clothing has been treated with pesticides that harm farmers, soil, water, and surrounding biodiversity (Cline, 2012; Ross, 2015). Moreover, major corporations' desires for high profit margins subject workers to extremely low wages and poor working conditions (see Clark, 2008; Fletcher, 2007). Furthermore, these repercussions are having harmful effects on the well-being of consumers (Klein, 2013). The third section will introduce the rise of sustainable fashion in response to the destruction caused by fashion manufacturing, consumption, and disposal, as a wave of sustainable initiatives has emerged. Finally, this literature review will conclude with an overview of relevant research studies and gaps in the literature.

The Birth of Fast Fashion

During the 18th and 19th centuries, fashion was dictated by the elites of society and largely served to signify status and wealth (Wilson, 2003). Through the creation of their own garments, the middle and working classes could appear “in fashion” by imitating the highly sought after couture styles of the upper-class elite (Black, 2008). During this time, women were

producing approximately two-thirds of fashion from their homes. Due to their labour-intensive production, garments generally featured simple silhouettes and were maintained and worn for many years (Scott, 2005). However, the industrial revolution brought automation and moved garment production from homes to factories (Scott, 2005). Following the Second World War, the birth of mass production brought fashion to the masses by virtually eliminating hand labour and implementing offshore manufacturing, assembly line production, and inexpensive synthetic textiles (Niinimäki, 2013; Wilson, 2003). With the advent of additional technological advancements, the fashion industry quickly became globalized. As competition increased, overseas production was further implemented to meet the growing consumer demands for fast, cheap fashion (Black, 2008). Specifically, fast fashion refers to inexpensive clothing collections that imitate current luxury fashion trends at the expense of quality (Cline, 2012; Joy et al., 2012) and was “made possible by advanced technology, quick manufacturing, and supply chain control” (Ozdamar Ertekin & Atik, 2015, p. 55). Today, the vast majority of fashion is mass produced and companies continue to develop new ways to reduce their prices to meet consumer demands (Cline, 2012). The roughly \$125 billion spent on clothing and accessories by Canadians in 2013 (Statistics Canada, 2013) equates to approximately one clothing-related purchase per person, per week. This metric is in line with recent industry standards, for which the rate of production has fallen from approximately six to as low as three months and new collections are introduced every one to three weeks (Ozdamar Ertekin & Atik, 2015; Cline, 2012). The growing trend towards frequently introduced styles at low prices has enabled consumers to revamp their wardrobes at a faster rate than ever before (Cachon & Swinney, 2011; Cline, 2012). However, the side effects of this convenience, including excessive waste, psychological harm, a loss of

fashion-related jobs in North America, and poor working conditions for third-world garment producers, are a heavy price to pay (Cline, 2012).

The Dark Days of Fast Fashion

Impacts on worker welfare. Into the 1990s, Western companies responded to growing regulations in their home countries by moving their products offshore to take advantage of the limited restrictions for minimum wage, age requirements, and daily hours worked in other countries (Cline, 2012; Wilson, 2003). In response to unanticipated Western demands, overseas suppliers struggled to organize orders, factories, and employees. As a result, workers were subjected to excessive overtime hours to complete orders with impractical deadlines (Clark, 2008; Fletcher, 2007). Nike was an extreme exemplar of exploitation and their behaviour led to a major milestone towards sustainable fashion. Founded in 1954, Nike was a corporate success story for more than three decades. By 1998, they controlled over 40% of the athletic footwear market in the United States. It was Nike's production strategy, rather than product, that differentiated them from competitors. As early as 1962, Nike outsourced all of their manufacturing to independent contracting factories, making them the first "virtual" corporation with no physical assets. Furthermore, Nike took their savings from outsourcing and invested in marketing, including celebrity endorsements (Spar & Burns, 2000). Originally, Nike outsourced to South Korea and Taiwan, however, as these countries grew richer, their production costs increased as well. In response, Nike moved its production to Indonesia, where wages were low and the workforce was submissive. In 1991, the daily minimum wage in Indonesia was \$1.00, whereas the daily wages in South Korea and the United States were \$24.40 and \$64.00, respectively (Spar & Burns, 2000). By 1992, activists and reporters began to expose Nike's labour practices in Indonesia. For example, a famous comparison between the average wages of

Indonesian workers and Michael Jordan (Nike's celebrity endorsement at the time) revealed that an Indonesian worker would need to work 44,492 years to match Jordan's income from Nike (Spar & Burns, 2000).

As accusations surrounding underage workers, coerced overtime, and dangerous working conditions began to pour in, Nike ultimately made mainstream news following the death of Nguyen Thi Thu Phuong, a 23-year-old Vietnamese woman who died while making a pair of Nike sneakers when her co-worker's machine broke and sent metal parts into her heart (Spar & Burns, 2000). Following Phuong's death, students from major universities in the United States implemented organized boycotts of Nike products and Nike became known for its labour abuse. Between 1997 and 1998, their earnings fell by 69% (Spar & Burns, 2000). Fuelled by economic loss, Nike decided to make serious changes, beginning with the first public recognition of their maltreatment of workers by then CEO Phil Knight. "The Nike product has become synonymous with slave wages, forced overtime, and arbitrary abuse," Knight said. "I truly believe the American consumer doesn't want to buy products made under abusive conditions." Following this speech, Nike began to implement significant sustainable changes, starting with the rise of the minimum age of workers, increased factory monitoring, and implementing clean air standards in all of their factories (Spar & Burns, 2000). Over the next few years, Nike performed over 600 factory audits and became the first company to publish a complete audited list of their factories, including factory conditions and wage information (Spar & Burns, 2000). Today, Nike continues to release annual manufacturing reports ("Nike Sustainable Business Report," 2016) and is recognized as one of the world's most sustainable companies (Dill, 2015).

According to Karl Marx's conflict theory, social inequality is the result of a disproportionate share of resources, controlled and defended by individuals in power (Sullivan,

2016). With respect to labour, under capitalist ideologies, the garment worker may be considered a commodity to a corporation (Windsor & Carroll, 2015). Overseas workers, such as those in Indonesia, are estranged from the product they are manufacturing because such goods are shipped to Western countries and are thus largely unavailable to workers. Furthermore, by outsourcing their manufacturing processes, Nike further alienated themselves from their garment producers. Through alienation, these workers became property of the company they worked for (Windsor & Carroll, 2015). By viewing the workers as a pawn in the supply chain, Nike executives may have been able to displace guilt in an attempt to advance their economic interests. Interestingly, it was a monetarily underprivileged class (i.e., university students) who rallied for change against Nike, which further aligns with Marx's notions of revolution and rebalancing as sources of change (Sullivan, 2016). To restore order, especially with one of their largest consumer bases in university students, Nike was forced to make sweeping changes. Overall, this catastrophe and eventual response catapulted the perils of fast fashion into the mainstream and spurred the production of fast fashion alternatives.

Impacts on the environment. The production and consumption of vast amounts of low-quality garments with a short life span are having negative impacts on the environment. Each step of a garment's life—including manufacturing, consuming, wearing, and discarding—is resource intensive (Waste and Resources Action Programme, 2016). With respect to materials, today's garments are generally made from a combination of natural and synthetic fibres (Cline, 2012). Cotton is the most widely-used natural fibre. Across over 100 countries, cotton farms occupy approximately 76 million acres of land. Cotton production is centered in developing countries, where limited health regulations are in place to protect workers from chemical exposure during the growing, harvesting, sorting, bleaching, dyeing, and printing stages of

fabrics. These processes also require significant water and energy, and produce enormous amounts of waste by-products for which associated environmental damages are often unregulated in developing countries (Ross, 2015).

To reduce costs, garment quality standards are generally low, resulting in a shorter life span for garments before they end up in a landfill (Cline, 2012). Prior to fast fashion, clothing was constructed with high-quality materials and sold at a higher price point. Garments were purchased for the long-term and their life was maintained through mending and altering. However, today's increased competition for lower prices has resulted in lower quality garments with a shorter life expectancy (Cline, 2012). Although most garments are recyclable, the majority end up in landfills. In fact, from 1999 to 2009, post-consumer textile waste in the United States increased by 40% (Council for Textile Recycling, 2014), accounting for 5% of all waste (United States Environmental Protection Agency, 2013). According to Weber, Lynes, and Young (2017), this proportion is "thought to be similar in Canada, but there are currently limited data available" (p. 208).

Impacts on psychological well-being. According to McCracken (1988), the fashion system involves the creation of symbolic meaning and transferring such meaning to cultural products and goods. To impose meaning onto goods, "creative directors and fashion/product designers discover structural equivalents and draw them together in the compass of an advertisement to demonstrate that the meaning that inheres in the advertisement also inheres in the product in question" (McCracken 1988, p. 120). Unfortunately, advertising experts have exploited the process of cultivating cultural meaning and the industry is preoccupied with the creation of artificial freshness and subsequent obsolescence to induce desire among consumers (Achbar & Simpson, 2004; Fiske, 1989). Today, behind beautiful fashion shows and enticing

advertisements, there is a world that the fashion industry actively works to hide (Cline, 2012). Instead of accurate knowledge about the fast fashion system, consumers are inundated with carefully-timed and attractive advertisements that change as quickly as the fashion season (Ross, 2015). Consumer desire has been further cultivated by the accessibility and newness of the fast fashion system (Fletcher, 2010). To remain on trend, consumers find themselves constantly feeling the urge to replace their existing garments with fresh ones, which results in high product turnover and extreme volumes of waste (Fletcher, 2008).

Individuals collect and wear clothes to reflect their identity and signify their status to others—to let others know that they are in the present and are therefore fashionable. For decades, psychologists have studied the role of brands in personal identification and they have found that emotions significantly drive consumption (Achbar & Simpson, 2004; Weinberg & Gottwald, 1982). Privy to this finding, advertisers tailor their ads to target specific emotions and thereby persuade consumers (Johnson, 2006). Thus, it should come as no surprise that many individuals use brands as an outlet for personal expression and identity formation (Niinimäki, 2010). The process of identity creation through the accumulation of brands can perpetuate an endless cycle of consumption. Since brands are constantly evolving, those who identify with branding the most are forced to keep up. If one's identity is defined by what is in fashion and fashion is constantly in flux, they become part of a perpetual cycle of consumption with an unattainable goal. In fact, compulsive buying is part of a recognized medical condition called oniomania, which is defined by irresistible, uncontrollable urges resulting in excessive, expensive, and time-consuming retail activity. Individuals suffering from oniomania have essentially lost their sense of identity and attempt to recover it through the consumption of goods (Klein, 2013). While shopping addictions

are often joked about, overconsumption highlights a serious societal concern that is having negative effects on the health of consumers.

The Rise of Sustainable Fashion

While most of the world was consuming, oblivious to their negative impact on the environment, scientists were studying environmental degradation as early as the 1950s (Niinimäki, 2013). One of the first significant milestones towards a sustainable future occurred following the 1962 publication of “Silent Spring” by environmental scientist Rachel Carson. In this seminal book, Carson outlined the detrimental effects of pesticide use on the environment, particularly on birds. Silent Spring was the first of its kind to bring environmental issues to the general population and inspired the creation of the U.S. Environmental Protection Agency in 1970, which enacted regulations and laws to protect human health and the environment (Paull, 2013). Furthermore, the birth of modern sustainability research and related action was supported by the development of Earth Day, established on April 22nd, 1970. Earth Day came into fruition following an oil spill in Santa Barbara, California (Earth Day Network, 2016). After months of promotion by 85 grass-roots activists, 20 million Americans joined together to rally for a healthy, sustainable environment and fought against oil spills, polluting factories and power plants, raw sewage, toxic dumps, pesticides, freeways, the loss of wilderness, and the extinction of wildlife. The impact of Earth Day led the U.S. Environmental Protection Agency to pass Clean Air, Clean Water, and Endangered Species Acts (Earth Day Network, n.d.). With respect to fashion, in line with “hippie” values, small companies began selling ethically-infused garments and consumers began purchasing goods for their value, as opposed to their aesthetics (Niinimäki, 2013). Thus, the unrest of activists in response to the irresponsibility of large oil companies served as the catalyst for initial sustainable change, which would gain momentum in the following decades.

Today, sustainable fashion is no longer synonymous with the coarse hemp fabrics of the 1970s. Instead, it goes beyond the final product to include each aspect of a garment's life, including its design, manufacturing, and disposal (Niinimäki, 2013). By incorporating research from various social and environmental outlets, sustainable fashion seeks to find an economic, social, and environmental balance. Currently, a single industry-standardized definition of sustainable fashion does not exist. Instead, a variety of definitions and terms have been developed—such as eco-friendly, ethical, green, fair trade, slow, and sustainable—each attempting to embody an alternative to the current fast fashion industry (Lundblad & Davies, 2016). According to Lundblad and Davies (2016), terms are often used interchangeably within the literature. For example, Joergens (2006) defines “ethical fashion” as “fashionable clothes that incorporate fair trade principles with sweatshop-free labour conditions while not harming the environment or workers by using biodegradable and organic cotton” (p.361), whereas Cervellon and Wernerfelt (2012) use the term “green fashion” to label a similar definition. Nonetheless, both terms fail to aptly encompass the complex issues surrounding fast fashion, such as use and disposal and psychological harm to the consumer (Lundblad & Davies, 2016). To comprehensively account for the innumerable issues surrounding the fashion industry, the current paper adopts the broadest definition of sustainable fashion possible, for which sustainable fashion serves as a platform to make sizable, systemic sustainable change within the industry.

In addition to Nike, many large companies are implementing sustainable values to enact change within the fashion industry (Niinimäki, 2013). Patagonia, a California-based outerwear company, is considered a leader in supply chain transparency. They provide detailed information about their manufacturing locations, including factory regulations and conditions, and the environmental and social impacts of their garment production process (Patagonia, n.d.). Since

releasing her first collection in 2001, Stella McCartney, a British fashion designer, has become well known for the exclusion of leather and fur from her designs. For McCartney, leather, fur, and the environment are interconnected because “livestock production is one of the major causes of the world’s most pressing environmental problems, including global warming, land degradation, air and water pollution, and loss of biodiversity. Tanneries are listed as top polluters on the Environmental Protection Agency’s (EPA) ‘Superfund’ list that identifies the most critical industrial sites in need of environmental cleanup” (McCartney, n.d.).

However, the recent factory collapse in the Savar Upazila of Dhaka, Bangladesh in 2013 serves as a reminder that while some large companies have taken significant strides towards a sustainable future, others have inexcusably ignored sustainable alternatives. On April 24th, 2013, the deadliest garment factory accident in history occurred when Rana Plaza, an eight-story commercial building, collapsed killing 1,129 people and injuring 2,515. The building, which produced clothing for major Western brands, such as Joe Fresh, Primark, and Benetton, was operating under poor safety regulations (McClean, 2013). In fact, one day before the collapse, workers reported cracks in the building to management, but their concerns were ignored (Ross, 2015). Fast fashion companies are drawn to Bangladesh for its low-cost production. In Bangladesh, garment workers make approximately \$1.00 a day (The Economist, 2012), similar to the wage that Indonesian workers received 18 years prior. Additionally, while building codes exist in Bangladesh, they are rarely enforced. To keep up with growing production demands, Bangladesh is consistently constructing new factories, repurposing existing non-industrial buildings, and adding floors to existing factories without considering the additional weight and safety constraints (The Economist, 2012).

In sum, despite Nike's boycott and countless sustainable initiatives and regulations, today's fashion industry continues to ignore these concerns in a race to produce the cheapest garments at any cost. Due to a disparity in power, countries such as Bangladesh are unable to catch up to the countries exploiting their labour (McClearn, 2013). While most of the companies implicated in the Rana Plaza collapse enacted voluntary "codes of conduct", adherence to such regulations was inconsistent (McClearn, 2013). Indeed, fashion companies are choosing countries like Bangladesh because their adherence to industry regulations is known to be poor. Thus, in an attempt to stay competitive and meet Western demands, factory owners often neglect codes of conduct, including those against low wages and unsafe labour conditions, and the gap between rich and poor continues to expand (Ross, 2014). In the previous case of Indonesia, consumers demanded that Nike change their production practices following the discovery of labour exploitation. However, 18 years later, the production practices of others remained unchanged.

Existing Campaigns and Gaps in the Research

Despite major strides taken by companies to make sustainable fashion products available to the masses, fast fashion options continue to trump their counterparts on the consumer market (Joy et al., 2012). Recent initiatives from Greenpeace and Fashion Revolution have sought to increase public awareness of fast fashion harm. The Greenpeace Detox campaign launched in 2011 to expose the relationships between clothing brands, their toxic supply processes, and water pollution. Detox uses well-supported laboratory tests to reveal the negative environmental impacts of fast fashion production. Their end goal is to have major companies commit to ridding their supply chains of hazardous chemicals and their major means of ensuring this commitment are raising public awareness and shifting public opinions of transgressing companies from

positive to negative (Greenpeace, n.d.). Fashion Revolution takes a slightly different approach, but still aims to raise awareness of fast fashion's detriments. For a recent campaign, they placed a bright turquoise vending machine offering t-shirts for 2 Euros in the heart of Berlin to test whether people would still buy the shirts after being confronted with the conditions under which they were produced. Eight out of 10 shoppers decided against their purchase after "meeting" the factory worker that produced their prospective shirt and learning about their poor working conditions (Bader, 2015). These campaigns' original aims extend beyond mere awareness, as they wish to foster actual change in consumers (Bader, 2015; Greenpeace, n.d.).

In a similar vein, studies have documented a recent shift towards heightened sustainable concern in fashion consumers (Niinimäki, 2010). Specifically, social consequences, such as human rights violations (Dickson, 2001) and sweatshop labour (Freestone & McGoldrick, 2008; Tomolillo & Shaw, 2004), appear to be of particular concern to consumers. However, a separate line of research has documented a steady increase in fast fashion consumption (Bain, 2016a; Wicker, 2016). Thus, despite campaigns to raise sustainable awareness and concerns, and some evidence to support their effectiveness, such concerns do not appear to be translating into sustainable behaviour. This may explain, in part, why we continue to see a rise in fast fashion.

The question remains as to why sustainable awareness and concern are not translating into corresponding behaviour. General psychological theories about the underlying mechanisms that drive behaviour may offer a starting point to understand this lack of behavioural commitment in the realm of fashion. Research has shown that long-term behavioural change depends on the extent to which the behaviour stems from the individual's internalized or own ideas and motivations (Osbaldeston & Sheldon, 2003; Ryan & Deci, 2000). Self-Determination Theory aims to explain individual motivations behind behaviours and the conditions that foster

such motivational processes. Accordingly, extrinsic motivation comes from outside of the self and is not inherent to the behaviour itself. For example, individuals may be extrinsically motivated by an external reward, such as receiving a certain grade, that is the end result of—rather than part of—the learning process. In contrast, intrinsic motivation is innate and stems from an individual's natural inclination toward knowledge and activities that provide a personal source of enjoyment (e.g., learning for the pure enjoyment of learning). Overall, Ryan and Deci (2000) found that individuals are most likely to consistently engage in a behaviour or thought if they perceive the motivation for doing so to come from within. Similarly, individuals who internalize sustainable ideas are more likely to adopt them as core values, beliefs, and morals that translate into consistent, sustainable behaviour (McKenzie-Mohr, 2000). However, current research in this area has focused exclusively on the promotion of sustainable behaviour in private settings, such as composting and reducing water use in the home (Kennedy, 2010; McKenzie-Mohr, 2000; Middlemiss, 2008). Fashion consumption, by contrast, often reflects a public expression of one's identity, worldview, and wealth (Stone, 2012). In a related study, Joy and colleagues (2012) interviewed fast fashion consumers (age 20 to 35 years) in Hong Kong and Canada about their consumer values and behaviour. They found that, regardless of country of origin, consumers were concerned about the environmental and social impacts of their non-fashion purchasing decisions (e.g., they valued recycling and the premise of organic food), but they did not apply such values to their fashion consumption decisions. From this perspective, the current study argues that the motivations behind sustainability in the privacy of one's home and corresponding techniques to foster them do not simply transfer to the fashion domain of one's public life, which may also explain, in part, why a reduction in fast fashion has not been observed to date.

Chapter 3: Method

Research Design

The current study utilized a mixed-methods approach to empirically identify a potential discrepancy between consumers' sustainable values and behaviour, and to uncover perceived and actual barriers to sustainable fashion consumption (Figure 1). First, quantitative data of subjective values and objective behaviour were collected. Second, from a human-centred perspective, a qualitative ethnography was employed that involved two related interview techniques: a personal inventory and a guided tour of the participant's current wardrobe.

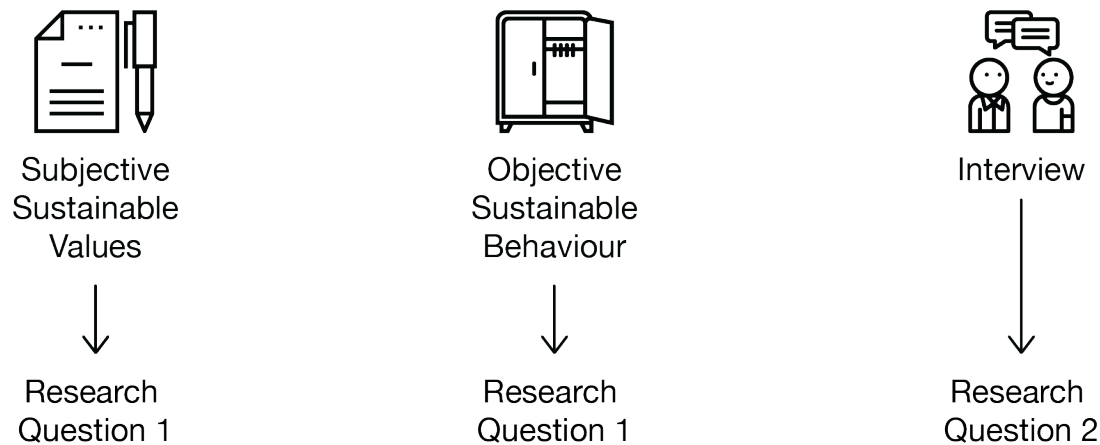


Figure 1. Methods of data collection.

Quantitative research. The quantitative approach of the current study allowed the researcher to numerically represent the subjective and objective sustainability of participants. Specifically, proportional scores and inferential statistics were utilized to allow for a direct empirical comparison of subjective and objective sustainability, and thereby further understand the gap between these sustainable domains.

Subjective sustainable values assessment. To assess subjective sustainable values, a sustainable values assessment was developed based on a thorough review of related research (Chang & Jai, 2015; Jägel, Keeling, Reppel, & Gruber, 2012; Jung & Jin, 2016; Lundblad & Davies, 2016). Participants were given a set of adhesive labels denoting sustainable and unsustainable attributes and a diagram that displayed three nested circles representing varying levels of self-importance. They were instructed to place each label in the circle that signified its level of importance to them (from “not important to me” at the outer periphery to “very important to me” at the center of the diagram; see Figure 2). Specifically, participants were asked to plot the following ten attributes in terms of their importance to them when making a clothing purchase: timeless design, quality, country of production, natural materials, follows current trends, brand name, availability (i.e., can be easily found and purchased), low price, self-expression, and fit. The first four attributes (timeless design, quality, country of production, and natural materials) were identified by Lundblad and Davies (2016) to be most important to sustainable consumers. The next four attributes (follows current trends, brand name, availability, and low price) were found to be some of the least important attributes to sustainable consumers (Lundblad & Davies, 2016). Finally, the last two attributes (fit and self-expression) are generally less relevant to sustainability and were included to obscure—at least in part—the purpose of the study from participants (Table 1). The concentric scale format was adapted from the Good Self-Assessment (Arnold, 1993), which has been validated by several psychological studies ranging from moral emotions in children and adolescents to moral values and motivation (Barriga, Morrison, Liao, & Gibbs, 2001; Pratt, Hunsberger, Pancer, Alisat, 2003). The order that each of the ten attributes were administered was randomized between participants to eliminate potential biases related to order effects.

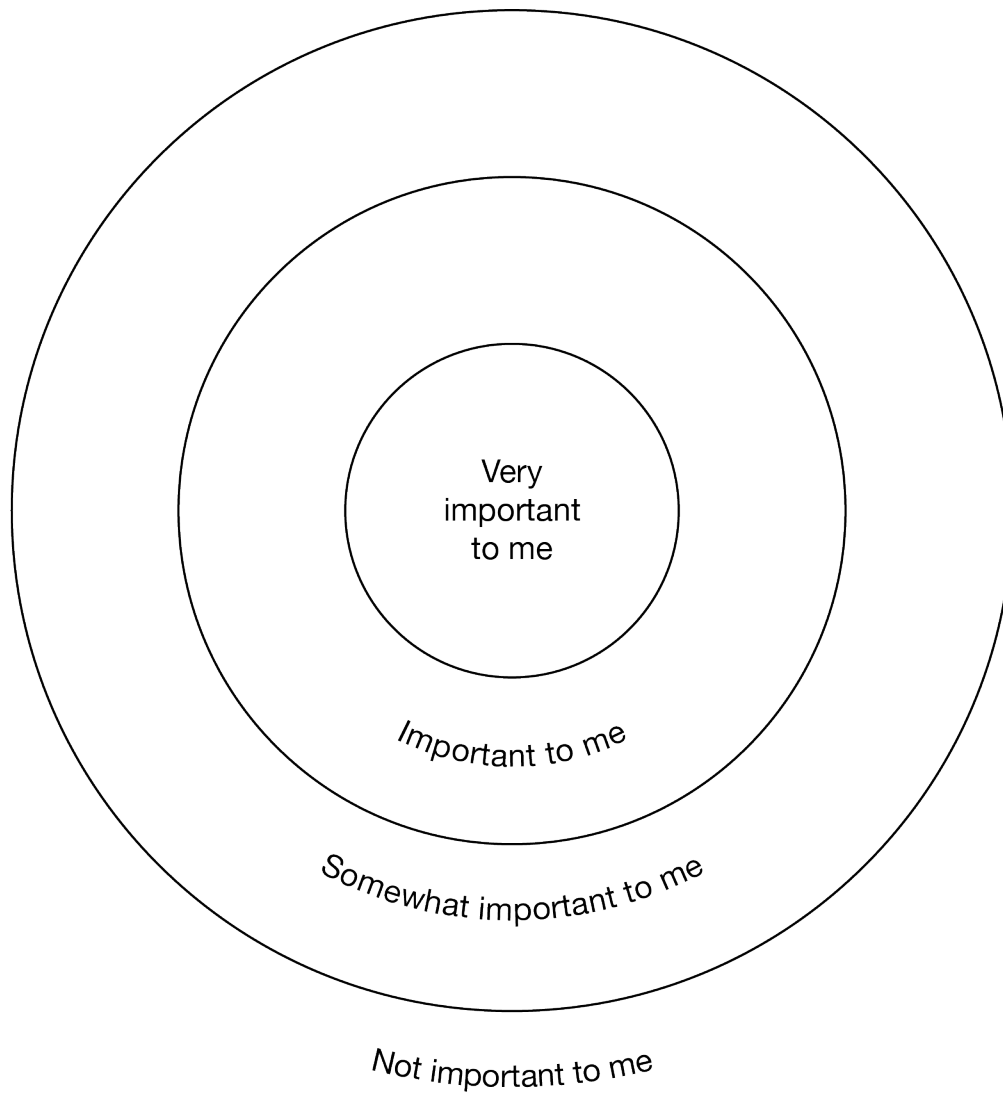


Figure 2. Nested circles representing varying levels of self-importance. Participants were asked to plot ten items “in terms of their importance to [them] when making a clothing purchase.”

Table 1

Fashion-Related Attributes for Subjective Sustainable Values Assessment

Sustainable attributes	Unsustainable attributes	Unrelated attributes
Timeless design	Follows current trends	Fit
Quality	Brand name	Self-expression
Country of production	Availability	
Natural materials	Low price	

Objective sustainable behaviour assessment. To assess objective sustainable behaviour, an inventory of each participant's wardrobe was conducted. The following attributes of each garment in their wardrobes were recorded: date of purchase, colour, and brand. These attributes were chosen based on an extensive examination of existing research.

Date of purchase. As previously discussed, frequent and excessive consumption of fashion products is harmful to societies and environments around the globe (Black, 2008, 2013; Cline, 2012; Fletcher, 2008; Morgan & Birtwistle, 2009; Niinimäki, 2010; Wanders, 2009). Thus, to gain a comprehensive understanding of objective sustainable behaviour, it is necessary to understand consumption habits. Regardless of the type of garment being purchased, regular consumption is unsustainable. From this perspective, a wardrobe with older garments may represent less frequent and therefore more sustainable consumption.

Colour. There are two major lines of colour in the fashion industry: basic colours and fashion colours. Basic colours are classic or neutral colours that reappear each season, such as beige, tan, and navy. Staple items are predominantly found in basic colours. On the other hand, fashion colours change each season and reflect current trends, such as the Pantone Color of the Year (Chu & Nemeth, 2010). From this perspective, basic-coloured garments may be considered sustainable, as they are consistent across time and do not necessarily subscribe to current trends.

Brand. Finally, the brand of a garment served to further delineate its sustainability. For the current study, brands were differentiated as sustainable or unsustainable. To evaluate the sustainability of each brand, the Higg Index 2.0 was consulted. Specifically, this index, developed by the Sustainable Apparel Coalition, measures the environmental and social impacts of garment production throughout the supply chain (Sustainable Apparel Coalition, n.d). In addition, regardless of brand name, garments purchased from second-hand retailers were deemed

sustainable because used garments do not directly perpetuate the fast fashion industry. Finally, although the sustainability ratings of luxury brands vary considerably on the Higg Index 2.0, their ideals generally align with sustainability. That is, luxury brands are recognized for high-quality materials and craftsmanship (Ki & Kim, 2016). Their products are generally purchased for their “timeless style and long-lasting quality, which leads to reduced waste and long-term product usage” (Ki & Kim, 2016, p. 312). Thus, in total, brand names associated with minimal negative environmental impacts, second-hand garments, and luxury-brand garments were considered sustainable.

Qualitative research. The qualitative ethnographic approach of the current study combined the distinct benefits of qualitative and ethnographic research. Qualitative research is exploratory in nature and attempts to understand the underlying factors or reasons behind an observation (Creswell, 2003). For the current study, this approach provided a deeper understanding of the opinions and motivations that hinder sustainable fashion consumption. One cited limitation of qualitative research is that the sheer volume of data it produces can be difficult to analyze and interpret in an efficient manner (Barbour, 2008). However, qualitative interviews are also flexible, as questions can be guided or redirected by the researcher at the time of interview. This flexibility further ensures that the participant’s idiosyncrasies are accounted for (Creswell, 2003). Unexpected sustainable fashion barriers may be further prompted, which may reveal novel information about this relatively understudied topic.

Ethnographic research. Ethnographic research, referred to as “encountering alien worlds and making sense of them” (Agar, 1986, p. 12), is a subtype of qualitative research that focuses on collecting detailed information about a specific culture or group of people. The ethnographer primarily uses unobtrusive, observational methods to obtain a snapshot of a cultural group in

their natural surroundings and gain a better understanding of their behaviour (Creswell, 2013).

The group of interest for the current study was consumers of fashion. The participating consumers were observed in the relatively natural setting of their personal wardrobes. The ethnographic approach allows the researcher to embed themselves in the lived experience of the participant and potentially observe behaviour as it naturally unfolds (Creswell, 2013). For example, in the comfort of their wardrobes, participants may reveal personal details that would not come to light in an experimental setting. One potential drawback of the ethnographic approach is that the researcher's presence can affect the natural progression of events (Creswell, 2013). However, participants can also grow to trust the researcher and thereby feel at ease in the context of an ethnographic study, which may actually increase the accuracy of the information collected (Ross, 2007).

Guided tour and personal inventories. Grounded in a qualitative ethnographic approach, the current study employed a guided tour and a personal inventory as data collection techniques.

Guided tour. A guided tour consists of a tour of the participant's personal space. The values and behaviours of the participant are uncovered and catalogued as they identify what is important to them in their space. While the researcher may be interested in one aspect of the space (e.g., the garments), it is necessary to record as many details as possible. It is important for the researcher to remain open to the possibility that seemingly irrelevant information may become central as additional details about the end-user are revealed. Moreover, the researcher should be mindful of sensitive issues or objects, such as emotionally-charged garments or items, that may come into play when viewing an individual's personal space ("The Field Guide to Human-Centered Design").

Personal inventories. The personal-inventories approach consists of interviews within the participants' homes to uncover the relationships they have with their personal objects (Everett & Barrett, 2012; Odom, Blevis, & Stolterman, 2008). This technique encourages each participant to lead a tour of their personal space while identifying and discussing items of significance (Martin & Hanington, 2012). To assist in this, the researcher may point to objects to spur conversation and reflection from the participant (Odom et al., 2008). Often, the researcher will ask the participant to elaborate on an item, for example, to explain the role of an object in their life or how they would feel if the item was misplaced (Martin & Hanington, 2012). While personal inventories are highly situational and difficult to replicate, they can prompt individuals to discuss objects or events that would generally be forgotten in a traditional interview setting outside of the home (Gaver, Boucher, & Pennington, 2004; Gaver, Dune, & Pacenti, 1999; Matelmaki, 2005; Odom et al., 2008). With respect to clothing and wardrobes, the personal-inventories approach allows the researcher to analyze garments beyond the point of purchase once they have been incorporated into an individual's life and identity (Skov & Melchior, 2008; Woodward, 2007).

Data Collection

Recruitment and participants. A convenience sample of eight participants between the ages of 22–43 who identified as female was recruited for the current study. Participants were living in the Greater Toronto Area and were contacted via email. Specifically, a snowball recruitment technique was employed: The researcher contacted individuals who were known to them, but unfamiliar with the study in question. In turn, those individuals recommended individuals known to them (but not to the researcher) who met the inclusion criteria for the study (see Goodman, 1961). Prior to commencing the study, each participant was provided with

information via email about the study, including the risks and benefits of participating. This allowed the participant to fully consider their participation and to voice any questions or concerns prior to participating. All individuals contacted agreed to participate in the study. Mutually agreeable dates and times were confirmed for the interviews.

Only those who identified as female were eligible to participate. Today, women are behind 70–80% of all fashion-related consumer purchases, as they tend to purchase clothing for themselves and members of their family (Brennan, 2015). Thus, being the first study on this topic, it was deemed appropriate to have an exclusively female sample. Nonetheless, it is recognized that issues related to fast fashion in the broader population do not exclusively pertain to women (Lachman & Brett, 2013). Future studies are encouraged to investigate similarities and/or differences in sustainable values and fashion consumption in male samples.

Procedure. Upon arriving at each participant's home, the participant was given a consent form to sign (Appendix A). At this time, the researcher began recording the interview with a voice recording application (after requesting permission to do so). Next, each participant was asked to reaffirm explicit verbal consent. They were again advised that the information gathered throughout the interview process would remain confidential, as forms with identifying information would be kept separate from study results.

The study began with each participant completing the Subjective Sustainable Values Assessment (see Appendix B), which asked each participant to rank ten items in terms of their importance to them when making a clothing purchase. The assessment was completed first to avoid potential biases stemming from having already completed an objective wardrobe assessment. Next, the focus of the study shifted to the participant's wardrobe and the researcher asked a series of related questions (e.g., "What role does fashion play in your life on a daily

basis?”, “What are the oldest garments that you have and still wear?”, “Can you show me a garment that you have kept, but no longer wear?” and “What prompts you to purchase new garments?”; see Appendix C for the complete Interview Guide). During this process, the participants were asked to refer to pieces from their wardrobe to facilitate their responses. Once all questions from the Interview Guide were answered, the researcher and the participant completed the Objective Wardrobe Assessment Observation Form (for an example, see Figure 3), which was essentially an item-by-item inventory of the participant’s entire wardrobe.




 Date of Purchase	 Colour	 Brand

Figure 3. A sample of the Objective Wardrobe Assessment Observation Form used to record a detailed inventory of each participant’s wardrobe, including colour of garment, date of purchase, and brand.

Upon study completion, the researcher provided each participant with a debriefing form (Appendix D), explaining the nature of the study and its potential implications. Each participant was thanked for their time and the researcher exited their home.

Data Analysis

Upon completing the study, each data type was compiled (Table 2). The following sections detail how each data type was assessed and analyzed in relation to the research questions of the current study: First, is there a discrepancy between consumers’ sustainable values and sustainable behaviour? Second, if this discrepancy exists, what are the barriers to sustainable fashion consumption?

Table 2

<i>Types of Research Data Collected</i>	
Data type	Research design
Subjective sustainable values assessment	Quantitative; subjective sustainable values
Objective wardrobe assessment observation form	Quantitative; objective sustainable behaviour
Audio recording	Qualitative; interview
Transcript	Qualitative; interview
Field notes	Qualitative; interview

Subjective sustainable values. To arrive at a single, subjective sustainability score for each participant, sustainable and unsustainable attributes were quantified. Sustainable attributes received a score between one and four, with four corresponding to items ranked as “very important to me” and one corresponding to items ranked as “not important to me.” Unsustainable items were reverse coded (e.g., if a participant ranked an unsustainable item, such as a low price, as “not important to me”, they received a score of four for that item, such that a lack of unsustainability reflected sustainability). The two items unrelated to sustainability were not quantified. The total score (i.e., maximum sustainability score that one participant could receive) was 32. Each participant’s sum score was divided by the total score and expressed as a percentage out of 100 (e.g., $24/32 = 0.75 \times 100 = 75\%$). Higher scores reflected higher levels of subjective sustainable values.

Objective sustainable behaviour. To arrive at a single, objective sustainability score for each participant, sustainable and unsustainable attributes of their garments were quantified. First, garments were given one point for being sustainable in each of the following categories: date of purchase, colour, and brand name (if the garment was unsustainable for a given attribute, no

points were allotted). For date of purchase, if a garment was over a year old, it received one sustainable point, whereas newer garments did not—the idea being that older garments represent less frequent consumption. If a garment was also neutral coloured, it received one sustainable point, whereas those with fashionable colours and prints did not. Finally, if the garment had a sustainable or luxury brand name or was second hand, it received one sustainable point. Thus, the maximum sustainability score for any one garment was three (i.e., sustainable in all three categories) and the minimum score was zero (i.e., not sustainable in all three categories). A sum sustainability score was calculated by adding the sustainability scores of each item in the wardrobe. A total score for each wardrobe was calculated by multiplying the total number of garments by three (i.e., the highest possible sustainability score each item could receive). Each participant's sum score was divided by their total score to create a proportion expressed as a percentage out of 100 (e.g., $214/427 = 0.501 \times 100 = 50.1\%$). In addition to controlling for differences in total number of garments from participant to participant, this approach allowed for the current study's hypothesis—that subjective sustainability scores would be greater than objective sustainability scores—to be empirically tested (i.e., subjective and objective scores required the same scale [in this case, a proportional score out of 100] in order for a direct statistical comparison to be made).

Correlation. A correlation assesses the relationship between two variables at the inter-individual level. In the context of the current study, it provided us with a preliminary understanding of whether participants with high subjective sustainability scores relative to other participants (i.e., inter-individually) also tended to have higher objective sustainability scores than other participants. Regardless of average levels of subjective and objective sustainability across participants, some participants are still likely to score higher on sustainability than others.

Even if the average subjective sustainability score was found to be relatively low (e.g., 51%), one participant is still likely to be higher than all others and it would be of interest to also determine if that same participant tended to be higher than all others in terms of objective sustainable values.

One-sample *t*-test. The one-sample *t*-test is used to compare the mean (i.e., average) value of a sample on a particular variable to a hypothesized comparison mean value. When calculating the difference between the sample mean and comparison mean, the test accounts for variability (i.e., inter-individual differences) in the sample values. This is important because a single participant that is extremely variable from other participants in the sample may be driving a difference between the entire sample mean and the comparison mean. Generally, the combination of a large detected mean difference and a relatively small amount of variability between participants suggests a true and potentially replicable effect if the sample is representative of the population of interest. There are two kinds of hypotheses for a one-sample *t*-test, the null hypothesis and the alternative hypothesis. The null hypothesis states that the difference between the sample mean and comparison mean is equal to zero, whereas the alternative hypothesis assumes that a significant difference exists between them. For the current study, the sample mean statistic was obtained by averaging the difference scores between participants' subjective and objective sustainability scores (i.e., subjective minus objective, such that positive scores indicated higher subjective sustainability than objective sustainability). The hypothesized comparison mean was set to zero (the alternative to the current study's hypothesis [i.e., that there is no discrepancy between sustainable values and actual sustainable behaviour]). A one-sample *t*-test was conducted with these scores to determine if the mean difference between

participants' subjective and objective sustainability scores was significantly more than zero accounting for sampling error and variability between participants.

Constant comparison analysis. Upon completion of the guided tour and personal inventory, the voice-recorded responses were transcribed verbatim. Through an inductive approach, the constant comparison analysis method was used to analyze the recorded data and identify underlying themes that emerged (Leech & Onwuegbuzie, 2007). This data analysis method required the researcher to read through all of the data and group it into smaller, meaningful chunks or themes. These chunks were then given a descriptive title or code. Finally, similar codes were grouped together to ensure a parsimonious, yet detailed, coding scheme. This process was repeated in an iterative fashion to ensure that nuances in the data were not ignored (Leech & Onwuegbuzie, 2007).

Classic content analysis. Following the constant comparison analysis, the data was analyzed with the classic content analysis method. This method was used to tally the frequency of each previously established code identified with the constant comparison analysis approach. This allowed the researcher to identify which themes emerged most often and were therefore—potentially—most important to the participants and/or objectives of the study (Leech & Onwuegbuzie, 2007).

Chapter 4: Results

Descriptive Statistics

Descriptive statistics are displayed in Table 3. Overall, average subjective sustainability scores across participants were higher than objective sustainability scores. The difference variable was calculated by subtracting objective scores from subjective scores. On average, participants tended to overestimate their subjective sustainability by a margin of 19%. The standard deviation, minimum, and maximum statistics of each variable indicated a reasonable dispersion across participants. In other words, participants differed from one another in their subjective and objective sustainability scores, as well as the degree to which they diverged in their subjective versus objective scores.

Table 3

Descriptive Statistics of Subjective and Objective Sustainability Scores

Variables	Mean (%)	SD (%)	Minimum (%)	Maximum (%)
Subjective	70	8	59	81
Objective	51	9	36	64
Difference	19	8	6	30

Note. Difference scores were calculated by subtracting objective from subjective sustainability scores, such that positive scores indicated higher subjective sustainability than objective sustainability.

Correlation

A Pearson correlation coefficient was computed to assess the relationship between subjective and objective sustainability scores. Subjective sustainability and objective sustainability were significantly, albeit moderately, positively correlated, $r(6) = .576, p = .07$. In other words, participants with higher subjective ratings relative to other participants also tended

to have higher objective ratings relative to other participants. A scatterplot was created to summarize the relationship between the two sustainability variables (Figure 4).

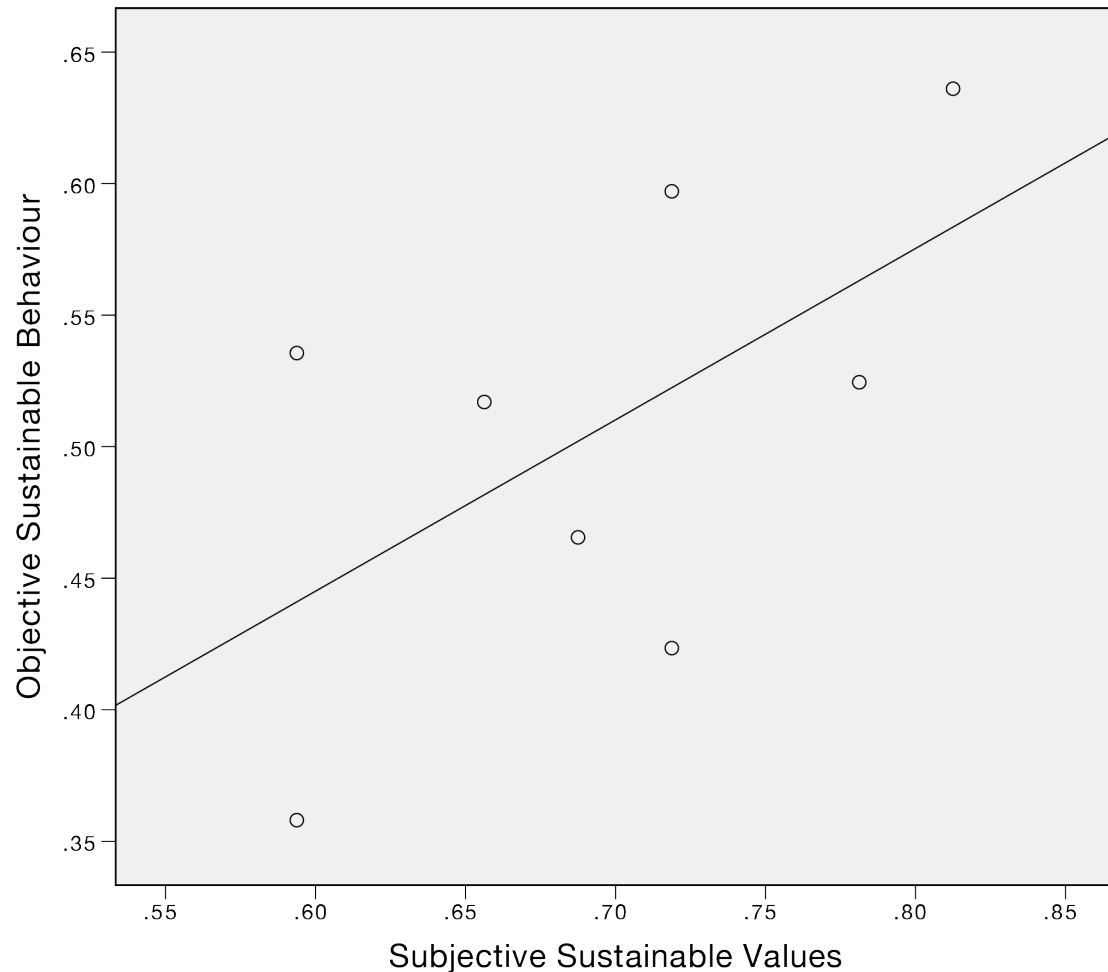


Figure 4. Scatterplot depicting the positive correlation between subjective and objective sustainability scores.

One-Sample *T*-Test

A one-sample *t*-test was conducted to determine if the average difference between subjective and objective sustainability scores was significantly different from zero, the assumed mean difference if participants' subjective sustainable values accurately reflected their objective sustainable behaviour. With an alpha set at .05, the sample mean of 19% ($SD = 8\%$) was

significantly different from zero, $t(7) = 6.76, p < .001$, accounting for sampling error and related variability between participants. The 95% confidence interval (i.e., what we would expect to find 95% of the time with repeated samples) for this difference ranged from 12–25% and therefore the null hypothesis that there was no significant difference between subjective and objective sustainability scores was rejected. The effect size d of 2.39 indicated a large effect (Cohen, 1988). Figure 5 shows the relative distribution of sustainability scores. The results support the hypothesis that sustainable values would be more prevalent than actual evidence of sustainability in participants' wardrobes.

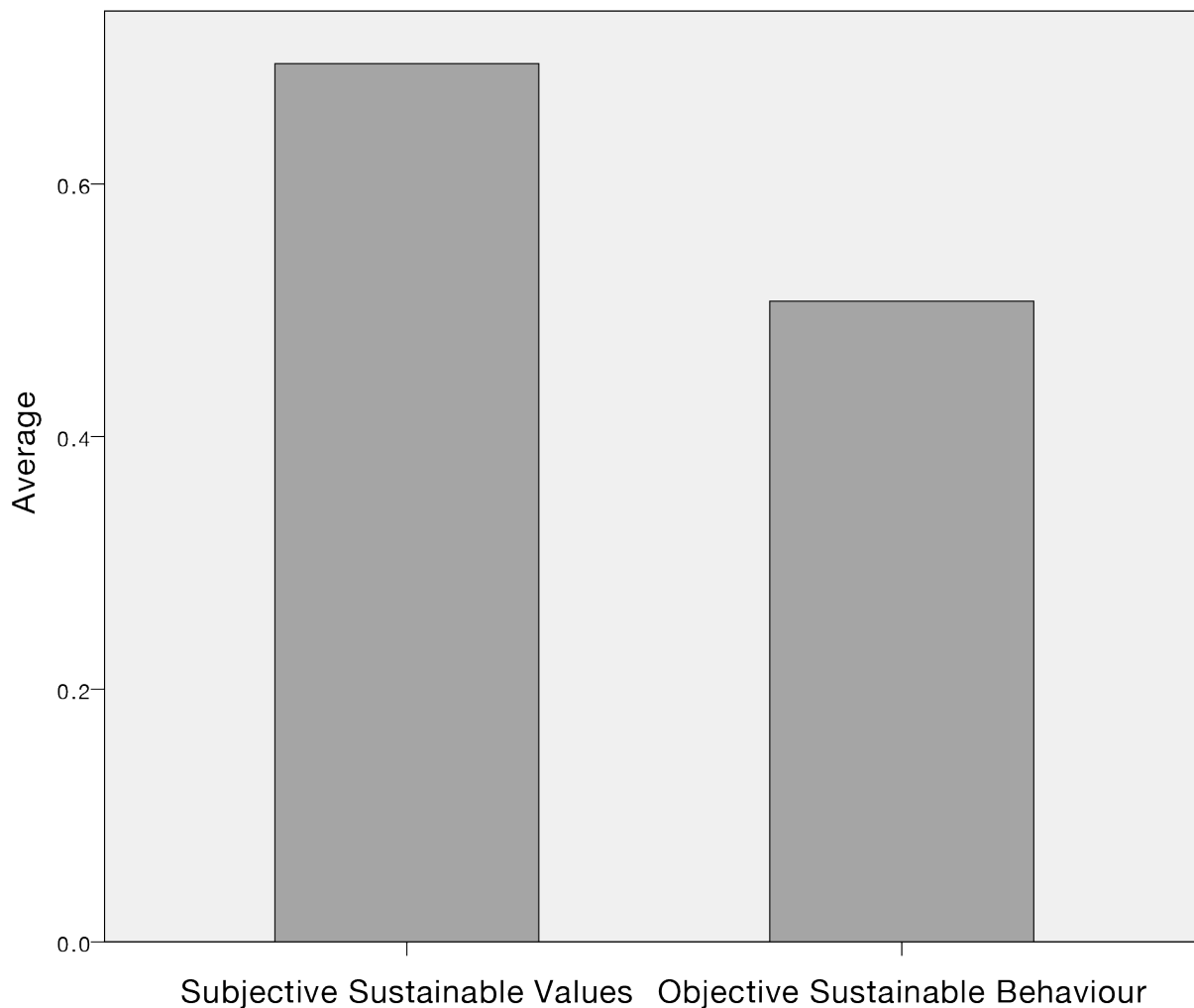


Figure 5. Bar graph depicting subjective and objective sustainability scores.

Constant Comparison Analysis

The constant comparison analysis method revealed the following eight overarching barrier-related themes or codes from the guided tour and personal inventory portion of the interview: social repercussions, style, cost, shopping culture, hedonism, fit, wardrobe maintenance and disposal behaviour, and access (Table 4).

Social repercussions. The first barrier, social repercussions, refers to a fear of negative social evaluation related to fashion choices. For example, Participant D stated, “I am very conscious about everything I wear and keep up with a certain look that I feel expected to have.” Similarly, multiple participants stated that they would not want to be seen wearing an outfit or garment twice.

Style. The next barrier, style, encompassed an internal justification or wanting to follow current fashion trends. For example, many participants conveyed the importance of fashion and trends as they relate to their self-image. For instance, Participant D stated that “when trends happen, if I like them, then yeah... I totally want to get on that bandwagon before it’s too late.”

Cost. The barrier of cost referred to the affordability of fast fashion items and to the perceived unaffordability of sustainable items. For instance, when asked how often she considers her previously stated sustainable values, Participant A stated that she will ignore her values when she “doesn’t want to save up for something.”

Shopping culture. The next barrier, shopping culture, included the act of shopping as an activity or hobby. That is, the act of shopping itself was a pleasurable activity for many participants (i.e., independent of purchasing). For example, Participant A said, “I would say that I online shop in some capacity every day...I would say that I go into a brick and mortar store to

browse, probably twice a week.” Participant C stated, “I look all the time. I go to the mall three times a week and I look every single time.” Similarly, Participant H said,

I love window shopping. I like to keep active in the sense of, if I have a lunch break, I like to go take a walk. If it's too cold, especially in the winter, I'll go to the [mall]. So, I'll kind of use that hour to do a lap of the stores; see what's new. Some weeks it can be literally every day and some weeks it could be five days. I think that it's more, because I do love doing it.

Hedonism. Hedonistic barriers emerged related to the pleasure or increased well-being that resulted from consuming fast fashion. Some participants consumed cheap fashion items to improve their mood. For example, Participant B said that after a difficult day, she “felt like spending [and] wanted something new to wear the next day.”

Fit. Another theme that emerged through coding the raw data was fit. For instance, many participants prioritized flattering and well-fitting garments at the expense of sustainable alternatives. For instance, Participant D said that when she “shops somewhere, [she] is usually pretty loyal to them because of things, like fit. [She] shops places that [she] knows [she] can go into and find something in [her] size without a problem.”

Wardrobe maintenance and disposal behavior. The next barrier, wardrobe maintenance and disposal behavior collectively refers to barriers surrounding the donating, disposal, and repair of existing garments. For example, some participants felt that it would be more expensive to repair than replace their garments. For instance, Participant B ultimately decided to donate a damaged garment that she felt would be too costly to repair. She stated, “I could get it fixed, but doesn’t that cost a lot? I’m just going to donate it.”

Access. Finally, the last barrier that emerged was access, which reflected a perceived lack of sustainable options in the market, especially in relation to the ease of finding fast fashion items. For instance, Participant A stated, “if I did more clothing shopping online, I think it would

be easier [to find and purchase sustainable fashion], because you have those brands right at your fingertips and their information readily available to you.” Participant D said, “it’s hard to find quality pieces with good fit, that also have some fun to them, but then all work well together.”

Table 4

Emergent Codes from Constant Comparison Analysis

Chunks	Code for each chunk
Fear of negative social evaluation; social image; external sanction	Social repercussions
Trends; fashion; self-image; internal justification; need or want to be in style/on trend; emphasis on brand names; interested in current trends; follows current trends; aware of fashion trends	Style
Consumption based on need; fast fashion items are affordable; shops sales; waits for discount; seeks to spend less; unlikely to save for higher priced items; sustainable alternatives are more expensive	Cost
Shopping as activity; shopping as hobby; shopping to pass time; not a means to an end (i.e., making a purchase); pleasurable activity; satisfied with act of shopping	Shopping culture
“treating self”; justification based outside of style/fashion; shopping and consumption centered on increasing pleasure/well-being; may be a redundant purchase	Hedonism
Flattering fit; loyal to brands due to fit; hard to find sustainable alternatives with flattering fit	Fit
Donating garments; disposing of garments; repairing and mending damaged garments; tailoring ill-fitting garments	Wardrobe maintenance and disposal behaviour
Perceived lack of sustainable options; perceived ease of finding and purchasing fast fashion items	Access

Classic Content Analysis

Following the constant comparison analysis, the data was analyzed with the classic content analysis method. The frequency of each identified code was tallied to illustrate the

prevalence of each theme (Table 5). Social repercussions, wardrobe maintenance and disposal behaviour, and style were referenced most frequently during the interviews. After these, the following categories were mentioned from most to least often: shopping culture, fit, cost, access, and hedonism. To visually illustrate their frequency, the codes are depicted in a pie chart (Figure 6).

Table 5

Results from Classic Content Analysis

Code	Number of times used
Social repercussions	44
Style	41
Cost	15
Shopping culture	31
Hedonism	6
Fit	23
Wardrobe maintenance and disposal behaviour	40
Access	9

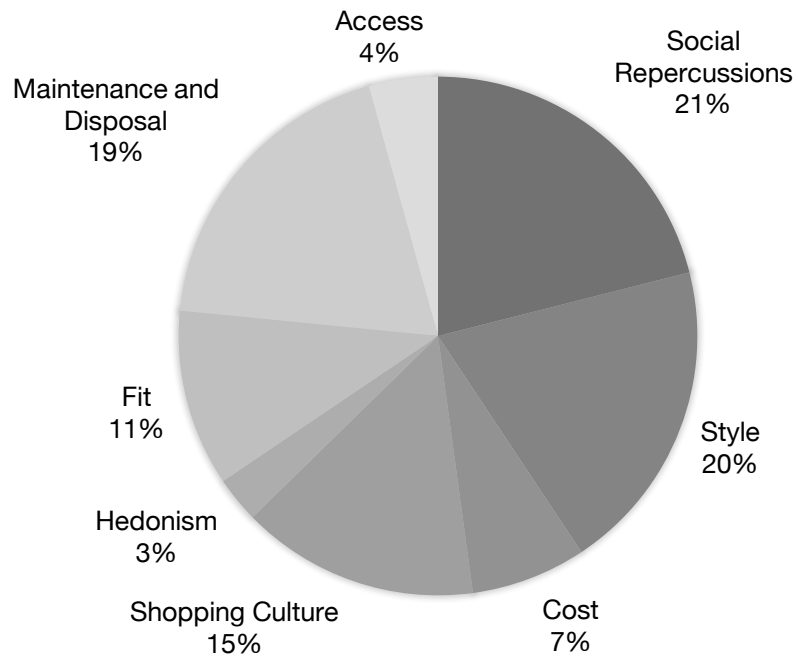


Figure 6. Pie chart depicting frequency of codes from classic content analysis.

Chapter 5: Discussion

This study explored if there was a gap between how much individuals reported valuing sustainability and how much they engaged in sustainable fashion consumption. In addition, an open-ended interview was conducted to uncover potential barriers preventing sustainable fashion consumption. This is an important issue because there appears to be a general awareness of the detrimental consequences of fast fashion production and consumption (Bader, 2015; Dickson, 2001; Freestone & McGoldrick, 2008; Joy et al., 2012; Lundblad & Davies, 2016; Niinimäki, 2013; Tomolillo & Shaw, 2004), but less evidence of this awareness translating into actual sustainable fashion behaviour (Joy et al., 2012; Bain, 2016a; Wicker, 2016). Furthermore, the fashion-specific barriers that are potentially preventing this translation are largely unknown. Specifically, the present study addressed these gaps by comparing a sample of women's subjective sustainable values to their objective sustainable behaviour and interviewing them about their fashion consumption habits.

First, this study found that there was indeed a significant discrepancy between participants' subjective sustainable values and objective sustainable behaviour. Specifically, to determine how discrepant their reported values were from their actual closets (and in which direction), participants' average objective sustainable behaviour score (i.e., across participants) was subtracted from their average subjective sustainable values score. This revealed that, on average, participants reported to be 19% more sustainable than their closets indicated. In other words, the extent to which participants claimed to have sustainable fashion values exceeded the objective sustainability of their closets by a large margin. Using a one-sample *t*-test, it was determined that this 19% average discrepancy was significantly different from zero (i.e., what we would expect if participants were—in reality—as sustainable as they claimed to be), after

accounting for variability between participants and random error. The test was significant at an alpha level less than .001, indicating that there was a less than .01% chance that the result was achieved by chance. Furthermore, the confidence interval associated with this test suggests that a 12-25% discrepancy between subjective sustainable values and objective sustainable behaviour would be expected 95% of the time with repeated samples.

Albeit less central to the study's core quantitative research question, a correlation was run to assess the relationship between subjective sustainable values and objective sustainable behaviour at the inter-individual level. It showed that participants' scores on these measures were significantly, albeit marginally correlated in the positive direction. In other words, participants who rated themselves as having higher subjective sustainable values, relative to other participants, also tended to have more objectively-sustainable wardrobes than other participants. Interestingly, this suggests that there is some correspondence between subjective sustainable values and objective sustainable behaviour, at least between individuals. Nonetheless, despite some individuals being higher than others in sustainability—both subjectively and objectively—this did not protect them from a discrepancy within themselves (as indicated by the aforementioned *t*-test results). In other words, similar to their less sustainable counterparts, even the most sustainable participants in the present study claimed to be significantly more sustainable than their closets indicated. With respect to interventions, it is generally regarded as best practice to target those who would benefit the most (in this case, individuals that are less sustainable; McKenzie-Mohr, 2000). However, the results of the present study suggest that individuals from a range of sustainable backgrounds may benefit from an intervention addressing the translation of their sustainable values into sustainable actions.

The descriptive statistics of this study also provided some novel information. On average, participants' wardrobes were 51% sustainable, ranging from 36% to 64%. Given that a perfectly sustainable wardrobe would have received a score of 100%, this suggests significant opportunity for improvement. Interestingly, the highest objective sustainable score (i.e., the most sustainable wardrobe) uncovered in this study was still only 64%. Overall, these findings corroborate recent literature indicating that a significant portion of the fashion industry is driven by fast fashion (Bain, 2016b). Nonetheless, the fact that half of participants' wardrobes were sustainable was unexpected (given the current predominance of fast fashion, a much lower proportion was expected). This may reflect increases in sustainable awareness (Bader, 2015; Dickson, 2001; Freestone & McGoldrick, 2008; Joy et al., 2012; Lundblad & Davies, 2016; Niinimäki, 2013; Tomolillo & Shaw, 2004) and/or in the popularity of sustainable alternatives among average consumers.

Upon empirically documenting a sustainable values–behavior gap, the second research aim of the current study was to understand the barriers preventing individuals from objectively catching up to their sustainable values. An interview was conducted to achieve this, which revealed eight barrier-related themes that corroborate and expand on previous research in this area: social repercussions, style, cost, shopping culture, hedonism, fit, wardrobe maintenance and disposal behaviour, and access. Importantly, all eight overarching themes that emerged from the data are related to sustainable fashion consumption. Thus, the chosen interview method appears to be a promising tool to naturally reveal barriers in this domain. Of these, a classic content analysis revealed that social repercussions, style, and wardrobe maintenance and disposal behaviour were most frequently cited. The following discussion will focus on these most prevalent barriers.

Previous psychological research has shown that long-term behavioural change depends on the extent to which the behaviour in question stems from the individual's internalized, or own, ideas and motivations (Osbaldeston & Sheldon, 2003; Ryan & Deci, 2000). Similarly, individuals who internalize sustainable ideas as their own are more likely to adopt them as core values, beliefs, and morals that translate into consistent sustainable behaviour (McKenzie-Mohr, 2000). However, current research in this area has focused exclusively on the promotion of sustainable behaviour in private settings, such as composting and reducing water use in the home (Kennedy, 2010; McKenzie-Mohr, 2000; Middlemiss, 2008). Fashion consumption, by contrast, often reflects a public expression of one's identity, worldview, and even wealth (Stone, 2012). From this perspective, the techniques used to promote sustainability in the home may not simply transfer to one's public life, which may explain why a significant reduction in fast fashion has not been observed. This idea was supported, in part, by the current study, as social repercussions were among the top barriers that participants reported when discussing their unsustainable consumption choices. For example, Participant C said, "When I first started in my career, I used to always have to wear blazers. I also kind of felt like blazers were more formal, and I felt like people didn't always take me seriously." Participant D said, "I have a lot of gathered skirts 'til my brother told me I looked horrible in gathered skirts." Similarly, Participant G stopped wearing a garment because a friend mentioned "that it reminded him of Star Trek and [she has] never really been able to get it out of [her] head."

With respect to style, most participants were aware of and interested in following current trends. For example, Participant C said, "I bought myself a sweater kind of vest because I noticed people are wearing vests, so I'm like, "Okay, I should get one of those." For many participants, keeping up with current trends served as an outlet to express their identity. For

example, Participant D said that when she “just need[s] to be a new person”, she goes shopping. Similarly, Participant E said, “I think fashion plays an expensive role in my life, because it pretty much transcends everything, including my entire identity. I think my self-expression and what I put out to the world is very, very important.” When asked about purchasing behaviour, Participant E looks for items that “fit with [her] identity and the look that [she] has in mind.” Interestingly, marketing firms recognize self-identity and self-expression as among the most important motivators driving consumers, and tailor their advertisements and products to meet these needs (Bannister & Hogg, 2004). Multiple lines of fashion research have also found that clothing plays an integral role in identity formation (Belk, Bahn, & Mayer, 1982; Belk, Mayer, & Driscoll, 1984; Elliott, 1994; Freitas, Davis, & Kim, 1997; Holman, 1979). With the advent of fast fashion, many retailers release weekly or bi-weekly collections (Cline, 2012; as opposed to the traditional four). Since fashion trends are central to their self-expression, a significant portion of consumers are stuck in a cycle of continuous consumption as new trends are frequently introduced and incorporated into their ephemeral fashion-related identities. From this perspective, style and identity formation are essentially hijacked by fast fashion, and collectively serve as barriers to the adoption of sustainable fashion alternatives. Furthermore, because new trends are frequently introduced and consumed, the barrier of style may be intrinsically linked to the next barrier to be discussed: wardrobe maintenance and disposal behaviour.

The lifespan of a fast fashion trend is typically a few seasons. Furthermore, low-quality, inexpensively-priced fast fashion garments promote consumption and subsequent disposal, resulting in excessive waste (Fletcher, 2010). In fact, consumers, including the current participants in some cases, are following suit by refreshing their wardrobes at a faster rate than

ever before (Ross, 2015). For example, Participant D said, “I have things that I buy for a season and then I feel like they don’t fit me anymore, mentally.” With the quick turnaround of fast fashion, consumers are left consistently desiring to remain in fashion. However, to remain fashionable in an ever-changing window, consumers know they must discard relatively new and wearable garments. Thus, they may become conflicted as their mind is in a state of cognitive dissonance between their want to stay in fashion and their recognition that throwing away perfectly good clothes is wrong. To ease this discomfort, consumers likely rationalize and justify their actions (see Festinger, 1962). In Participant D’s case, when garments no longer align with her identity, she stores them in her old bedroom at her parents’ home. She said,

My bedroom at home has two closets. When my sister moved out, I used her closet as well. I also have a storage closet that no one uses, so I just put my old stuff and off seasons things there. At the moment, I have five closets of clothing.” When asked how often she wears those garments, she stated, “I am not constantly running back for them. I mostly forget that they exist. But, every so often, I’ll be like, “Oh yeah, I like this piece, and I’ll bring it home with me.

Thus, by storing out-dated garments and maintaining the potential to wear them again, Participant D may be mitigating guilt associated with discarding or donating such garments. However, one major problem with reducing discomfort in this way is that consumers may eventually purchase new clothing within the transient window of fashion trends (instead of reintroducing old items) and thereby perpetuate the fast fashion cycle.

Most fast fashion garments are worn roughly four times before being discarded (Department for Environment, Food and Rural Affairs, 2009). Luckily, rather than sending them to a landfill, most participants in the current study reported donating their garments when they were done with them. Most commonly, they donated their items when they grew tired of them or if they were damaged. For instance, Participant B said, “if it’s not getting its wear, I’ll donate it.” Participant F donates garments that she no longer wears or does not like, and items that have

“wear and tear.” Similarly, Participant A said, “I usually keep things until they wear out or I don’t find myself reaching for them anymore.” Additionally, after relocating to a smaller space, Participant A slightly downsized her wardrobe. Based on a review of empirical literature, Laitala (2014) found that “common clothing disposal reasons were wear and tear, poor fit, and fashion/boredom...In addition, some report of situational reasons such as lack of storage space” (p. 454). The current findings largely affirm these reasons. More recently, to promote sustainability, some fashion companies have introduced garment-recycling programs for consumers to dispose of their unwanted clothing. In 2014, H&M, one of the largest exemplars of this initiative, collected 7,864 tons of used garments. In most cases, businesses offer incentive to donate, such as a discount on a future purchase (Eifler, 2014). However, such incentives may actually perpetuate fast fashion consumption by opening space in wardrobes and encouraging the filling of such space with similar, discounted items.

Prior to the widespread adoption of fast fashion, garments were purchased for the long term and they were generally mended and altered to prolong their life. Today, on the other hand, most consumers have little to no sewing knowledge (much like the participants in this study; Cline, 2012). For example, when discussing a torn seam on a skirt, Participant B said, “I could get it fixed, but doesn’t that cost a lot?” The simple repair that she was describing could be completed at home with a needle and thread. Ultimately, Participant B decided to donate the garment in lieu of incurring the costs of repair. Similarly, a widespread problem associated with fast fashion is the alienation between consumers and the workers who create their products, which allows consumers to disregard the misfortunes that such workers experience on a daily basis (Sullivan, 2016). If consumers engage in garment construction first hand and begin to consider the amount of time and energy that it requires, they may also start to consider the ill

effects of poor working conditions associated with their fast-fashion items. This type of deep reflection is likely needed for consumers to stop fuelling the fast fashion industry. Finally, it should also be noted that commonalities across barriers suggested that participants lacked in-depth information that would help them make more sustainable choices. In other words, there may be an overall lack of sustainable education, not just a lack of garment-related knowledge.

Limitations and Future Directions

For the first time within the same participants, the present study established a gap between subjective sustainable values and objective sustainable behaviour. Not only was this discrepancy present in the expected direction, it was rather large, as the *t*-test indicated a large effect. Nonetheless, it is important to note that the current sample size was relatively small for quantitative research, which potentially detracts from the generalizability of the findings in question. Thus, this study could be regarded as a pilot for other studies to replicate with larger samples. Furthermore, this would serve as an opportunity to validate the measures that were created by the researcher to assess subjective and objective sustainability on a similar percentage-based metric in the current study.

Future research should seek to overcome human limitations and foster user acceptance by alleviating the identified barriers to sustainable fashion consumption to ensure enduring sustainable change across the fashion landscape. As previously mentioned, to produce lasting change and commitment among consumers, behaviours should be intrinsically motivated. Such motivation is innate and stems from an individual's natural inclination toward knowledge and activities that provide a personal source of enjoyment (Ryan & Deci, 2000). Furthermore, conditions that elicit and sustain intrinsic motivation include belongingness and connectedness with others (Ryan & Deci, 2000). That is, individuals most commonly behave in a way that is

prompted, modelled, and/or valued by others to whom they feel attached or related to. Overall, individuals are most likely to adopt behaviours similar to their own values and the values of others they hold in high regard as symbolic of their ideal self. With respect to sustainability, intrinsic motivation has shown to be successful in some cases. For example, Osbaldiston and Sheldon (2003) predicted that intrinsic motivation would result in sustained environmental behaviour change. To test their hypothesis and further understand how individuals internalize environmental behaviours, they asked 162 participants to incorporate nine environmentally-responsible behaviours into their daily routines. These behaviours included conserving paper or going paperless, turning off lights, cutting down on eating meat, and avoiding purchases of unnecessary items. In line with their hypothesis, the authors found that participants who identified with and enjoyed their assigned behaviours (i.e., those who were intrinsically motivated) adhered to sustainable behaviours for a significantly longer period of time than participants who reported feeling obligated to complete their assigned behaviours (i.e., those who were extrinsically motivated). Furthermore, inspired by intrinsic motivation research, McKenzie-Mohr (2000) proposed a community-based, social marketing program to promote sustainable behaviour. In contrast to awareness-raising campaigns (which have demonstrated little efficacy; Bain, 2016a; Joy et al., 2012; Wicker, 2016), community-based social marketing aims to uncover individual-level barriers to behaviour change. After outlining internal and external barriers that prevent individuals from engaging in sustainable behaviour, such as a lack of subject-specific knowledge and access to sustainable resources, the program attempts to overcome them by providing participants with necessary tools and helping them incorporate sustainable behaviours into their everyday routine, with the goal of eventually internalizing such behaviours. Community-based social marketing has been successfully applied to a variety of projects across

Canada, such as backyard composting and efficient water use, demonstrating sustained results (McKenzie-Mohr, 2000). From this perspective, individuals who internalize the ideas around sustainability are more likely to adopt them as core values, beliefs, and morals that translate into long-term sustainable behaviours. Thus, the subjective sustainable values expressed by the participants in the current study may have been partly extrinsically motivated and thus did not consistently translate into objective sustainable behaviours.

In terms of tangible benefits that may eventually be drawn from this research, the reduction of fast fashion consumption may enhance human abilities by improving the well-being of consumers and their surrounding environments according to Bronfenbrenner's (1979) Ecological Systems Theory. This theory posits that the well-being of humans can be measured at concentric biological, psychological, social, and environmental levels. Similar to an ecosystem, plants, birds, fish, water, and humans are deeply interconnected, and are equally dependent on and embedded in their proximal and distal environments. Thus, changes in an individual's immediate environment will eventually feed into their distal environment and ultimately feed back to their personal well-being. In the realm of fashion, purchasing sustainable garments may give the consumer psychological satisfaction for having contributed to positive, sustainable change. Such positivity may extend to other parts of the fashion system, such as the well-being of the worker who constructed the garment under fair conditions. As sustainable garments are continuously produced and consumed at a slower rate, the water and air quality of broader environments will likely improve, feeding back to provide the fashion consumer and worker with an improved quality of life. Thus, this study may serve as the groundwork for future research and programs to increase the adoption and acceptance of sustainable fashion among consumers, and, at a broader level, trigger a cycle of personal and environmental well-being.

Conclusion

In sum, this study provided initial support for a significant gap between values and behaviour in the domain of fashion consumption. Its in-depth qualitative component also revealed fashion-specific, public barriers that should be further explored and integrated into an educational approach that addresses other common barriers to sustainable fashion consumption. Collectively, this study serves as a promising springboard for future research to help bridge the gap between sustainable concern and sustainable action. Drawing from this knowledge, future research should seek to transform sustainable fashion consumption from a trend to an internalized ideology that drives consumers. This novel, bottom-up approach can be contrasted with traditional policies and initiatives that target the unsustainable practices of companies without considering the demands of consumers. Since companies increasingly rely on consumer feedback to develop their product lines, this consumer shift may trigger industry-wide sustainable production practices.

Appendix A

Consent Form



Consent Agreement

You are being invited to participate in a research study. Please read this consent form so that you understand what your participation will involve. Before you consent to participate, please ask any questions to be sure you understand what your participation will involve.

Title: Putting the Brakes on Fast Fashion: Bridging the Gap Between Sustainable Awareness and Action

Researcher: Under the supervision of Dr. Lu Ann Lafrenz, Associate Professor, Fashion Design Program Director and Internship Coordinator, this study is being conducted by Shelley Haines, a graduate student from Ryerson University (as part of the requirements for the fulfilment of the MA Fashion degree).

If you have any questions or concerns about the research, please feel free to contact Shelley Haines at shelley.haines@ryerson.ca.

Purpose of the study:

This is a research study with the goal to understand what prevents individuals from purchasing sustainable fashion garments: the design, creation, and consumption of high-quality, long-lasting garments that consider the environment and societies around the world. This current study will involve two related techniques: an interview involving a wardrobe walkthrough and an inventory (i.e., a count or tally of number and type) of your current wardrobe.

What participation means: As part of your participation, you are asked to allow the researcher to audio-record your interview. The interview is recorded for the researcher to later transcribe and analyze the data collected. You may choose to discontinue your study participation and stop the audio recording at any time.

In addition to the audio recordings, you are being asked to share basic demographic information about you (i.e., age, sex) and answer questions related to your fashion choices and current wardrobe. The study will include an approximately 45-minute

wardrobe interview, where you will answer question about your wardrobe and fashion consumption choices (e.g., “How do you keep up with fashion trends?” and “How has your style evolved over the years?”). The study will also include an approximately 30-minute inventory (i.e., a count or tally of number and type) of garments in your current wardrobe. The purpose of this inventory is not to evaluate your wardrobe, but simply to gain a better understanding of how and why it was developed over time from your perspective. If you feel uncomfortable discussing your wardrobe at any point, you can discontinue your participation at any time.

The total length of time for participation in both elements of this study is approximately 1 hour and 15 minutes. No photographs of your wardrobe will be taken.

Data collected will be used as part of the requirements for the fulfilment of the researcher’s degree. It may also be disseminated as a scholarly journal article at a later date.

Potential benefits: If you agree to participate in this study there may or may not be a direct benefit to you. The information obtained from this study may lead to broader contributions to the fields of sustainability and fashion and potentially lead to advancements in the fields. I cannot guarantee, however, that you will receive any benefits from participating in this study.

What are the potential risks to you as a participant? There is minimal risk associated with participation in this study. However, some potential risks and discomforts do exist. You may be uncomfortable sharing personal information while the interview is being recorded. Also, although the researcher is taking many steps to protect your confidentiality, it is possible that your identity could be discerned through information you provide in recordings. However, only the researcher (Shelley Haines) and supervisor (Dr. Lu Ann Lafrenz) will have access to these recordings, and they have agreed to keep information discussed on these recordings confidential.

Confidentiality: Information collected for the purpose of this research study will be kept secure and confidential, as required by law. If you choose to withdraw from the study, data collected and shared with the researcher prior to that time will be used, unless you request otherwise.

Your name will not appear on any of the data collected and your identity will remain confidential. Only the researcher (Shelley Haines) and supervisor (Dr. Lu Ann Lafrenz) will have access to the data. With your consent, interviews will be audio-recorded. Once the recording has been transcribed, the audio-recording will be destroyed. All research data, including audio-recordings and any notes will be encrypted. Any hard copies of data (including any handwritten notes or USB keys) will be kept in a locked cabinet. Research data will only be accessible by the researcher and the research supervisor.

Incentives for participation: You will not be paid for participating in this research.

Voluntary participation and withdrawal: Participation in this study is completely voluntary. You can choose whether to be in this study or not. If any question makes you uncomfortable, you can skip that question. You may stop participating at any time. If you choose to stop participating, you may also choose to not have your data included in the study. Your participation is completely voluntary and your choice of whether or not to participate will not influence your future relations with Ryerson University or the researcher (Shelley Haines) and the supervisor (Dr. Lu Ann Lafrenz) involved in the research.

Questions about the study: If you have any questions about the research now, please ask. If you have questions later about the research, you may contact:

Shelley Haines
Researcher, MA Fashion Student
shelley.haines@ryerson.ca

Dr. Lu Ann Lafrenz
Supervisor, Ryerson School of Fashion
lalafren@ryerson.ca

This study has been reviewed by the Ryerson University Research Ethics Board. If you have questions regarding your rights as a participant in this study please contact:

Research Ethics Board
c/o Office of the Vice President, Research and Innovation
Ryerson University
350 Victoria Street
Toronto, ON M5B 2K3
416-979-5042
rebchair@ryerson.ca

Confirmation of agreement: Your signature below indicates that you have read the information in this agreement and have had a chance to ask any questions you have about the study. Your signature also indicates that you agree to participate in the study and have been told that you can change your mind and withdraw your consent to participate at any time. You have been given a copy of this agreement.

You have been told that by signing this consent agreement you are not giving up any of your legal rights.

Name of Participant (please print)

Signature of Participant

Date

I agree to be audio-recorded for the purposes of this study. I understand how these recordings will be stored and destroyed.

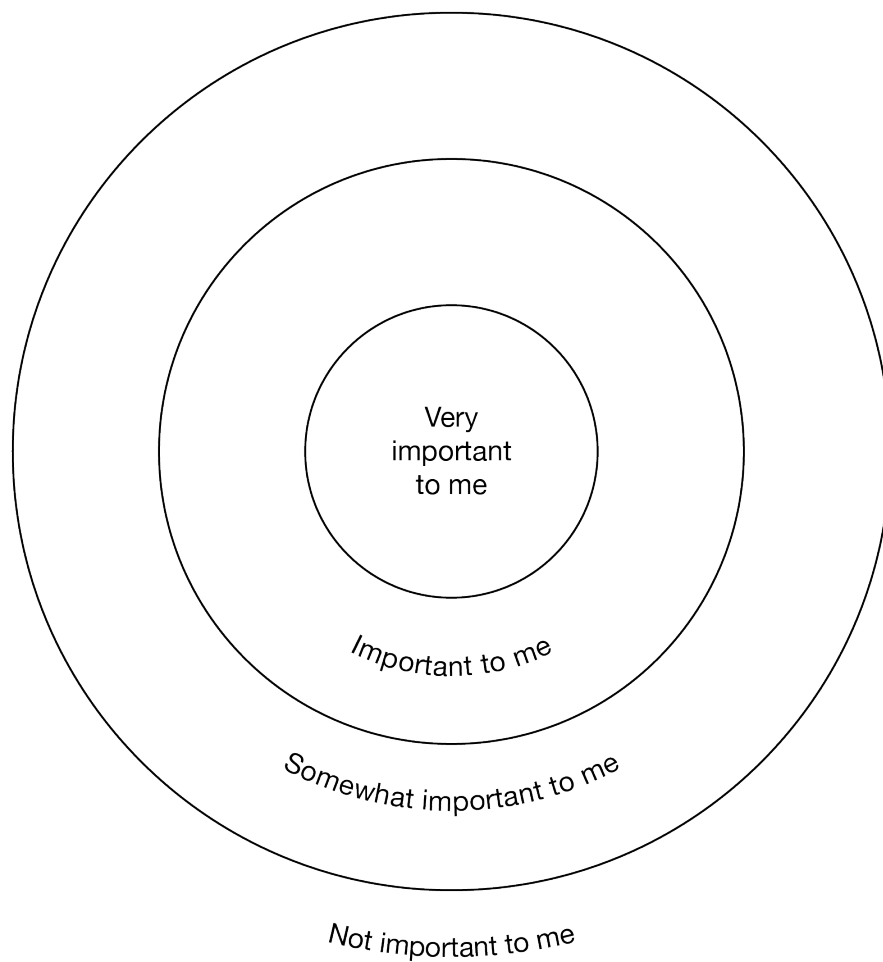
Signature of Participant

Date

Appendix B

Subjective Sustainable Values Assessment

Plot the following items in terms of their importance to you when making a clothing purchase:



Appendix C

Interview Guide

Main Focus	Prompt for...
How would you describe your style?	
What role does fashion play in your life on a daily basis?	Compare different situations (e.g., at home vs. work)
If you do, how do you keep up with current fashion trends?	
How often do you shop in store or online?	
Over the past ten years, how has your style evolved?	Have you maintained the same mentality about clothing/fashion?
Do you feel that you have an average-sized collection of clothing?	
Do you think you could do with less clothing?	Why or why not? What would the transition to having less look like for you?
Would you be able to reduce your wardrobe down to about 30 garments (capsule wardrobe)?	
Can you show me your favorite garment or outfit?	Why is it your favorite?
Can you show me an outfit that you feel confident wearing?	Does the situation dictate your style?
Can you show me something that you thought you would love but don't?	
Can you show me one of oldest garments that you have and still wear?	
Can you show me a garment that you have kept but no longer wear?	Why?
Can you show me the newest garment you have purchased?	
What types of garments do you acquire most frequently?	Why? (e.g., price, availability, convenience, trends, etc.).
Do you have multiples of a similar item (e.g., white t-shirts, skinny jeans)?	
Do you have clothing stored anywhere else?	Why?
What prompts you to purchase new garments?	
When you grow tired of your clothing or it wears out, what do you do with it?	Do you donate your clothing? Do you repair, mend, or alter garments?
What does sustainability or ethics mean to you?	
How often do you think about sustainability or ethics when buying things?	What aspects of sustainability or ethics do you consider when buying fashion clothing?
If price was not a concern, what would your dream wardrobe look like?	

Appendix D

Debriefing Form



Debriefing Form

Putting the Brakes on Fast Fashion: Bridging the Gap Between Sustainable Awareness and Action

We would like to extend our great thanks for your participation!

This research study aims to understand why, despite having an abundance of slow fashion—the design, creation, and consumption of high-quality, long-lasting garments—options and an awareness of fast fashion’s harm, consumers have yet to adopt slow fashion on a large enough scale to overcome the current dominance of fast fashion consumption. In fact, fast fashion—low-cost garments that mimic current fashion trends—consumption continues to rise.

The purpose of the interview was to uncover the relationships you have with your garments, while identifying and discussing items of significance. An inventory of your wardrobe was collected to provide insight into the relationship between the value of garments and patterns of consumption. The information produced by this study aims to provide the groundwork for future research aimed at increasing the adoption and acceptance of slow fashion by consumers and to promote enduring, sustainable change within the fashion industry.

At Ryerson University, we value participant confidentiality greatly and it is therefore important to inform you that any personal information that can identify you will be kept separate from the analysis of the data and presentation of the results. This research is interested in the general pattern of responses across all of our participants (not the responses of individual participants). We hope to publish the results of this study in academic journals.

If you have any specific questions, concerns, or comments about this study, or you are interested in its general outcomes, please contact Shelley Haines, shelley.haines@ryerson.ca. Thank you again for your participation in this study! We appreciate your time and contribution.

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