AN ASSESSMENT OF THE EFFECT OF ONLINE CONSUMER KNOWLEDGE ON

MILLENNIALS' SUSTAINABLE CLOTHING PURCHASE INTENTION

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AN ASSESSMENT OF THE EFFECT OF ONLINE CONSUMER KNOWLEDGE ON MILLENNIALS' SUSTAINABLE CLOTHING PURCHASE INTENTION

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The global clothing and footwear industry accounted for only 2 percent of the world's Gross Domestic Product (Strijbos, 2016), but disproportionately contributed "… between 5 and 10% of global pollution impacts in 2016" (Quantis, 2018, p. 18). This industry has also been criticized for exploitative labor practices. When surveyed, consumers have reported preferences for environmentally and socially responsible clothing, yet they have continued to seek low-cost, low-quality clothing that belies their good intentions. Among sustainable clothing scholarship and activism there has been broad, but untested consensus that increasing consumer knowledge among the general population about sustainable clothing will promote sustainable clothing consumption. Academics, activists, and concerned social entrepreneurs have spent their efforts creating a variety of online sustainable clothing consumer knowledge resources without empirical proof that consumer knowledge influences consumer behavior, and there are no best practices that have been established. The purpose of this study was to evaluate the efficacy of one online sustainable clothing consumer knowledge platform, ProjectJUST.com, in promoting sustainable clothing consumption among Millennials. Quantitative survey results and qualitative interview findings were analyzed to this end. Survey results collected from two groups of respondents, one that had used ProjectJUST.com ($n = 700$) and one that had not ($n = 685$). Survey results suggested that people who accessed ProjectJUST.com already intended to buy sustainable clothing when they landed on the website because the content was personally

relevant to their expressions of identity as more sustainable consumers. Qualitative data were derived from 3 interviews spaced over 6-months with 35 Millennials. Findings suggested that ProjectJUST.com had little appeal for this study's participants. Participants preferred to receive information about their clothing from sources that they already used, such as social media, or word-of-mouth. Participants were then segmented based on the changes they reported to their clothing consumption behaviors over the study period into four groups: maintainers, preparers, contemplators, and precontemplators. Differentiated social marketing strategies were recommended, and implications for online sustainable clothing consumer knowledge platforms were presented throughout to offer strategies that can improve the efficacy of such platforms in changing behavior.

BIOGRAPHICAL SKETCH

Sarah Gabrielle Portway was born and raised in Ontario, Canada. She grew up with interest in fashion, thrift shopping, and repurposing finds from her local Salvation Army in Gravenhurst, Ontario. Portway began her undergraduate degree in 2003 at the University of Guelph where she majored in studio arts with the intention of eventually becoming a professor. Her first degree took seven years to complete because she simultaneously worked full-time at Le Chateau—a popular Canadian clothing retailer. During her five-and-a-half-year employment at Le Chateau, she was quickly promoted from style specialist, to head of accessories and cash, before becoming the associate manager of her large-volume location. While unpacking the daily shipments of wastefully over-packaged fashion-forward merchandise, she began to consider the environmental and social implications of the clothing she peddled. A growing concern started to burn.

She eventually applied and was accepted to the first cohort of a new Masters of Fashion program in the School of Fashion at Ryerson University in 2010. Here, she studied issues at the intersection of fast-fashion, sustainability, and local Toronto fashion design. During her Master's degree, Portway worked in assorted retail jobs at Burberry and Tristan of America. In her second year at Ryerson, she began to serve as the instructor of record for the undergraduate fashion photography course at Ryerson. Portway held the position for three consecutive years. After graduation, Portway took advantage of a variety of opportunities. She taught a photojournalism course at Centennial College; she was a lead instructor and developer of a sustainable clothing workshop called "My Clothes, My World" designed for elementary level classrooms; and she served as a manager for a Toronto fashion co-operative called the Fresh Collective.

Portway left her simultaneously held teaching and retail management positions to pursue her Ph. D. at Cornell University in 2014. At Cornell, she served as a teaching assistant to Dr. Tasha Lewis every semester for four years. Portway was also the instructor of record for her department's 3-week intensive summer college course in fashion portfolio development every summer while studying at Cornell. Upon completing her doctorate in August of 2018, Portway will continue to combine her interests in activism and academia as a professor of Fashion and Textiles at the State University of New York in Oneonta.

For the forgotten people that make our clothes.

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CHAPTER 1

INTRODUCTION

The global clothing and footwear industry is valued at over $3 trillion USD and employs 57.8 million people (Strijbos, 2016). The industry accounts for only 2 percent of the world's Gross Domestic Product (Strijbos, 2016), but disproportionately contributes "… between 5 and 10% of global pollution impacts in 2016" (Quantis, 2018, p. 18). The global media demonizes leading brands such as H&M, Zara, Primark, and Forever 21 for their landfill contributions and for exploiting the garment workers in their supply chains to deliver products at low cost (Bain, 2016a; Baumann-Pauly, 2016; S. Butler, 2016; Goldsmith, 2016; Johannisson, 2016; McPherson, 2016; Mis, 2017), yet consumers continue to trust the lowest price as the fairest and search for deeper discounts (Cline, 2013). When surveyed, consumers report preferences for environmentally and socially responsible clothing, yet they continue to seek low prices and expressive qualities over environmental or ethical attributes when they shop for clothing (Boulstridge & Carrigan, 2000; Michal J. Carrington, Benjamin A. Neville, & Gregory J. Whitwell, 2010; Nielsen, 2014; Rosenburg, 2015; Wiederhold & Martinez, 2018, 2018).

For the purposes of this dissertation research, consumer knowledge is considered an accumulation of information over time, and consumer knowledge seeking is the active acquisition of information that informs purchase behaviors. Scholarly contributions point to the need for consumer knowledge in influencing clothing consumption behavior change, yet few have assessed the effect of consumer knowledge resources on behavior. Taxonomies and evaluations of interrelated activist tactics used by contemporary organizations such as the Clean Clothes Campaign (Balsiger, 2010) and the utility of No Sweat labels have been studied (Dickson, 2001), as has the role of online communities in disseminating sustainable clothing

information (Cervellon & Wernerfelt, 2012). In an era when most consumer knowledge seeking starts with a Google search and ends with a speed-reading of product reviews and/or return policies, research on the efficacy of online sustainable clothing consumer knowledge platforms is conspicuously lacking.

Activists, academics, and concerned social entrepreneurs have spent their efforts creating a variety of online sources of consumer knowledge without empirical proof that consumer knowledge has an effect on consumer behavior, and there are no best practices that have been established. For example, the Good on You app provides consumers with a numeric score for the sustainability achievements of clothing brands (Good on You, 2017). Fashion Revolution asks people to post a selfie while wearing their clothing inside out on social media once a year to raise awareness of where their clothing is made ("Fashion Revolution," n.d). Greenpeace releases technical data on the environmental consequences of clothing production, organized by brand ("Detox Catwalk," 2015). The impetus for this dissertation research was to help activists, academics, and concerned social entrepreneurs to maximize the efficacy of their efforts.

Purpose of Dissertation

The purpose of this dissertation was threefold and addresses unanswered questions about the efficacy of available online sustainable clothing consumer knowledge platforms. For the purposes of this dissertation, ProjectJUST.com was used to operationalize online sustainable clothing consumer knowledge platforms, and consumer knowledge was defined as information about what is sustainable clothing, how to evaluate if clothing is sustainable, where to find sustainable clothing, and/or how to consume clothing sustainably. Three broad questions formed the impetus for this dissertation research: (1) Does online consumer knowledge about sustainable clothing influence people to consume clothing more sustainably? (2) Will consumers seek

sustainable clothing consumer knowledge online when they know it is available to them? (3)

How can the efficacy of online sustainable clothing consumer knowledge platforms be

improved?

Dissertation Overview and Organization

The remainder of this chapter provides a review of literature and terminology, a meta-

analysis of previously identified barriers to sustainable clothing consumption, and a brief

overview of the mixed methods employed here. Chapter 2 uses quantitative survey data to

describe the differences between sustainable clothing purchase intention among people who seek

sustainable clothing knowledge online and those who do not. In chapter 3, qualitative interview

results are presented. Consumers with green attitudes were given access to consumer knowledge

for a six-month period and were asked every three months about their clothing purchases and any

sustainable clothing consumption barriers they perceived. In chapter 3, both survey and interview

data was used to segment and profile consumers according to changes they reported in their

shopping behaviors after being exposed to online sustainable clothing consumer knowledge.

Finally, chapter 5 summarizes and synthesizes the results across all three studies to provide

managerial implications for sustainable clothing consumer knowledge platforms.

Review of Literature

  Environmental degradation.

The effects of manufacturing clothing are difficult to measure because supply chains are

notoriously opaque. Most of the garments produced in the 2010's were international products;

for example, clothing might be sewn in China with buttons from Sri Lanka and textiles from

India using thread from Bangladesh (Cline, 2013). Therefore, the environmental impacts of the

clothing industry are difficult to quantify, but some media sources deride the industry for being

second only to oil in its impact on the environment (Conca, 2015; A. Morgan, 2015). The empirical foundation for the media's ranking was elusive at the time of study but there were ongoing efforts to measure the environmental effects of clothing production including, but not limited to, the impact of exposing the environment and people to toxic dyes, as well as quantifying CO_2 emissions generated while transporting materials and clothing around the world (Quantis, 2018).

Clothing prices and quality were in a state of decline in 2017, making clothing disposable when it falls apart and buying more clothing was quick and easy. In the USA, 2014 estimates by the Environmental Protection Agency suggest that people living in the USA dispose of 25 billion pounds of textiles per year, and the average citizen contributes 82 pounds each ("Council for Textile Recycling," 2018). Clothing and textiles represent at least 5.2% of all municipal solid waste; only 15% of this textile waste is recycled, and 85% (70 pounds per person) goes directly to landfills ("Council for Textile Recycling," 2018). This amount has grown by 40% between 1999 and 2009 ("Council for Textile Recycling," 2018). In the UK the proportion of textile waste ending up in landfills rose from 7% in 2004 to 30% in 2009 (Barrie & Ayling, 2010; L. R. Morgan & Birtwistle, 2009). Once in the landfill, clothing waste continues to emit gasses like N_2O, which is approximately 300 times more damaging than CO_2 (Conca, 2015). If they were diverted, the inexpensive polyester-blend fabrics favored by retailers like H&M, Zara, and Forever 21 are not easily recyclable with the technology in 2018 (Chua, 2015; L. R. Morgan & Birtwistle, 2009).

Fast fashion.

Fast fashion is exemplified by retailers such as H&M, Zara, Primark, and Forever 21 who trade in low-quality trendy garments at low prices. Fast fashion refers to low-cost clothing that is

produced quickly, that is part of rapidly changing product lines, and is manufactured with lowered quality expectations. Fast fashion garments are designed to be worn 10 times or less (Cline, 2013; Ghemawat, Nueno, & Dailey, 2003). The rapid nature of fast fashion trend shifts has, in 2018, created a new mandate among clothing brands to quickly and inexpensively respond to fickle consumer demands in approximate six weeks, compared with traditional apparel manufacturing timelines that deliver products in 6-12 months (Sull & Turconi, 2008); hence the term 'fast fashion.' Fast fashion retailers encourage their customers to take advantage of low prices by a large quantity of clothing to keep up with new and emerging fashion trends, instead of buying a few high-quality staple garments seasonally, such as a classic pair of black dress pants (Cline, 2013).

The fast fashion manufacturing model relies on global supply chains, environmentally unfriendly practices, and sweatshops to create an ever-increasing number of disposable garments each year at the lowest possible price. Global clothing production has more than doubled since 2000, "… while the average number of times that a garment was worn before disposal declined by 36 percent [in the USA]. In China, it declined by 70 percent" (Minter, 2018, para. 7). Clothing is a labor-intensive product since it was still hand-made in 2018, so fast fashion brands cut costs by using the lowest paid labor available (Cline, 2013; Hayes, 2014; "Made in Bangladesh," 2013; A. Morgan, 2015). Most of the biggest retailers in the USA including H&M, Gap, Fast Retailing (owner of Uniqlo), and L Brands (owner of Victoria's Secret) use a supplier called Crystal Group that has plans to increase their use of low cost labor by 10% annually for the foreseeable future despite the promise of automation (Bain, 2018).

Sweatshops.

The harmful effects of fast fashion supply chains on people, the planet, and the global economy have been demonized by popular media and dubbed the 'race to the bottom' (Bain, 2016a; Baumann-Pauly, 2016; S. Butler, 2016; Chapman, 2017; Goldsmith, 2016; Johannisson, 2016; "The earth is covered in the waste of your old clothes," 2016). Consumers might be aware of the problem, but they do not care when it counts—at the point of sale. Market intelligence from Mintel further explains that 58% of UK clothing consumers want fashion retailers to be more environmentally friendly but the same report found that 45% of these buyers prefer to shop in bulk at stores that frequently update their product assortments (Hopping, 2017). The ethical treatment of workers is also low on the list of consumer priorities: only 12% of Millennial females in the UK see this as important (Sender, 2017), and in the US 77% prefer to buy discounted items ("Women's clothing - US: Attitudes toward clothes shopping," 2017). Growth in the market for fast fashion has outpaced the growth of their competition for more than 20 years (Bain, 2016b).

Clothing is a labor-intensive product in which most of the wholesale price is determined by the cost of labor, not material inputs. Therefore, creating clothing at the low-prices consumers demand creates a market incentive to find the lowest-paid laborers, usually from nations with weak environmental regulations where chemicals banned in the US can be used freely and disposed of into public lands or waterways (Cline, 2013; A. Morgan, 2015). The consequences are devastating. In Bangladesh, 4 million people worked in garment manufacturing in 2015, 85% were women, and they earned less than $3 per day—the lowest wage for this job in the world (Hayes, 2014; Kunz, Karpova, & Garner, 2016; "Made in Bangladesh," 2013; A. Morgan, 2015). Though Bangladesh workers are far removed from glittering retail displays in developed nations,

their hardships are plainly visible. The largest industrial 'accident' to date was well publicized: the collapse of Rana Plaza in Dhaka Bangladesh killed more than 1,200 people. The Rana Plaza building was designed to be 6 stories tall but collapsed during the construction of a 9th floor (Hayes, 2014; "Made in Bangladesh," 2013). The owner of the building, Sohel Rana, and 37 others have since been charged with murder by Bangladesh authorities. There is evidence that Rana knew about the structural dangers, and that he fled to India to avoid questioning immediately after the building collapsed (Reuters in Dhaka, 2016). Orders for clothing are still keeping Bangladesh factories working overtime, and unsafe working conditions persist in spite of new regulations since the collapse of Rana Plaza in 2013 (Abnett, 2016; Baumann-Pauly, 2016). The problem of sweatshop labor is not isolated to developing nations. There is evidence that even 'made in the USA' clothing might be made in horrendous conditions at Forever 21 factories in Los Angeles (Manning, 2016), and that 'made in Britain' clothing is sometimes produced in Leicester sweatshops ("Did You Know Sweatshops Exist In The UK?," n.d.).

The persistence of sweatshops should not be a surprise to US consumers. Sweatshop conditions have been reported in popular media sources such as the Guardian, Reuters, Vogue, and Cosmopolitan—just to name a few. Furthermore, sweatshops were an American invention founded in New York City garment districts by preying on marginalized populations with no other employment prospects such as newly arriving immigrants, women, and children (Hapke, 2004; Levin, 2009). There also exists a common understanding the America's rise to global economic dominance was built on the scarred backs of enslaved cotton laborers. Reminders of this brutal history are omnipresent features of elementary classrooms, Confederate monuments, and contemporary activist rhetoric. People are mostly aware of systemic racism and unsafe working conditions within the global clothing industry but usually fail to recognize their personal

contributions to the global demand for products made by oppressed hands (Walker Naylor, Irwin, & Ehrich, 2013). A notable exception is Nike, a brand that has served as a target of scrutiny and boycotting for their use of low-cost global contracting starting in the early 1990's and in 2018 Nike continued to lose big contracts due to this negative perception and activist pressure—especially from student groups such as the United Students Against Sweatshops (Lowery, 2017b; USAS, n.d.). Despite the criticisms, in 2016 Nike still served as a paragon of consumer contradictions between their values and their behaviors because Nike had the highest annual revenue of all apparel companies, followed by Inditex (owner of Zara), LVMH, TJX (owner of TJ Maxx), and H&M (Strijbos, 2016).

Sustainability.

There are many imperfect terms, buzzwords, and metaphors used to describe 'sustainability' (Gladwin, Kennelly, & Krause, 1995; Hobbes, 2017), and "green consumption is a problematic concept, not least because it is an apparent oxymoron" (Peattie, 2010, p. 197). The language used to describe sustainable clothing design principles, production, and consumption practices are no exception (S. Kaiser, 2008). By 2018, terms used to described sustainability had become so convoluted that consumers had a hard time distinguishing between all the marketing claims—especially when it comes to their clothing (Gwozdz, Netter, Bjartmarz, & Reisch, 2013). This was perpetuated by early sustainable fashion influencers who simultaneously acknowledged the inherent contradiction of terms such as 'sustainable fashion consumption' and therefore opted to create their own definitions, but in doing so also perpetuated even more confusion among their followers (Bly, Gwozdz, & Reisch, 2015). Participants were asked to self-define sustainable consumption, and diverse definitions arose during the research process to account for the amorphic nature of emergent terms used to describe sustainability. For

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consistency of presentation, terms are defined more rigidly in this writing. Notably, the definition of 'sustainability' and 'sustainable clothing' used here combined environmental and ethical dimensions to reflect contemporary activist terminology and was appropriate because consumer assessments of such marketing claims also tend to cross these arbitrary boundaries as well (Rosenburg, 2015). Conflating two dimensions under the same term acknowledges the inevitable effects of environmental degradation on people. For example, people at the lowest end of the income gap may lack the financial resources to evacuate during floods, water contamination events, droughts, or when natural disasters are heading towards their homes. The same marginalized populations can also be found in unsafe working environments due to a lack of equitable employment opportunities—a problem that is not unique to clothing production (Klein, 2014; McKibben, 2012a, 2012b, Nyks, 2014, 2016). Further, extricating environmental and social constructs was not pertinent in this context because ProjectJUST.com had previously received independently commissioned study results which indicated the ethical dimension of sustainability was of greater concern to their user base (Personal Communication, 2016).

Sustainable clothing consumption.

The definition of sustainable clothing consumption used in this study borrows from Connell (2010) who cited Winakor (1969). Sustainable clothing consumption encompasses "… behaviors of acquisition, storage, use, maintenance, and discard that are environmentally preferable to mainstream apparel consumption because of the intent of engaging the behaviors is to create less waste and/or consume fewer resources" (Hiller Connell, 2010, p. 279). Accordingly, this definition also encompasses behaviors such as acquiring garments that are versatile, durable, second-hand or made from environmentally preferred materials such as organic cotton, recycled polyester, or Tencel.

Sustainable consumption.

For the purposes of this study, sustainable consumption refers to "... the tendency to express the value of environmental protection through one's purchases and consumption behaviors" (Haws, Winterich, & Naylor, 2014, p. 336). Sustainable products can include those in recycled packaging, local food, second-hand items, and products bearing a fair-trade or organic certification (Peattie, 2010). In contrast with some marketing and economics scholarship, the definition used here includes post-purchase behaviors such as recycling as well as "… the willingness to reduce some aspects of consumption, to engage in some goods-to-services substitutions, [and] to reduce the material and energy intensity of some consumption behaviors" (Peattie, 2010, p. 199). Sustainable consumption indicates a general awareness of environmental and social issues and refers to behaviors in which the actor assumes personal responsibility for their contribution to the issues perceived (Hustvedt & Dickson, 2009).

Green consumers.

Consumer psychologists explain that "… consumers with stronger green consumption values (i.e., "green" consumers) are generally oriented toward protecting resources at both the environmental and personal level" (Haws et al., 2014, p. 337). At the turn of the Millennium, marketing intelligence sources "... detected the first stirrings of a new constituency in the marketplace: Prius-driving, solar panel-installing, Sierra Club-donating, look-at-me environmentalists" (Pink, 2006). Many sustainable products are more expensive than their conventionally made counterparts. Hence, green consumers tend to be relatively affluent and are sometimes characterized as 'conspicuous conservationists' that are "… peacocking individual virtue and persuading fellow citizens to change their ways" (Pink, 2006). While some studies have found little consensus on the unifying demographics of green consumers (Peattie, 2001), or

the unifying demographics of people who intend to buy sustainable clothing (Gwozdz et al., 2013), others have noted that people who respond to surveys about sustainable clothing tend to be highly educated and have relatively high incomes (Dickson, 2000).

In 2018 sustainability criteria were still 'becoming' more important to most consumers segments in non-clothing consumption decisions. The disappointing hunt for green consumers was still ongoing across all product categories because there are contradictions between reported sustainability values and clothing purchase behaviors. There is agreement that consumers generally think that buying sustainable clothing is important, but more expensive (Rosenburg, 2015; "Women's clothing - US: Attitudes toward clothes shopping," 2017). Many consumers are well educated about sustainability issues , and roughly 55% of the global population report being willing to pay a small premium for environmentally friendly or fairly traded products in general (Nielsen, 2014; Rosenburg, 2015). In contrast, most consumers were seeking inexpensive clothing or deep discounts in 2018 (Cline, 2013; "Women's clothing - US: Attitudes toward clothes shopping," 2017). Optimistically, some academics and market analysts suggest that these market trends are changing (Amed, Berg, Brantberg, & Hedrich, 2016; Barrie & Ayling, 2010; Davies, 2015), but there is a long history of research on this 'emergent' market, and their preference for sustainable products has not been realized in their clothing purchases (Boulstridge & Carrigan, 2000; Carrigan, 2017; Carrigan & Attalla, 2001; Michal J. Carrington et al., 2010; Peattie, 2001; Wiederhold & Martinez, 2018). Research done before the turn of the Millennium explained that "... the connection between clothing and environmental awareness is less universal than that between other consumer products and the environment" (S. M. Butler & Francis, 1997, p. 77). Studies have long suggested that a linear relationship might exist between consumer knowledge about sustainable clothing and consumption behaviors (a long list of citations is

provided below) and activists have heeded the call in trying to educate the public by forming a breadth of consumer resources ("Clean Clothes Campaign," n.d.; "Fashion Revolution," n.d; "Detox Catwalk," 2013; "Labour Behind the Label," n.d.; "ProjectJUST," 2017; Good on You, 2017; USAS, n.d.). According to a poll of 30,000 consumers in 60 countries for The Nielsen Global Survey on Corporate Social Responsibility, "the propensity to buy socially responsible brands is strongest in Asia-Pacific (64%), Latin America (63%) and the Middle East/Africa (63%). The numbers for North America and Europe are 42 and 40 percent, respectively" (Nielsen, 2014, para. 1).

Not all green consumers share the same commitment to sustainability, and this market is often described in shades of green from light to dark based on their commitment to sustainability principles with their purchase behaviors ("LOHAS," 2010; Peattie, 2001). There are some hurdles in studying green consumer purchase behavior because "many of the most significant contributions that consumers can make towards environmental quality come in product use, maintenance and disposal, or in delaying or avoiding making a purchase through a 'make do and mend' mentality" (Peattie, 2001). This study attempted to overcome this challenge by asking about disposal and care of products and asking participants to self-define terms such as 'sustainable products' and 'sustainable clothing' during qualitative data collection.

The attitude-behavior gap.

Throughout the first twenty-years of sustainable clothing consumption research, academics have widely agreed that people do not consider sustainability when they buy clothing, yet are aware and concerned about sustainability generally; this has been called the attitude-behavior gap (S. M. Butler & Francis, 1997; Carrigan, 2017; Carrigan & Attalla, 2001; Gwozdz et al., 2013; Hiller Connell, 2010; Kim & Damhorst, 1998; Peattie, 2001; Wiederhold &

Martinez, 2018). At the turn of the millennium, Carrigan and Attalla (2001) elegantly described

'the myth of the ethical consumer' when they discovered a gap between ethical beliefs and

clothing purchase behavior; this supports Butler and Francis' prior findings:

> Contrary to general environmental attitudes, consumers were more neutral about their
>
> attitudes about the environment where clothing is concerned... although consumers
>
> indicated their general concern for the environment, [and they] believed that we should
>
> work to improve environmental conditions, and thought that people should take
>
> environmental issues into account when purchasing clothing, they themselves did not
>
> report doing so. (1997, p. 80)

Nothing changed in the twenty years that followed. In revisiting her earlier work on ethical

consumption, Carrigan writes: "consumer cynicism remains strong, selective ethics still operate,

and we need more ethical consumer spillover across product categories" (2017, p. 16). Table 1.1

employs a common categorization of 'internal' and 'external' barriers to present a meta-analysis

of prior studies on the barriers to sustainable clothing consumption (Hiller Connell, 2010;

Wiederhold & Martinez, 2018). Barriers to sustainable clothing consumption are categorized

here for clarity of presentation, but in reality, these factors overlap and interact in complex ways.

Table 1.1

Meta-Analysis of Studies on Sustainable Clothing Consumption Barriers

Barriers to sustainable clothing consumption	Sources
Internal Barriers	
Lacking consumer knowledge. People lack, or think that they lack, knowledge about sustainable clothing, such as where to find it, how to know that it is sustainable, or how to maintain and dispose of clothing in a sustainable way. Therefore, clothing purchase decisions are usually made without	(Adams, 2012; Bly et al., 2015; Dickson, 2000, 2001; Ehrich & Irwin, 2005; Gwozdz et al., 2013; Hiller Connell, 2010; Manchiraju, Fiore, & Russell, 2012; "SAC," 2015; Weiss, Trevenen, & White, 2014; Wiederhold

Barriers to sustainable clothing consumption	Sources
consideration for sustainability. Suggestions for how to make consumer knowledge more accessible, apparent, and convenient have focused around the need for industry-wide logos that connote sustainable clothing standards have been met, but there is evidence that people will not use these labels when they are available. Studies of sustainable clothing consumption, since the subject started gaining attention in the mid-1990's, have almost always concluded that consumer knowledge or wide-scale educational campaigns are needed to create demand for sustainable clothing.	& Martinez, 2018; Zane, Irwin, & Reczek, 2015)
Emotion and willful ignorance. Consumer knowledge alone does not influence sustainable clothing consumption behaviors. Pro-environmental attitudes, social norms, strong emotions, and beliefs also play a role. For example, people know about sweatshops and environmental degradation but use coping mechanisms such as willful ignorance when they are shopping for clothing. In short, unless they have strong emotions about or experience with the behavior, people will not care (or know to care) about sustainable clothing issues.	(Bamberg, 2003; Ehrich & Irwin, 2005; Nordlund & Garvill, 2002; Pooley & O'Connor, 2000; Romani, Grappi, & Dalli, 2012; Walker Naylor et al., 2013; Zane et al., 2015)
Selectively sustainable. Sustainability attitudes do not consistently predict behaviors equally in all contexts. Instead, complex factors converge across contexts in a variety of ways.	(Bamberg, 2003; Nordlund & Garvill, 2002)
The primacy of subjective attributes. Evaluations of clothing usually concern subjective attributes such as garment fit, style, comfort, and price; these take priority over sustainability attributes. Subjective attributes often influence brand loyalty because people prefer to shop in clothing stores they know suit their style, and where they have been able to find a good fit for their body, especially since the sizing system and shape of clothing can vary significantly across brands.	(Ashdown & Loker, 2010; S. M. Butler & Francis, 1997; Dickson, 2000; Gwozdz et al., 2013; Hiller Connell, 2010; "LIM College Study Reveals That When it Comes to Buying, Millennials Are Not Eco-Fashionistas," 2018; Wiederhold & Martinez, 2018)
Unfashionable. Attitudes towards sustainable clothing are usually not favorable. This product category is generally perceived as dowdy,	(Hiller Connell, 2010; Pink, 2006; Wiederhold & Martinez, 2018; Zane et al., 2015)

Barriers to sustainable clothing consumption	Sources
unfashionable, and meant for 'hippies' who are typically denigrated in the fashion context.	

External Barriers

Barriers to sustainable clothing consumption	Sources
Limited availability. Sustainable clothing that meets subjective consumer needs is not widely available. There are limited sources for purchasing products that meet subjective needs. For example, consumers seeking high-quality clothing are sometimes thwarted by the flood of low-quality clothing in second-hand markets. Some garments are easy to find in second-hand stores (t-shirts), while others are elusive (business wear and shoes).	(Bly et al., 2015; Cline, 2013; Gwozdz et al., 2013; Hiller Connell, 2010; Kim & Damhorst, 1998; "LIM College Study Reveals That When it Comes to Buying, Millennials Are Not Eco-Fashionistas," 2018; Wiederhold & Martinez, 2018)
Locus of control. Protection of the environment and workers' rights are conceived as being the responsibility of corporations and governments who are persuaded by abstract notions of 'demand' from a motivated mass of consumers. Further, consumers also have a tendency to externalize the locus of control by placing the responsibility of demanding sustainable clothing on some group of people who can afford it—but not themselves because they are on a tight budget. Some people are also skeptical about the truth of sustainability claims, reducing their perception of control over corporate social or environmental responsibility.	(Gwozdz et al., 2013; Peattie, 2010; Weiss et al., 2014; Wiederhold & Martinez, 2018)
Social pressure. Many people feel societal pressure to conform to societal expectations of acceptable appearance, and to consume more clothing. Their clothing purchase behaviors are sensitive to shifts in trends and norms, making consumption reduction an uncomfortable proposition. Also, sustainable clothing is perceived as unfashionable, making sustainability an unattractive shopping criterion.	(Bly et al., 2015; Fletcher, 2008; Hiller Connell, 2010; Pink, 2006; Zane et al., 2015)
Price. Sustainable clothing is perceived as excessively expensive, and contemporary consumers usually trust the lowest price as being the most 'fair' given the similarity and low cost of so many garments available to them.	(Amed et al., 2016; Carrigan & Attalla, 2001; Cline, 2013; Hiller Connell, 2010; "LIM College Study Reveals That When it Comes to Buying, Millennials Are Not Eco-Fashionistas," 2018, "Women's

Barriers to sustainable clothing consumption	Sources
	clothing - US: Attitudes toward clothes shopping," 2017; Wiederhold & Martinez, 2018)

The higher relative cost of sustainable clothing is usually the first barrier people describe to acquiring it; this is echoed by academic scholarship. While higher prices deter some consumers, this perspective lacks nuance. For example, the luxury apparel and footwear markets harness exclusivity, and aspirational value from their high-dollar price tags and this market is stable despite fast fashion's explosive growth. Sustainable clothing is similarly perceived as a premium product, and green consumers are willing to pay premium prices for local or organic food, body, and baby products, as well as hybrid cars, but not on clothing. For example, the sales of premium natural and organic food had risen by 32% between 2010 and 2015, and is expected to grow by 70% between 2016 and 2021 (Halliday, 2016). Within many product categories, such as cars or food, green consumers often hold the view that "… conventional products are unrealistically cheap since they are effectively subsidized by the environment" (Peattie, 2001). This view does not hold for clothing where the lowest price is viewed as being the fairest or affordable (Cline, 2013). Perceptions about clothing prices have reduced the amount people are willing to pay, but in fact, clothing prices have already dropped dramatically compared to the early 1990's. While most salaries have kept pace with inflation rates in developed countries, "… the real inflation-adjusted cost of apparel for Americans has fallen by about 41%. In other words, clothing that would have cost $100 in 1993 would today cost only $59.10 in constant dollars" (Perry, 2013, para. 1). Thus, the relative price of clothing compared to incomes has receded, making higher quality clothing more accessible than ever, yet consumers have been conditioned to be unwilling to pay the fair price. Finally, the notion of cost-per-wear has proliferated. This

proposition is founded on a mathematical equation that estimates how long an inexpensive

garment will be worn compared to a garment of higher quality and expense. Usually, the math

reinforces the adage 'I'm too poor to buy cheap clothes.' Scholarship often agrees that perceived

barriers need to be reduced, usually by educating consumers on a massive scale, to promote

sustainable clothing consumption behaviors. This research tries to acknowledge and push past

the previously identified price barrier by contributing a new perspective: consumers, especially

Millennials, are willing to pay more when they understand how their dollars contribute to global

sustainability problems. Clothing has not been as successful as food and hybrid cars have in

drawing this direct connection.

  Millennials.

  Millennials want to change the world and believe that their preference for sustainable

products will convince business and government to change their manufacturing practices (Cone

Communications, 2017; Gwozdz et al., 2013). In keeping with this ethos, Millennials are more

responsive to sustainability actions and are more likely to check product packages for

sustainability labeling (Nielsen, 2014; "Who Are Millennials," 2016). In the USA, 87% of

Millennials report increased motivation to purchase products from a brand that supports a cause

they value, and 76% expect companies to support efforts that slow climate change (Cone

Communications, 2017). Accordingly, "76% [of US Millennials] will refuse to purchase a

company's products or services upon learning it supported an issue contrary to their beliefs"

(Cone Communications, 2017, paras. 3–5).

  Millennials also seek cost savings. Sometimes conservation of finances complements

their penchant for environmental conservation, for example, 60% of Millennials report being

motivated to practice sustainable behaviors such as reducing, recycling, and reusing because it

saves them money (Haws et al., 2014; Rosenburg, 2015). Sometimes conservation of finances competes with their penchant for environmental conservation, for example although Millennials report being willing to make buying decisions based on the environmental characteristics of their clothing, they are unwilling to pay much more than they would for similar garments from competing brands, and they will not compromise on their rapidly evolving aesthetic preferences ("LIM College Study Reveals That When it Comes to Buying, Millennials Are Not Eco-Fashionistas," 2018; L. R. Morgan & Birtwistle, 2009; Rudell, 2006; Weiss et al., 2014).

Millennials have massive buying power, making them uniquely able to pressure clothing brands to improve their supply chain practices. The Millennial generation is formed by 80 million people in the USA and comprises 25% of the population (Fromm & Garton, 2013). There are varying age delimitations across marketing intelligence and academic literature. Using Fromm and Garton's definition, this study defines Millennials as people born between 1977 and 1995 (2013). USA Millennials' collective buying power was estimated at $200 billion USD annually in 2013, and they had yet to enter their peak spending years (Fromm & Garton, 2013).

Consumer knowledge.

This research starts with the premise that many consumers with green attitudes know about clothing waste and sweatshops but choose to be willfully ignorant of the connection to their own low-price clothing shopping behaviors (Walker Naylor et al., 2013). Conservation behaviors are complex, and "the potential disconnect between the motivations for and environmental impacts of green consumption behaviors is considerable, but the research literature rarely recognizes this" (Peattie, 2010, p. 198). Pooley and O'Connor (2000) made a meaningful contribution when they noted that emotions (affective) are more effective than knowledge (cognitive) aspects in influencing people to consume sustainable products. Thus,

consumer knowledge is not enough. Indeed, there is a breadth of channels to gain consumer

knowledge about sustainable clothing. Brands disseminate knowledge about their products, often

at the point of sale, online, or in their brick-and-mortar stores. Activist organizations such as

Greenpeace, Fashion Revolution, and the United Students Against Sweatshops provide

sustainable clothing knowledge in the form of reports, public demonstrations, petitions,

brochures, and online using social media or organization websites. These have achieved minimal

success in reaching a wide audience, for example, Fashion Revolution's social media campaign

trended once on Twitter in 2014, but has not trended since. Scholarly publications also abound

on the subject of sustainable fashion, but these are notoriously inaccessible to those outside

academia who may not have a reading level that matches the writing or may lack access to costly

academic databases, or know that these publications exist. The film The True Cost had been

available on the popular TV and movie streaming service Netflix for two years by 2018. This

film seems to have had remarkable success in raising awareness about sustainable clothing, yet

the effect on the clothing industry has been minimal (at best), as demonstrated by fast fashion

continued to dominance in annual clothing purchases. There is limited evidence that the forms of

consumer knowledge disseminated have had any effect on clothes shopping behavior. Fashion

trends have proven more successful at encouraging sustainable clothing consumption—for

example the popularity of one-of-a-kind vintage and retro second-hand fashion throughout the

2010's.

Technology plays a leading role in Millennial purchase behavior, and they are influenced

by a greater variety of sources than previous generations because they seek out product

information online from a multitude of websites and influencers (Fromm & Garton, 2013;

Kozinets, 2002; Swartz, 2016; "Who Are Millennials," 2016). This consumer segment is also

highly interested in sharing online (46% regularly share photos or videos they created online) and they have a broader reach than ever before (46% of Millennials report having more than 200 Facebook friends, compared to only 19% of non-Millennials) ("Who Are Millennials," 2016). User-generated content is also high-influential in their purchases (84% report that user-generated content on a company's website has influenced their buying decisions, compared with 34% of Baby Boomers), and some larger purchase decisions are not made at all without first consulting user-generated content such as reviews or social media (Swartz, 2016).

Evidence of increased consumer knowledge about sustainable clothing among fashion undergraduates has been discovered, yet most fashion undergrads report not buying sustainable clothing because it does not meet their subjective needs such as style, color, price, and fit (Hiller Connell & Kozar, 2012). Online communities also play a role in educating people already interested in sustainable clothing consumption. In their study of online communities, Cervellon and Wenerfelt (2012) noted:

> Discussion topics provide evidence that in 2010-2011, [a] community member [was] better informed than in 2007-2008. Consumers frequently discuss issues linked with the supply chain and the industrial consequences of fashion consumption… Knowledge content matures and becomes more objective and procedural. (p. 188)

Knowledge dissemination through online communities requires active participation in the community, however—an activity that is only popular with those who feel a personal responsibility for promoting sustainable clothing consumption before logging in (Cervellon & Wernerfelt, 2012).

ProjectJUST.com.

The goal of co-founders Natalie Grillon and Rhea Rakshit when they launched ProjectJUST.com in April 2016 was to influence people to consume sustainable clothing by increasing their consumer knowledge. The ultimate mission of the co-founders was to create enough consumer pressure to force clothing brands to improve working conditions and reduce their environmental impacts. This online consumer knowledge platform echoed a fashion magazine format by including independently developed investigative reports, special features, a seal of approval, and shopping guides. The website's most popular feature was a searchable database (known as the 'brand wiki') that profiled more than 170 popular clothing brands based on 8 metrics: (1) size and business model, (2) transparency, (3) labor conditions, (4) environment, (5) intention, (6) community, (7) management, and (8) innovation. Under each heading, users would find rich paragraphs of information that had been compiled by an in-house research team who combined information found online with their own investigations such as interviews with brand representatives. The brand wiki was valuable because it included pages for popular brands alongside sustainable brands making it a comprehensive, searchable, fashion-forward overview of the brands that mattered most to their users. Some screenshot examples from the H&M brand wiki page are shown in Appendix A.

ProjectJUST.com's largest audience was international female Millennials at the beginning of the research period in 2016, and therefore Millennials were the subjects selected for surveys and interviews in this dissertation study. Once the research was underway, the user demographics of the website shifted unexpectedly and Centennials (younger than 22 at the beginning of the study period) came to comprise a larger proportion of the site's users. User demographics are presented in Figure 1. Most users were new to the site (77.1%) based on their

internet provider address (IP) and viewed an average of 2.14 pages per session. On average,

returning users tended to view more pages (2.40) compared with new users (2.14), and spent

more time surfing the site (2 minutes and 43 seconds compared to 1 minute and 48 seconds).

Women also spent more time using the site (2 minutes and 5 seconds) compared to men (1

minutes and 42 seconds) and viewed more pages per session (2.20) compared to men (1.89), on

average. The brand wiki was the most used component of the website—25% of all sessions

surfed here for their second page view after landing on the website, and the top three brand wiki

pageviews belonged to Zara (38,744), H&M (30,574), and Primark (17,667).
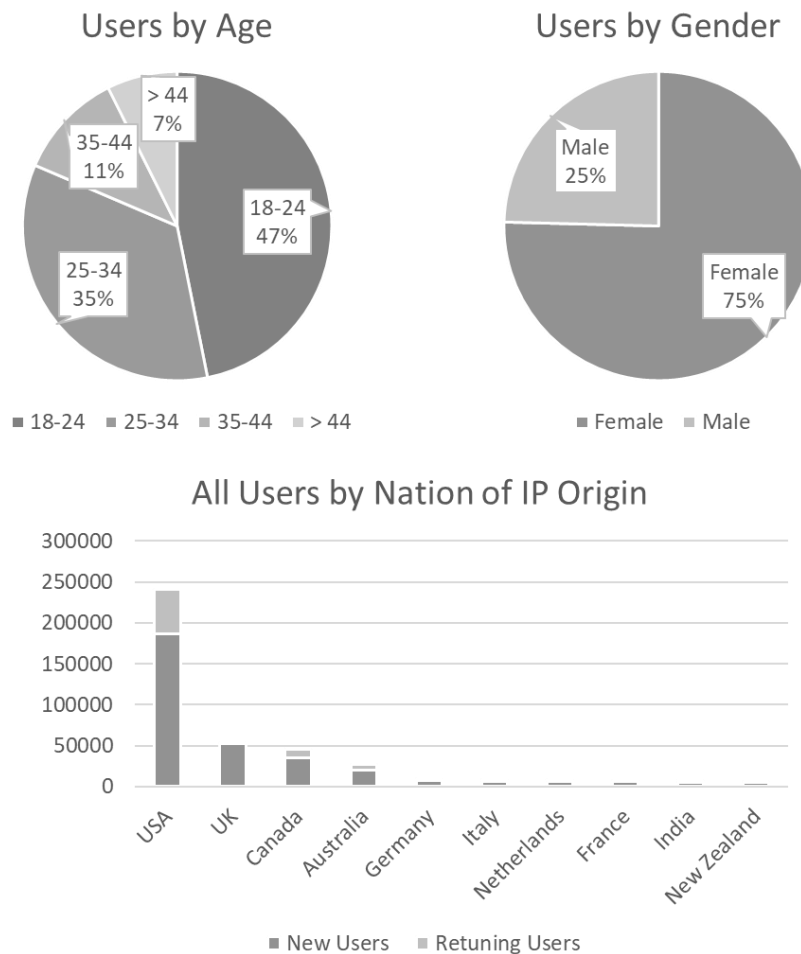
Figure 1.1. ProjectJUST.com user demographics. All data are derived from the total number of user sessions (559,387) and was supplied by Google Analytics.

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ProjectJUST.com was selected to operationalize online sustainable clothing consumer knowledge in this research for several reasons. First, the founders wanted to measure the effects of their website on consumer behavior and were seeking someone to help when they contacted the researchers through Cornell University networks in 2016. Second, they were comfortable sharing proprietary information which made a thorough analysis possible. Third, ProjectJUST.com was a comprehensive website with a great variety and breadth of content capable of appealing to a broad audience. Other consumer knowledge platforms in 2016 focused more exclusively on exposing environmental injustices committed by offending brands ("Detox Catwalk," 2015), encouraging boycotting of brands suspected of using sweatshop labor (USAS, n.d.), and/or social media engagement aimed at increasing awareness of sweatshops ("Fashion Revolution," n.d). Similar to the smart-phone-app Good on You (which was not available in the USA at the beginning of the study period), ProjectJUST.com often conflated ethical and environmental issues related to sustainable clothing and encouraged users to look up the brands they already shopped at to learn more about where their clothing comes from. Importantly, ProjectJUST.com was appealing because of the message framing positive, fun, casual message framing. According to Van de Velde and Verbeke (2010), the presentation of solutions and possibilities to overcome environmental problems should be stressed because of their effects on perceived consumer effectiveness and concern—not the disadvantages or gravity of these problems. The differential effects of these message frames were less important for men, people between the ages of 35 and 54, those with higher education levels, and people with the pro-environmental attitudes. Differential effects were more significant between message frames for women, people older than 55 and younger than 35, the lower educated, and less environmentally concerned were more affected by the message frame. These findings might suggest that

ProjectJUST.com could be a powerful tool in influencing sustainable clothing consumption because it offered solutions via shopping guides, the seal of approval, and presentation of alternatives to consumption such as superior care and maintenance of clothing.

ProjectJUST.com went offline in December 2017 after struggling to find a stable economic model; all data collection was completed before the website went offline. This research is therefore unique because a complete set of Google Analytics user data (559,387 sessions; 1,135,028 total page views) were assessed. This opened the possibility for identifying the most important user features during the entire website's history, and it can provide managerial implications that include a constructive critique without tarnishing public perception of the website.

Research Questions and Hypotheses

This mixed-methods dissertation research is presented as three separate studies in chapters 2, 3, and 4. The hypotheses and research questions addressed, as well as the rationale for each, is presented in the appropriate study's context in the chapters that follow.

Methods

Each of the three studies presented in this dissertation employed distinct methods of analysis, and each used different theoretical frameworks. To avoid repetition, chapters 2, 3, and 4 will detail each theory and method, within their appropriate study context. An exemption was granted for this research by the Institutional Review Board for Human Participants at Cornell University on September 21, 2016, as shown in Appendix B.

Pilot testing for all instruments.

Pilot testing of the instruments used in this research occurred in two phases. The first phase began in October 2016 when 85 quantitative responses were collected from

ProjectJUST.com. Quantitative pilot data were used to refine survey instruments and assess data

analysis methods ($n = 85$), as well as develop the interview questions used in qualitative data

collection. In the second phase of pilot testing, qualitative interview schedules were tested and

refined during three semi-structured focus group interviews with 3-5 participants each ($n = 11$)

conducted at Cornell University and recorded with Zoom in December 2016. Probes were used

throughout the focus groups to ensure comprehensibility of survey items and interview

questions.

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CHAPTER 2

"BUYING SUSTAINABLE CLOTHING HELPS ME EXPRESS WHO I AM": THE EFFICACY OF CHANGING MILLENNIAL'S SUSTAINABLE CLOTHING PURCHASE INTENTION WITH ONLINE CONSUMER KNOWLEDGE

Abstract

Among sustainable clothing scholarship and activism there is broad, but untested consensus that increasing consumer knowledge about sustainable clothing will promote sustainable clothing consumption. The purpose of this survey study was to assess the effect of online sustainable clothing consumer knowledge, operationally defined by ProjectJUST.com, on self-reported Millennial purchase behavior. To this end, an online quantitative survey was developed using the expanded theory of planned behavior (Kang, Liu, & Kim, 2013). Identical surveys were distributed to two groups of international Millennials. The first group was collected using a banner appearing on ProjectJUST.com (the PJ group, $n = 700$) and the second was collected using Amazon Turk (the MT group, $n = 685$). During statistical analyses, a seven-factor structural equation model (SEM) demonstrated an adequate fit across groups, and so groups were then compared via means analysis and confidence interval assessment between groups. Results contested prior scholarship when across groups and between groups analyses both suggested that perceived personal relevance had the strongest effect on intention to buy sustainable clothing. Further, means comparison suggested that perceived personal relevance was also the second most salient difference between groups, after behavioral intention. This study contributes the people who sought online consumer knowledge on ProjectJUST.com already intended to buy sustainable clothing when they landed on the webpage. The implication is that online consumer knowledge platforms may not be changing the behavior of their users, but

rather serving as a shopping guide to people who already want to buy sustainable clothing because it helps them express who they are.

Introduction

Sustainable clothing researchers usually agree that consumer knowledge has a positive effect on intention to purchase sustainable clothing. Activist organizing has responded to this consensus in the hopes that increased demand for sustainable clothing will pressure the fashion industry to improve their supply chain practices. In contrast and in contradiction, early research on the subject by Kim and Damhorst (1998) suggested that knowledge of sustainable clothing had a weak relationship with purchase intention, and a strong link was suggested between green attitudes and purchase intention. The same study contradictorily recommended increasing consumer knowledge to promote purchase intention in its concluding paragraphs. Many people who read such conclusions have accepted them without sufficient supporting evidence, and vast amounts of human resources have gone into spreading consumer knowledge since the turn of the Millennium. Top scholars in the field continue to publish otherwise well-crafted journals articles with similar conclusion sections that could be persuading activists to continue their quest. The harmony is not necessarily misleading, but the claims that consumer knowledge will influence people to purchase sustainable clothing have not been sufficiently tested.

Purpose.

The purpose of this survey study was to assess the effect of online sustainable clothing consumer knowledge, operationally defined by ProjectJUST.com, on self-reported Millennial purchase behavior. To this end, responses to a survey about intentions to purchase sustainable clothing between Millennials who have sought consumer knowledge online (ProjectJUST.com users) were compared to responses from Millennials who have not. An online quantitative survey

was developed using the expanded theory of planned behavior by adapting Kang et al.'s (2013) environmentally-friendly clothing purchase intention questionnaire. The survey was then distributed to two groups of Millennials (ProjectJUST.com users and non-users). During statistical analyses, a structural equation model (SEM) was tested for its fit across groups and groups were then compared using Dimitrov's (2006) methods.

Review of Literature and Theoretical Framework

Kaiser, Hubner, and Bogner (2005) explain that despite a heterogeneous history of research, most of the literature on sustainability attitudes and behaviors can be split by two dominating frameworks: the value-belief-norm theory (Stern, 2000), and the theory of planned behavior (TPB) (Ajzen, 1991). In comparing the two frameworks in the clothing context, results from Kaiser et al. suggested that the TBP model can "... account for 76% of people's intentions, which in turn explain a stunning 95% of the variance in conservation behavior," while the VBN only explained 21% of people's intentions, and 64% of their conservation behaviors (2005, p. 2165). As such, the TPB has been employed widely in studies of intention to purchase sustainable clothing (Halepete, Littrell, & Park, 2009; Hustvedt & Dickson, 2009; Kang et al., 2013; Manchiraju et al., 2012) and was selected as a suitable framework for this assessment of online consumer knowledge platform efficacy. The TPB framework is appropriate in this context because rather than assuming a direct linear relationship between reasoning and behavior, it can also account for both motivational and non-motivational factors which have played a variety of roles across studies (Ajzen, 1991). In this study's context, motivational and non-motivational factors can include but are not limited to: subjective socioeconomic status, time allotment for shopping, proximity to shopping centers, the need for specialized products with limited availability (such as plus-sized clothing), prior knowledge, attitudes, and/or experience.

In their study of intention to purchase organic cotton apparel among university students in the USA, South Korea, and China, researchers Kang, Liu, and Kim (2013) adapted and expanded this theory by including three constructs with indirect effects on behavioral intention: consumer knowledge, perceived consumer effectiveness, and perceived personal relevance. According to Dimitrov, (2006), a well-fitting model is indicated by comparative fit index (CFI) > 0.90, standardized root mean residual (SRMR) < 0.08, and root mean square error of approximation (RMSEA) < 0.06. The expanded TBP exhibited an excellent fit: chi square (χ^2) = 1036.49; p-value (p) = 0.00; goodness of fit index (GFI) = 0.90; (CFI) = 0.95; and (RMSEA) = 0.05. Significant direct effects were found between sustainable clothing purchase intention (the dependent variable for this study) and endogenous variables: subjective norm (r = 0.43, $p < 0.01$) and attitude (r = 0.50, $p < 0.01$). Indirect effects from endogenous variables were also suggested in Kang et al.'s expanded TPB: consumer knowledge (r = -0.04, $p < 0.05$), perceived consumer effectiveness (r = 0.21 $p < 0.01$), and perceived personal relevance (r = 0.40, $p < 0.01$). Consumer knowledge was mediated by subjective norm (r = -0.10, $p < 0.05$) and behavioral control (r = 0.31, $p < 0.01$). Perceived consumer effectiveness was mediated by attitude (r = 0.42, $p = < 0.01$) and behavioral control (r = -0.12, $p < 0.05$). Perceived personal relevance was mediated by subjective norm (r = 0.54; $p < 0.01$), attitude (r = 0.35, $p = < 0.01$), and behavioral control (r = 0.10, $p < 0.01$). Kang et. al.'s questionnaire was adapted in this study of sustainable clothing purchase intention because of its relative explanatory power, excellent fit, and instances of prior use in the literature. Two groups of responses were compared using methods proposed by Dimitrov (2006). Dimitrov's contribution suggested that SEM is useful in examining the differences between groups on latent variables, such as those identified by Kang et. al.

Drawing from Schreiber, Nora, Stage, Barlow, and King's review of SEM reporting (2006), variables are classified and described in this study as "... *exogenous*, similar to independent variables and *endogenous*, similar to dependent or outcome variables" (Schreiber et al., 2006, p. 325). In this study, Ajzen's TPB factors serve as observed outcome variables (intention to buy sustainable clothing) and endogenous variables (subjective norm, attitudes, and behavioral control). Kang et al.'s expanded TPB factors serve as exogenous variables (consumer knowledge, perceived consumer effectiveness, and perceived personal relevance). Variables are described below:

Observed outcome variable.

Behavioral Intention. Behavioral intention is an observed outcome variable in this study and is defined as the intention to buy sustainable clothing. In a review of empirical findings that employed the TPB, Ajzen notes that in most circumstances "… the stronger the intention to engage in a behavior, the more likely should be its performance…" (1991, pp. 181–182).

Endogenous variables.

Behavior Control. Behavioral control is an observed endogenous variable in this study which refers to "… the resources and opportunities available to a person" that allow them to perform a specific behavior given their subjective circumstances and context. "The more resources and opportunities individuals believe they possess, and the fewer obstacles or impediments they anticipate, the greater should be their perceived control over the behavior" (Ajzen, 1991, p. 196). Behavioral control fluctuates among situations and actions, in the case of fashion-conscious consumers, behavioral control can be inhibited by competing objectives such as aesthetic expression (S. M. Butler & Francis, 1997; Hiller Connell, 2010; Kim & Damhorst, 1998).

Subjective Norm. Subjective norm is an observed endogenous variable in this study. Subjective norm refers to social pressure in this study's context that measures a person's belief about whether their friends and family endorse, promote, and/or engage in sustainable clothing purchase behaviors (Ajzen, 1991).

Attitude. Attitude serves as an observed endogenous variable in this study. Attitude entails consideration for the outcomes of the behavior and is defined as "… the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991, p. 188). The strength of attitude's effect on behavioral intention is highly dependent on their congruence (Ajzen & Fishbein, 1977).

Exogenous variables.

Consumer knowledge. Consumer knowledge is an observed exogenous variable in this study and refers to how familiar an individual is with sustainable clothing specifically—rather than general environmental or fashion knowledge (Kang et al., 2013).

Perceived consumer effectiveness. Perceived consumer effectiveness is an observed exogenous variable in this study that measures how much of an impact an individual feels their sustainable clothing purchase can make. In a comprehensive overview of sustainable consumption literature Peattie (2010) explains that perception of efficacy can influence effort, preparation, thoughts, emotional responses and choices of behaviors. "… Even among consumers willing to pay a premium for greener products, they may remain unconvinced about the importance of their contribution and will still tend to expect a legislative response from public authorities" (p. 208). Even though it was found not to be a significant factor in their own expanded model, Kang et al. (2013) cite Roberts (1996) to explain that the perceived efficacy of

the behavior is still "... one of the most salient factors in explaining environmentally conscious consumer behavior..." (Kang et al., 2013, p. 444).

Perceived personal relevance. Perceived personal relevance is an observed exogenous variable in this study that measured how important a person feels their purchase of sustainable clothing is for expressing their values as a consumer. Perceived personal relevance measures identity constructs such as values, lifestyle, self-image, and how people want to be viewed by others (Kang et al., 2013). The strength of perceived personal relevance's effect on behavioral intention depends on how relevant a person believes that a certain issue is relevant to themselves. People who value and exhibit some sustainable behaviors such recycling and buying organic food ought to extend these practices to other areas of consumption, but this is not always true of clothing purchase, as detailed in chapter 1.

Hypotheses

The purpose of this survey study was to compare responses to a survey about intentions to purchase sustainable clothing between Millennials who have sought consumer knowledge online, and Millennials who have not. Online sustainable clothing consumer knowledge was operationally defined by ProjectJUST.com. First, vetted survey items were adapted from Kang et al.'s seven-factor SEM which accounted for 73.46% of the total variance, and "… exhibited an excellent fit ($x^2_{(d.f.=350)}$ = 997.72, p = 0.00; goodness-of-fit-index [GFI] = 0.91; comparative fit index [CFI] = 0.95; non-normed fit index [NNFI) = 0.93; root mean square error of approximation [RMSEA] = 0.05)" (2013, p. 447). The hypothesized model appears in full at the end of this section in Figure 2.1. Given the excellent fit of this SEM, it was expected that:

H1: The seven-factor expanded theory of planned behavior will demonstrate an excellent fit across groups.

SEM analysis in Kang et al.'s (2013) study suggested that consumer knowledge, perceived consumer effectiveness, and perceived personal relevance served as exogenous variables that had an indirect positive effect on behavioral intention. It was considered worthwhile to understand what factors have the strongest effect in predicting sustainable clothing purchase intention so that future activist endeavors or online consumer knowledge platforms can maximize their efficacy. The following was also expected to be true in this study due to the consensus among literature about the positive effect of consumer knowledge on intention to purchase sustainable clothing:

H2: Consumer knowledge (a), perceived consumer effectiveness (b), and perceived personal relevance (c) will have indirectly positive effects on intention to purchase sustainable clothing across groups but will have no direct effects.

It was also expected that the ProjectJUST.com users would feel more knowledgeable about sustainable clothing because they seek consumer knowledge, and it was expected that they would, in turn, report stronger behavioral intention. The ProjectJUST.com group was expected to report higher means on consumer knowledge and behavioral intention, but effects between factors were expected to be similar between groups. Effects were expected to be similar because Kang et al.'s (2013) seven-factor theoretical framework was empirically tested and exhibited an excellent fit, and social desirability bias was expected to skew both group's results equally (Crowne & Marlowe, 1960). This prompted the following hypothesis:

H3: Intention to purchase sustainable clothing will be (a) predicted by the same factors between groups, and (b) the effects between factors will be equal between groups.

Since the effects between variables were expected to be the same between groups, it was expected that groups could be compared to confirm H3. If the effects between variables were not equal, it was considered worthwhile to understand what differences exist between groups so that future activist or consumer knowledge endeavors can find the right message for the right audience. In comparing the regression coefficients between factors, the following relationships were expected across both groups based on Kang et al.'s (2013) findings:

H4: Behavioral intention will be positively affected by attitude (a) and subjective norm (b), but behavioral control will have no effect (c).

H5: Subjective norm will be negatively affected by consumer knowledge (a), not affected by perceived consumer effectiveness (b), and positively affected by perceived personal relevance (c).

H6: Behavioral control will be positively affected by consumer knowledge (a), perceived consumer effectiveness (b), and perceived personal relevance (c).

H7: Attitude will not be affected by consumer knowledge (a), but will be positively affected by perceived consumer effectiveness (b), and perceived personal relevance (c).
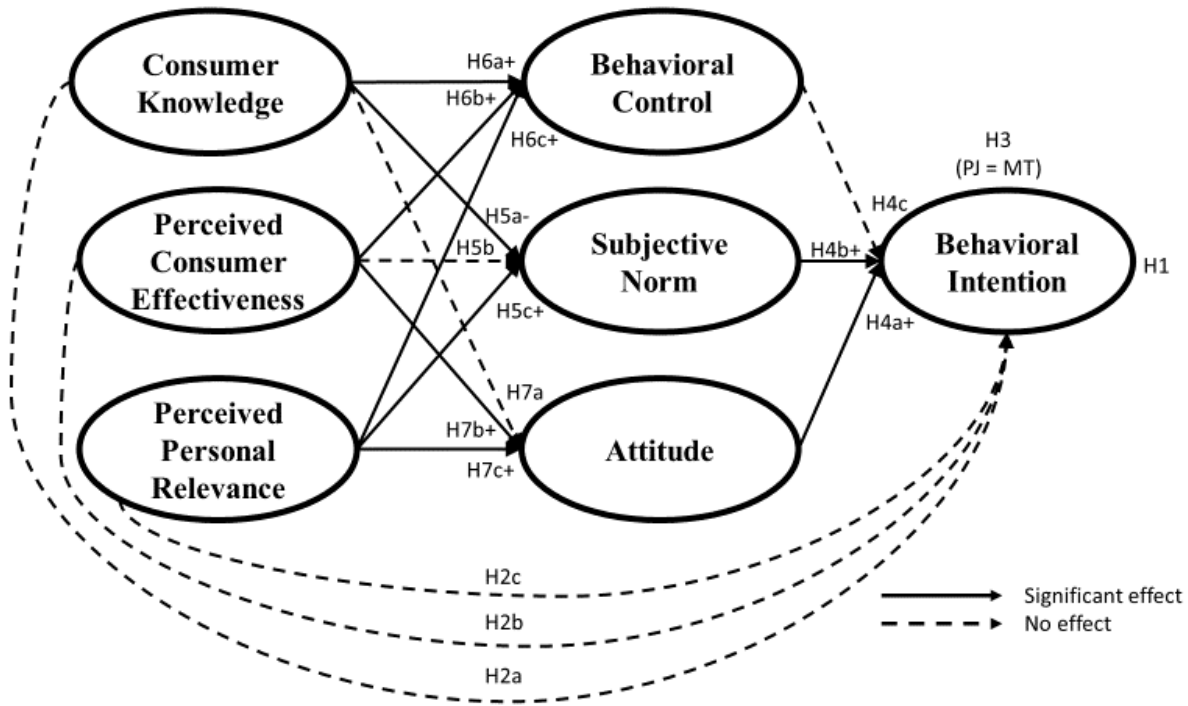
Figure 2.1. Hypothesized structural equation model. Adapted from "Environmentally sustainable textile and apparel consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance" by J. Kang, C. Liu, and S. H. Kim, 2013, *International Journal of Consumer Studies*, *37(4)*, p. 449.

Method

  Samples.

   Two groups of international Millennial respondents (aged 22-39) were recruited to assess differences in sustainable clothing motivational factors between people who have used ProjectJUST.com, and people who have not. The ProjectJUST.com group (hereby referred to as the PJ group) was recruited using a banner on the ProjectJUST.com landing page from November 5, 2016 – October 3, 2017, shown in Figure 2.2. A separate group of respondents to the same survey was collected using Amazon Mechanical Turk (hereby referred to as the MT group) in August 2017. Respondents in the MT group were compensated with up to $1.50 USD for their participation. MT group was collected to match the gender distribution of the PJ group,

which skewed heavily female. The surveys provided to both groups were identical with only two exceptions; the MT group survey included a captcha to ensure the humanity of the respondent, and they were asked: "have you ever heard of, or visited the website ProjectJUST.com?" Respondents who selected 'Yes' were removed from the MT group and excluded from the final analysis. At least 200 participants were required in each group ($n = > 400$) due to the large sample size required in SEM analysis.
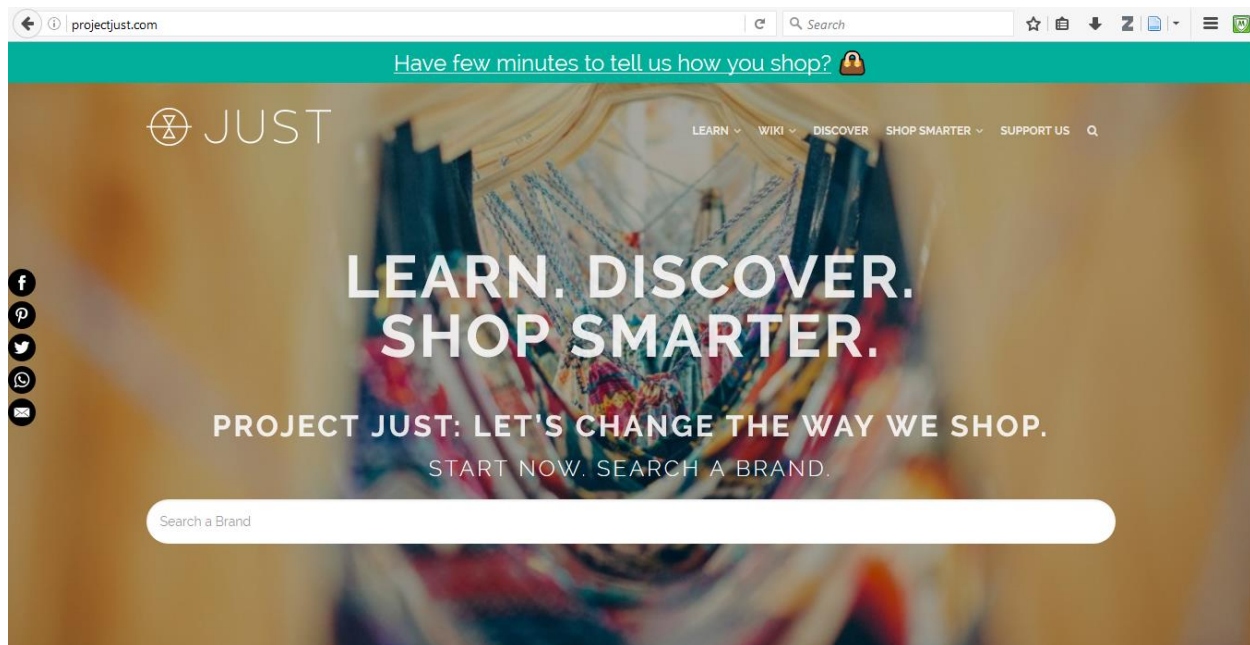
Figure 2.2. ProjectJUST.com website with survey banner during the study period (November 5, 2016 – October 3, 2017).

Procedure and instrument.

The quantitative survey used in this study was designed in Qualtrics to take 5-10 minutes to complete and was optimized for both mobile and computer response collection. The survey collected responses to 46 statements using 5-point Likert scales. The full survey is shown in Appendix C. 31 statements included in this SEM analysis were adapted from Kang et al.'s (2013) original 31-item instrument to better fit this study's research goals. First, the words 'organic cotton apparel' were changed to 'sustainable clothing' to encompass both

environmental and ethical dimensions. This conflation of sustainability dimensions was done for three reasons: first, they are presented inextricably on the ProjectJUST.com website. Second, conflation accurately reflects contemporary consumer confusion around these terms when making purchase decisions, as described in chapter 1. Third, ProjectJUST.com had previously received independently commissioned study results, which indicated that the ethical dimension of sustainability was of greater concern to their user base (Personal Communication, 2016). Extricating these constructs was therefore not pertinent in this context. A complete list of SEM questionnaire items is shown in Table 2.1. Demographic details (gender, location) and user experience details ('do you own sustainable clothing?', 'how many times have you visited ProjectJUST?' and 'has ProjectJUST.com changed the way you shop for clothes?') were collected at the end of the survey.

Table 2.1

Questionnaire Items Included in SEM Analysis

Construct and Label	Item	Scale
Perceived Consumer Effectiveness (PCE)		
PCE_1	It is worth the effort to make sustainable consumption choices.	1= Strongly disagree,
PCE_2	Since each individual can have sustainability impacts, what I do can make a meaningful difference.	2= Disagree, 3= Neutral, 4= Agree,
PCE_3	By purchasing products made in a sustainable way, each consumer's behavior can have a positive effect.	5= Strongly Agree
Perceived Personal Relevance (PPR)		
PPR_1	I feel good when other people notice me buying/using sustainable products.	1= Strongly disagree, 2= Disagree,
PPR_2	Buying and using sustainable products helps me to attain the type of life I strive for.	3= Neutral, 4= Agree,
PPR_3	I buy and use sustainable products because they reflect my personal beliefs.	5= Strongly Agree
PPR_4	Buying and using sustainable products is important to me personally.	

Construct and Label	Item	Scale
PPR_5	Buying and using sustainable products helps me express who I am.	
Attitude (AT)		
AT_1a	Being healthy.	1= Not important,
AT_2a	Making the world a better place.	2= Slightly important,
AT_3a	Feeling good about buying a sustainable product.	3= Neutral,
AT_4a	Feeling good when wearing clothes.	4= Important,
		5= Very important
AT_1b	Buying sustainable clothing improves my physical health.	1= Not true,
		2= Mostly not true,
AT_2b	Buying sustainable clothing has a positive effect on the world.	3= Neutral,
		4= Mostly true,
AT_3b	Buying sustainable clothing improves my mental health.	5= True
AT_4b	Buying sustainable clothing makes me feel good about wearing clothing.	
Subjective Norm (SN)		
SN_1a	I usually take advice from my close friends about what clothing to buy.	1= Not true,
		2= Mostly not true,
SN_2a	I usually take advice from my family members about what clothing to buy.	3= Neutral,
		4= Mostly true,
SN_3a	I usually take advice from my romantic partner or spouse about what clothing to buy.	5= True
SN_1b	My close friends think l should buy sustainable clothing.	1= Strongly disagree,
		2= Disagree,
SN_2b	My parents or family members think l should buy sustainable clothing.	3= Neutral,
		4= Agree,
SN_3b	My romantic partner or spouse thinks l should buy sustainable clothing.	5= Strongly Agree
Consumer Knowledge (CK)		
CK_1	I am quite familiar with sustainable clothing.	1= Strongly disagree,
CK_2	I see sustainable clothing in the places I shop.	2= Disagree,
CK_3	When I shop, I buy sustainable clothing.	3= Neutral,
CK_4	When I shop, I try on sustainable clothing.	4= Agree,
CK_5	I know a lot about sustainable clothing.	5= Strongly Agree
CK_6	There is a lot of information about sustainable clothing available.	

Construct and Label	Item	Scale
Behavioral Control (BC)		
BC_1	Sustainable clothing is expensive.	REVERSE CODED:
BC_2	Sustainable clothing is not available in the places where I shop.	1= Strongly disagree, 2= Disagree,
BC_3	Sustainable clothing is only available far away from where I live.	3= Neutral, 4= Agree,
BC_4	It is difficult to know what clothing is sustainable.	5= Strongly Agree
BC_5	There might be no way for me to ensure clothing is genuinely 'sustainable,' even if it says so.	
BC_6 **	I cannot afford sustainable clothing.	
Behavioral Intention (BI)		
BI_1	When I go shopping, I usually intend to buy sustainable clothing.	1= Not true, 2= Mostly not true,
BI_2	When I see stores that sell sustainable clothing, I am likely to shop there.	3= Neutral, 4= Mostly true,
BI_3	When I find clothing that meets my needs, I am more likely to buy it if it is sustainable.	5= True
BI_4**	I intend to buy sustainable clothing within the next 12 months.	
BI_5**	I have bought sustainable clothing in the last 12 months.	

Note: **Item was added from focus group pilot testing and was not derived from Kang et al.'s (2013) survey items.

Data analysis and hypothesis testing.

Data were prepared for analysis in Microsoft Excel (version 1708, build 8431.2153) using the procedures listed in Appendix D. Statistical analysis was conducted in R Studio (version 1.1.383), using the R Markdown package (version 0.9.6). The complete R Markdown code that was used in this analysis is reproduced in Appendix E.

EFA.

Several new items were added to the final survey during pilot testing, and changes were made to the wording of items used in the scale. Therefore a series of seven exploratory factor analyses (EFA) was first conducted across groups to determine if Kang et al.'s (2013) seven-factor model was appropriate. In comparing rotation options, a varimax rotation was decidedly

inappropriate because correlations are set to zero. High correlations between items were expected in this data based on Kang et al.'s (2013) findings, and on the results of the first EFA, so a promax rotation was used because of the flexibility it offers when correlations are expected.

CFA and SEM.

To assess H1 a confirmatory factor analysis (CFA) was conducted across groups using the Lavaan package to validate the fit of the model (version 0.5-23.1097) following the recommendations made by Levine, Turner, and Lapinski (2006). The fit of the SEM was evaluated across groups using Dimitrov (2006) and Hu and Bentler's criterion (1999). According to Dimitrov: "a relatively good fit is indicated with CFI > 0.90, SRMR < 0.08, and RMSEA < 0.06" (2006, p. 431). In this study, the chi-square coefficient ($\chi2$) was used as a descriptive statistic, rather than inferential because corresponding *p*-values (*p*) are more likely to be highly significant in studies with large samples (Dimitrov, 2006; Fornell & Larcker, 1981), hence the need to use other fit indices. The validity threat of a large sample size was also controlled in later analyses by using Cohen's effect size (*d)* to measure practical significance instead of relying on estimates of statistical significance alone (Cohen, 1988). Cohen's effect size (*d*) classifies the differences between groups into three magnitudes for the purposes of means or regression analysis: small (*d* > 0.2), medium (*d* > 0.5), and large (*d* > 0.8). When the difference between the mean responses of the two groups does not differ by 0.2 standard deviation units or more the difference is considered trivial, even if the difference is statistically significant. Medium effect size was described by Cohen as large enough to be visible to the naked eye, and large effect size was described as grossly perceptible or obvious (Cohen, 1988). Finally, according to Fornell and Larker's (1981) criteria, a Cronbach's alpha coefficient (α) > 0.07 is considered acceptable. Recently this measure of reliability has come under scrutiny, however. Therefore omega (Ω)

coefficients are also reported as measures of composite reliability (CR); ≥ 0.7 is considered acceptable according to Trizano-Hermosilla and Alvarado (2016).

Convergent and discriminant validity were assessed across groups to confirm H1 findings. Convergent validity was assessed using the Average Variance Extracted (AVE) and CR coefficient. An AVE coefficient ≥ 0.5 was considered acceptable, and ≥ 0.7 considered excellent (Fornell & Larcker, 1981). Discriminant validity was assessed using a covariance of constructs and discriminant validity testing matrix, and the squared correlations were compared to the AVE coefficient. Acceptable discriminant validity was achieved if the AVE is greater than the squared correlation of that construct with any other (Fornell & Larcker, 1981; Zaiţ & Bertea, 2011).

Decomposition tests using the bootstrapping method were used to assess if the direct and indirect effects of exogenous variables on behavioral intention were as hypothesized in H2. H3a was assessed by examining means (m), standard deviation (SD), and Cohen's effect size measures (d), and Cronbach's alpha coefficients (a). H3b was assessed by confidence interval (CI) assessments.

To assess H4-H7, SEM coefficients were compared between groups with a method suggested by Dimitrov (2006): "For the purposes of group mean comparison, it is practically sufficient to test only for invariance of the regression slopes and intercepts" (p. 432). Confidence interval (CI) assessments of all direct effects were used to determine if the differences between groups were statistically significant.

Results

Sample.

Two groups of people responded to the online survey: one group was recruited from a banner appearing on ProjectJUST.com (PJ group) and a second group recruited using Amazon

Mechanical Turk (MT group). 1980 people responded to the survey in the PJ group. 13 responses were removed from this analysis because they did not give informed consent to participate in the study; 679 responses were removed because they were less than 75% complete; 596 responses were removed because their age was outside the Millennial demographic target. The final PJ group sample comprised 700 responses ($n = 700$). In the MT group, 834 responses were collected. One response was removed from this analysis because they did not give informed consent to participate in the study; another was removed from this analysis because they had heard of ProjectJUST.com before; 124 responses were removed because they were less than 75% complete; 24 responses were removed because they fell outside the Millennial age target. The final MT group sample comprised 685 respondents. Demographics and user experience results are shown in Table 2.2.

Since effort was made to match the groups to one another, gender and location characteristics between groups were only slightly dissimilar; Europe was slightly underrepresented in the MT group compared to the PJ group, and Asia was slightly overrepresented. The user experience characteristics that were collected for the PJ group ('do you own sustainable clothing?' 'number of visits?' and 'has ProjectJUST.com changed the way you shop?') echoed the Google Analytics data that most PJ group respondents were first-time ProjectJUST.com users ($n = 528$, 75.4%). Since Google Analytics data also show that users spent only two minutes using ProjectJUST.com on average, it followed logically that most of the PJ group were unsure if ProjectJUST.com had changed the way they shop ($n = 371$, 53%). More people in the PJ group also reported owning sustainable clothing ($n = 503$, 71.9%) compared to the MT group who were mostly unsure if they owned sustainable clothing ($n = 345$, 50.4%).

Results suggest that the PJ group may have a stronger intention to purchase sustainable clothing

again based on prior purchase behaviors.

Table 2.2

Demographics of Valid Respondents

Item	Across Groups		ProjectJUST Group		Mechanical Turk Group	
	n	%	n	%	n	%
Gender						
Female	1190	85.9	656	93.7	534	78.0
Male	185	13.4	39	5.6	146	37.9
Other	7	0.5	3	0.4	4	0.6
Prefer not to say	3	0.2	2	0.3	1	0.1
Location						
North America	1010	72.9	435	62.1	575	83.9
Canada	71	5.1	59	8.4	12	3.1
USA	935	67.5	373	53.3	562	82.0
Mexico	4	0.3	3	0.4	1	0.1
South America	20	1.6	10	1.4	10	1.5
Europe	226	16.3	203	29.0	23	3.4
Asia	93	2.1	21	3.0	72	10.3
Africa	5	0.4	2	0.3	3	0.4
Australia	29	2.1	27	3.9	2	0.3
Antarctica	0	0.0	2	0.3	0	0.0
Do you own sustainable clothing?						
Yes	759	54.8	503	71.9	256	37.4
No	118	8.5	35	5.0	83	12.1
Maybe/not sure	505	36.5	160	22.9	345	50.4
Number of Visits						
First time			528	75.4		
Once or twice			69	9.9		
> 3 times			74	10.6		
Too many to count!			29	4.1		
Has ProjectJUST.com changed the way you shop?						
Yes			235	33.6		
No			94	13.4		
Maybe/not sure			371	53.0		
Total valid responses	1385	100	700	100	685	10

SEM fit across groups.

The data were first prepared for analysis by removing one item (BI_5 'I have bought sustainable clothing in the last 12 months') due to measurement error. Attitude and subjective norm coefficients items were also matched and multiplied as in Kang et al.'s (2013) study design (for example, AT_1ab = [AT_1a] * [AT_1b], etc.), leaving 31 items for analysis before the EFAs.

Exploratory factor analysis.

Because significant revisions were made to Kang et al.'s (2013) instrument, seven EFAs were conducted using a promax rotation. The final model was consistent with Kang et al.'s seven-factor solution. During the first four EFAs, four items were removed one at a time because they were not loading on any factor: PPR_1 'I feel good when other people notice me buying/using sustainable products', CK_4 'when I shop, I try on sustainable clothing', PCE_1 'it is worth the effort to make sustainable consumption choices', and AT_2ab which was associated with two questionnaire items AT_2a 'making the world a better place' and AT_2b 'buying sustainable clothing has a positive effect on the world'. In the final two EFAs, two items were removed from the rest of the analysis because of high cross-loading (> 0.40). Using this seven-factor solution, the final 31 items, accounted for approximately 60% of the total variance. Communality ranged between 0.3 and 0.99. All EFA loadings ranged from 0.41 to 1.05.

Table 2.3

Reliability and Construct Validity Results Across Groups

Construct	CFA Loading	AVE	α	Ω
Behavioral Intention		0.69	0.90	0.90
BI_1	0.82			
BI_2	0.86			
BI_3	0.84			
BI_4	0.81			

Construct	CFA Loading	AVE	α	Ω
Behavioral Control		0.34	0.75	0.75
BC_1	0.52			
BC_2	0.77			
BC_3	0.54			
BC_4	0.60			
BC_5	0.52			
BC_6	0.49			
Subjective Norms		0.58	0.81	0.81
SN_1ab	0.84			
SN_2ab	0.82			
SN_3ab	0.66			
Attitude		0.54	0.74	0.77
AT_1ab	0.58			
AT_3ab	0.88			
AT_4ab	0.66			
Consumer Knowledge		0.59	0.77	0.80
CK_1	0.86			
CK_5	0.89			
CK_6	0.48			
Perceived Consumer Effectiveness		0.70	0.82	0.82
PCE_2	0.85			
PCE_3	0.83			
Perceived Personal Relevance		0.66	0.89	0.89
PPR_2	0.79			
PPR_3	0.86			
PPR_4	0.89			
PPR_5	0.74			

Note. α = Cronbach alpha, Ω = omega, EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis; AVE = Average Variance-Extracted Estimate. $p = < 0.05$.

Confirmatory factor analysis (CFA).

H1) The seven-factor expanded Theory of Planned Behavior will demonstrate an

excellent fit across groups. H1 was adequately supported; the SEM demonstrated an adequate fit

across groups according to Dimitrov (2006) and Hu and Bentler's criterion (1999), but fell short

of Schreiber et al.'s (2006) more conservative rules for acceptable fit: $\chi2$ (254, $N = 1385$) = 2086.57, $p = < 0.01$; GFI = 0.98; CFI = 0.90; non-normed fit index (NNFI) = 0.88; SRMR = 0.07; $p = < 0.05$. The only fit indicator falling outside an excellent range (< 0.08) was RMSEA = 0.07. Alpha (α) estimates ranged from 0.74 to 0.90, and omega (Ω) estimates ranged from 0.77 to 0.90 suggesting acceptable reliability of the scale. CFA loadings ranged from 0.48 to 0.89, shown in Table 2.3, and the final SEM is shown in Figure 2.3.
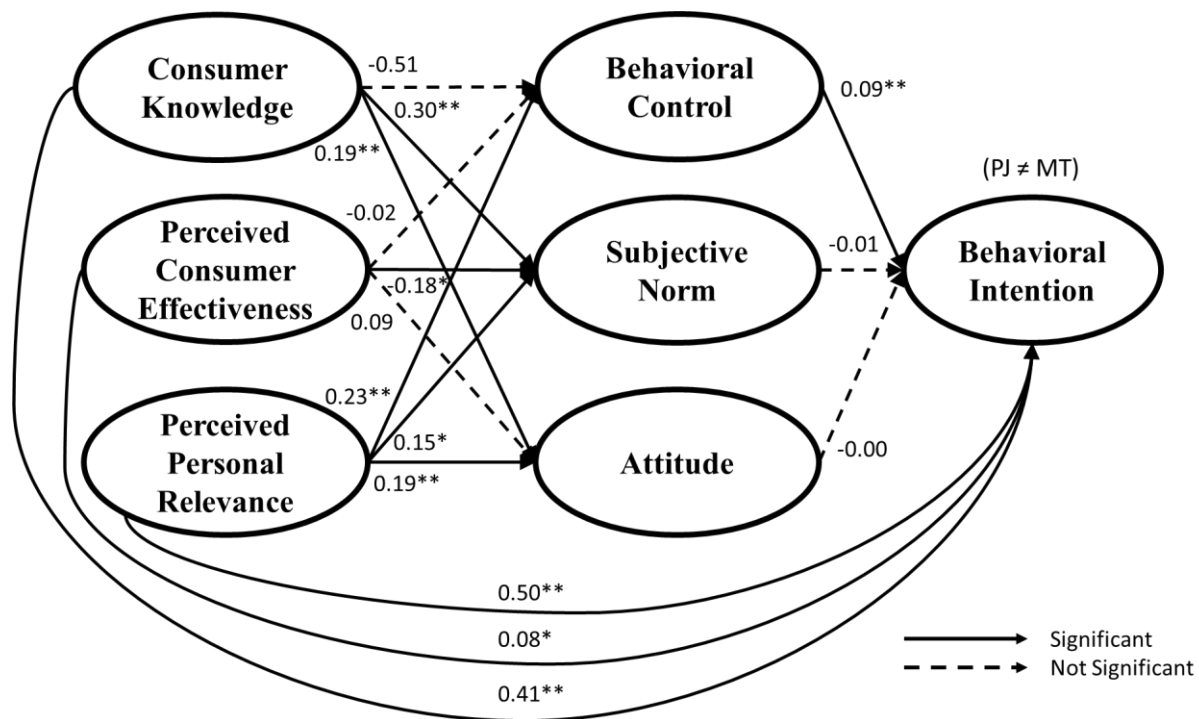
Figure 2.3. Structural equation model fit across groups. $\chi2$ (254, $n = 1332$) = 2086.57, p = < 0.01; goodness of fit index (GFI) = 0.98; comparative fit index (CFI) = 0.90, non-normed fit index (NNFI) = 0.88; standardized root-mean square residual (SRMR) = 0.07. Lavaan (0.5-23.1097) converged normally after 168 iterations.
n = 1385.
Effect significance **p < 0.01, *p < 0.05.

AVE coefficients ranged from 0.34 to 0.69; the only construct falling below Fornell and Larker's (1981) suggested AVE threshold (< 0.50) was consumer knowledge, suggesting adequate convergent validity. Discriminant validity was assessed using the matrix shown in shown in Table 2.4. Each construct's AVE coefficient was greater than the squared covariance

between any correlated constructs, and therefore adequate discriminant validity was suggested (Zaiț & Bertea, 2011). Because adequate fit was suggested, between groups analysis was possible, as described below.

H2. Consumer knowledge (a), perceived consumer effectiveness (b), and perceived personal relevance (c) will have indirectly positive effects on intention to purchase sustainable clothing across groups, but will have no direct effects. All H2 hypotheses were rejected; significant direct effects from all exogenous variables on behavioral intention were suggested during decomposition tests using the bootstrapping method, as shown in Figure 2.3. Consumer knowledge also was also partially mediated and had significant indirect effects on behavioral intention (0.05, $p < 0.01$). The effect of consumer knowledge on behavioral intention was mediated by behavioral control (-0.04, $p = -0.00$), but not attitude (-0.00, $p = 0.94$) or subjective norm (-0.00, $p = 0.74$). Perceived consumer effectiveness and perceived personal relevance did not have significant indirect effects (0.00, $p = 0.95$; 0.02, $p = 0.14$).

Table 2.4

Covariance of Constructs and Discriminant Validity Testing Matrix

	BI	BC	AT	SN	PPR	PCE	CK
Behavioral Intention	*0.69*						
Behavioral Control	-0.07 (0.00)	*0.34*					
Attitude	0.52 (0.27)	-0.12 (0.01)	*0.54*				
Subjective Norm	0.20 (0.04)	-0.21 (0.04)	0.42 (0.18)	*0.58*			

	BI	BC	AT	SN	PPR	PCE	CK
Perceived Personal Relevance	0.78 (0.61)	-0.02 (0.00)	0.61 (0.37)	0.17 (0.03)	*0.66*		
Perceived Consumer Effectiveness	0.57 (0.32)	0.01 (0.00)	0.48 (0.23)	0.02 (0.00)	0.70 (0.49)	*0.70*	
Consumer Knowledge	0.69 (0.48)	-0.34 (0.12)	0.46 (0.21)	0.30 (0.09)	0.58 (0.34)	0.38 (0.15)	*0.59*

Note. Average variance extracted estimates (AVE), italicized and bold; squared covariance, ( ); all other estimates are standardized covariance coefficients.

$n = 1332$.

$p = < 0.01$.

SEM comparison between groups

H3) Intention to purchase sustainable clothing will be predicted by the same factors between groups (a), and the effects between factors will be equal between groups (b). H3a was not supported. H3a results are shown in Table 2.5. All the PJ group means were greater than the MT group except the following: AT_1ab, CK_6, and BC_6, and all subjective norm means. Similarly, the standard deviations of most items were greater in the MT group than the PJ group, except for CK_6, BC_3, and BC_6 in which PJ group's coefficients were slightly greater.

Table 2.5

Measurement Properties Between Groups

Construct	*m*		*SD*		*t*	*d*	*α*	
	PJ	MT	PJ	MT			PJ	MT
Behavioral Intention							0.78	0.88
BI_1	3.82	2.57	1.11	1.21	19.96	***0.89		
BI_2	4.24	3.12	0.82	1.09	21.54	***0.99		
BI_3	4.54	3.26	0.71	1.16	24.56	***1.17		
BI_4	4.60	3.29	0.68	1.12	26.06	***1.25		
Behavioral Control							0.70	0.78
BC_1	4.05	3.66	0.79	1.85	8.96	*0.26		
BC_2	3.83	3.35	0.97	1.04	8.93	*0.40		

	m		SD		t	d	α	
BC_3	3.28	3.01	1.16	1.01	4.65	*0.20		
BC_4	4.16	3.77	0.88	1.02	7.62	*0.34		
BC_5	4.40	3.71	0.94	0.98	5.39	**0.59		
BC_6	3.01	3.17	1.06	1.02	-2.90	0.13		
Social Norms							0.69	0.87
SN_1ab[a]	5.88	7.30	4.17	5.38	-5.49	*0.25		
SN_2ab	5.08	7.10	3.83	5.31	-8.10	*0.38		
SN_3ab	7.33	9.03	5.19	5.97	-5.66	*0.25		
Attitude							0.74	0.75
AT_1ab[a]	13.04	13.70	5.88	6.28	-2.03	0.09		
AT_3ab	14.56	12.85	6.43	7.90	4.41	*0.20		
AT_4ab	18.30	17.42	5.56	7.40	2.99	0.12		
Consumer Knowledge							0.73	0.82
CK_1	3.50	2.83	1.02	1.12	11.68	**0.52		
CK_5	3.00	2.35	1.08	1.15	10.73	*0.48		
CK_6	2.52	2.67	1.11	1.13	-2.48	0.11		
Perceived Consumer Effectiveness							0.81	0.79
PCE_2	4.37	3.91	0.74	0.89	10.52	*0.48		
PCE_3	4.54	4.06	0.61	0.79	12.66	**0.58		
Perceived Personal Relevance							0.81	0.90
PPR_2	4.25	3.52	0.80	0.99	14.99	**0.68		
PPR_3	4.48	3.70	0.68	1.00	16.86	**0.79		
PPR_4	4.54	3.66	0.63	1.01	19.42	***0.93		
PPR_5	3.82	3.17	0.99	1.13	11.37	**0.51		

Note. *Cohen's effect size (*d*) small > 0.2; medium ** $d > 0.5$; large ***$d > 0.8$; PJ = ProjectJUST group, MT = Mechanical Turk group, *m* = Mean, *SD* = standard deviation, *t* = t-value, α = Cronbach's alpha. Standard Cronbach's alpha (α) is reported.
[a]All attitude and subjective norm items' response means were paired and multiplied before the final SEM analysis, as in Kang et al. (2013), ex. $SN\_1a \times SN\_1b = SN\_1ab$. The max response mean coefficient for all attitude and subjective norm items was therefore 25, and the minimum was 0, as in Kang et al. (2013).
95% confidence boundaries were used.
$p = < 0.05$ for all items.

Two indices were used to assess the significance of means analysis results. Welch two-sample *t*-tests were used to assess if differences in means between groups were statistically significant. For all items $p < 0.05$, indicating a statistically significant difference between groups

means on all variables. However, the validity of statistical significance results is threatened when sample sizes are large. Therefore practical significance was assessed here using Cohen's effect size measurement. Cohen's effect size values suggest that four items (AT1_ab, AT4_ab, CK_6, and BC_6) were not significantly different in practical terms ($d < 0.2$). The difference in means between groups on ten items suggested small practical significance ($d = 0.2 – 0.5$): AT3_ab, all subjective norm items, PCE_2, CK_5, BC_1, BC_2, BC_3, and BC_4. The difference in means between groups on six items were moderately significant in practical terms ($d = 0.5 – 0.8$): PCE_3, PPR_2, PPR_3, PPR_5, CK_1, and BC_5. The difference in means between groups was of large practical significance on five items (PPR_4, and all behavioral intention items).

Table 2.6

Regression Coefficient and Confidence Interval Assessment Between Groups

Construct	Regression Coefficient		CI lower and upper	
	ProjectJUST group	Mechanical Turk group	ProjectJUST group	Mechanical Turk group
Direct effects				
Behavioral Intention ~				
Attitude	-0.40 (*p* = 0.51)	0.16** (*p* < 0.01)	-0.04, 0.02	0.01, 0.07
Subjective Norm	0.40 (*p* = 0.31)	0.13** (*p* < 0.01)	-0.01, 0.03	0.01, 0.05
Behavioral Control	-0.03 (*p* = 0.47)	-0.07 (*p* = 0.05)	-0.25, 0.12	-0.36, -0.00
Consumer Knowledge	0.32** (*p* < 0.01)	0.37** (*p* < 0.01)	0.22, 0.43	0.28, 0.51
Perceived Consumer Effectiveness	0.07 (*p* = 0.19)	0.10 (*p* = 0.04)	-0.04, 0.22	0.01, 0.25

Construct	Regression Coefficient		CI lower and upper	
Perceived Personal Relevance	0.45** (*p* < 0.01)	0.25** (*p* < 0.01)	**0.55, 1.02**	**0.16, 0.46**

Indirect effects

Subjective Norm ~

Consumer Knowledge	-0.03 (*p* = 0.61)	0.53** (*p* < 0.01)	**-0.57, 0.34**	**2.10, 3.07**
Perceived Consumer Effectiveness	-0.06 (*p* = 0.36)	-0.17** (*p* < 0.01)	-0.96, 0.35	-1.80, -0.32
Perceived Personal Relevance	0.17* (*p* < 0.05)	0.27** (*p* < 0.01)	0.21, 1.97	0.78, 2.35

Behavioral Control ~

Consumer Knowledge	-0.47** (*p* < 0.01)	-0.56** (*p* < 0.01)	-0.30, -0.17	-0.30, -0.18
Perceived Consumer Effectiveness	-0.05 (*p* = 0.35)	-0.07 (*p* = 0.33)	-0.12, 0.04	-0.11, 0.04
Perceived Personal Relevance	0.17* (*p* < 0.05)	0.11 (*p* = 1.50)	0.03, 0.25	-0.02, 0.14

Attitude ~

Consumer Knowledge	-0.05 (p = 0.27)	0.33** (p < 0.01)	-0.60, 0.16	-0.96, 1.74
Perceived Consumer Effectiveness	0.20** (*p* < 0.01)	0.03 (*p* = 0.56)	0.48, 1.61	-0.41, 0.75
Perceived Personal Relevance	0.55* (*p* < 0.01)	0.50** (*p* < 0.01)	2.55, 4.34	1.73, 3.09

Note. *p* < 0.05; ** *p* < 0.01. Significantly different confidence interval (CI) assessments are shown in boldface. Standardized estimates were used. *p* = p-value.
PJ group *n* = 671, MT *n* = 661.
514 degrees of freedom, 95% confidence boundary.

H3b was not supported. To assess H3b, first, the SEM was fit within each group.

Adequate internal consistency was suggested within group constructs: all alpha scores are above

the commonly acceptable range (> 0.70), except for PJ group's subjective norm ($\alpha = 0.69$) which was only slightly below the acceptable range. Regression coefficients and effect significance were then compared between groups using a confidence interval assessment (95% confidence boundary). Shown as boldface in Table 2.6, confidence interval assessments indicated that perceived personal relevance's effect on behavioral intention and consumer knowledge's effect on subjective norm were significantly different between groups indicating 'differential item functioning' (Dimitrov, 2006) and the possibility of comparing effects between groups during H4 through H7 assessments.

For the PJ group, perceived personal relevance had the strongest direct effect on behavioral intention, and for MT group consumer knowledge had the strongest direct effect on behavioral intention. Cohen's effect results indicated that behavioral intention and perceived personal relevance for PJ group mean were also significantly higher than MT group, as described above. Results suggest that expression of personal identification as a sustainable consumer plays the leading role in predicting use of ProjectJUST.com, followed by an intention to buy sustainable clothing.

H4. Behavioral intention will be positively affected by attitude (a), and subjective norm (b), but behavioral control will have no effect (c). H4a and H4b were supported for MT group, but not for the PJ group. The effects of attitude and subjective norm on behavioral intention were only significant for MT group, and both effects were positive. H4c was supported in both groups; behavioral control showed no significant effects on behavioral intention. Results suggest that MT group are less likely to be influenced by the opinions of their peers or personally held sustainability attitudes than PJ group.

H5. Subjective norm will be negatively affected by consumer knowledge (a), not affected by perceived consumer effectiveness (b), and positively affected by perceived personal relevance (c). H5a was not supported for either group. For the MT group consumer knowledge positively affected subjective norm, and for the PJ group, the effect was not significant. Confidence interval assessment results suggested that the difference in consumer knowledge effects was significant between groups, and results also indicated that consumer knowledge had the most influence on subjective norm for the MT group compared to the other exogenous variables. Results suggest that knowledge about sustainable clothing has no effect on beliefs about what their friends and family think about buying sustainable clothing for the PJ group, while for the MT group knowledge had a significantly positive effect.

H5b was supported by the MT group results, but not the PJ group results. MT group results suggested that perceived consumer effectiveness had a slightly negative effect on subjective norm and the effect was not significant for the PJ group. Confidence interval assessment results suggest that the difference in effects between groups was not statistically significant. These results suggest the attitudes of friends and family towards sustainable clothing does not influence meaningful differences that the PJ group believes their purchases can make, while the MT group reported that this effect was significant and slightly negative. For the MT group, if they believed that their friends or family had positive attitudes towards sustainable clothing, they were less likely to think that their own purchases could make a meaningful difference.

H5c was supported across groups. Perceived personal relevance had a positive effect on subjective norm within both groups. Confidence interval assessment results suggested that, for both groups, personal identity expressions had a relatively small but significant effect on the

importance what attitudes people believed their friends and family held towards sustainable clothing.

H6. *Behavioral control will be positively affected by consumer knowledge (a), perceived consumer effectiveness (a), and perceived personal relevance (c).* H6a was not supported; the relationship between consumer knowledge and behavioral control was significantly negative for both groups. Confidence interval assessment results suggested that the negative effect of consumer knowledge on behavioral control was also relatively strong. Results suggest that, for both groups, having more knowledge of sustainable clothing decreased the likelihood that people thought they could make a meaningful impact on sustainability issues with their clothing purchases.

H6b was not supported. The relationship between perceived consumer effectiveness and behavioral control was not significant for either group. Results suggest the perception that a person's clothing purchases can have an impact on sustainability issues does not affect the amount of control they believe they have over what clothing they can buy.

H6c was supported within the PJ group but was not supported within the MT group. For the PJ group, the effect of perceived personal relevance on behavioral control was slightly positive and significant, but for the MT group, the effect was insignificant. Confidence interval assessment results suggested that the difference between groups was not statistically significant. Results suggest that a person's desire to express sustainability attitudes through the clothing they buy has a negligible effect on people's perception of the control they have over their purchase behaviors.

H7. *Attitude will not be significantly affected by consumer knowledge (a), but will be positively affected by perceived consumer effectiveness (b), and perceived personal relevance*

(c). H7a was supported for the PJ group, but not the MT group. For the PJ group the effect of consumer knowledge on attitude was not significant, but for the MT group, the relationship was significantly positive. Confidence interval assessment results suggested that the difference in effects between groups was not statistically significant. Results suggest that a person's attitude toward sustainable clothing is not affected by the level of consumer knowledge they have for the PJ group, while for the MT group increased knowledge usually lead to more favorable attitudes.

H7b was supported for the PJ group but was not supported for the MT group. The effect of perceived consumer effectiveness on attitude was significantly positive for PJ group but had no effect for MT group. Confidence interval assessment results suggested that the difference in effects between groups was not statistically significant. Results suggest that, for PJ group, the belief that a person's clothing purchases could impact sustainability issues had a positive effect on their attitude towards sustainable clothing, while the effect was negligible for the MT group.

H7c was supported among both groups. The effect of perceived personal relevance on attitude was significantly positive for both groups. Confidence interval assessment results suggested that the effects were similar between groups, and they were relatively strong. Results suggest that a person's attitude towards sustainable clothing is strongly affected by their desire to express their sustainability values with their clothing.

Discussion

The purpose of this survey study was to assess the influence of online sustainable clothing consumer knowledge, operationally defined by ProjectJUST.com, on self-reported Millennial purchase behavior. During statistical analyses of survey results, a seven-factor SEM consistent with Kang et al.'s (2013) demonstrated an adequate fit across groups. Responses were compared between groups by means analysis and the differences in effects between groups were

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compared. This study's findings have several contributions and implications discussed below. This discussion will begin by explaining the influence of endogenous factors (behavioral control, subjective norm, and attitude), followed by exogenous factors (consumer knowledge, perceived consumer effectiveness, and perceived personal relevance), and finally pre-existing behavioral intention. Results contradicted prior findings when the influence of consumer knowledge was found to be less salient than perceived personal relevance and pre-existing intention to buy sustainable clothing in predicting (1) who would use of ProjectJUST.com, and (2) their intention to purchase sustainable clothing.

Effects of endogenous variables on behavioral intention.

Endogenous variables were expected to have the strongest role in influencing people to use ProjectJUST.com and increase their intention to buy sustainable clothing based on Kang et al.'s prior findings (2013). This was not suggested in this study. Instead, endogenous variables had either small or insignificant effects across and within both groups, while exogenous factors were found to be more influential.

Attitude and subjective norm.

Both attitude and subjective norm had statistically similar negligible direct effects on behavioral intention within groups, a result which confirms prior findings of the existence of wide attitude-behavior gaps among green consumers (Boulstridge & Carrigan, 2000; S. M. Butler & Francis, 1997; Carrigan, 2017; Carrigan & Attalla, 2001). Furthermore, attitudes were similarly positive among both groups. Results imply that a person's attitude towards sustainable clothing could be positive, and their peer group could share these attitudes, but these factors were insignificant predictors of behavioral intention, a result which contrasts with Kang et al.'s (2013) finding that attitude had the strongest effect on intention to purchase sustainable clothing among

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young consumers. However, Kang et al.'s (2013) study did not compare groups and awareness of climate change issues, and sustainable clothing has continued to increase among consumers with less favorable attitudes since 2013. Growing environmental concern may have narrowed the gap between group attitudes towards sustainable clothing, making attitudes a less salient differentiator between groups who intend to buy sustainable clothing and those who do not. Therefore, attitudes towards sustainable clothing are already positive, and that what others think about sustainable clothing is irrelevant to those who intend to buy it. The practical implication is that consumer knowledge organizations focused on improving attitudes towards sustainable clothing will not be effective in changing clothing consumption behaviors, and neither will peer-pressure.

Behavioral control.

The PJ group felt significantly less sure about their ability to determine if clothing is genuinely sustainable compared to the MT group which echoes prior findings about consumer confusion and mistrust of sustainability marketing—especially when large multi-national brands, such as H&M, are making a claim (Bly et al., 2015; S. Kaiser, 2008; Siegle, 2016). Further, the effect of consumer knowledge on behavioral control was similarly negative within both groups, a result which upholds prior findings that consumer knowledge does not consistently promote sustainable clothing purchase intention across all behaviors; for example, some information sources can confuse and overwhelm consumers (Peattie, 2010). Therefore, this study contributes that using online sustainable clothing consumer knowledge has a negative effect on people's sense of control over their clothing purchase behavior, but this sense of control was an insignificant predictor of behavioral intention which provides evidence that this effect was not as salient as others included in this SEM. Furthermore, the PJ group reported having more

consumer knowledge compared to the MT group, and they reported stronger pre-existing intention to purchase sustainable clothing. Therefore, the implication is that increasing the sense that people can evaluate and purchase sustainable clothing by educating them will not influence people to buy sustainable clothing, and consumer knowledge tools could be more effective if they avoid this strategy. It is likely that having more consumer knowledge about sustainable clothing led people to use ProjectJUST.com. However this study did not provide evidence that increasing knowledge led people to believe they could find sustainable clothing to buy.

Effects of exogenous variables on behavioral intention.

Exogenous variables had a more prominent role in predicting behavioral intention than was hypothesized and findings, therefore, contrasted with Kang et al.'s (2013) results which suggested that there were no direct effects on behavioral intention from exogenous variables and that all exogenous variables were instead mediated by endogenous variables. In fact, across-groups SEM analysis results suggested that exogenous variables had the strongest effects on behavioral intention among all effects measured in this study, and there were no indirect effects except for consumer knowledge on behavioral intention which was partially mediated by behavioral control as discussed above. Perceived consumer effectiveness did not have strong effects on behavioral intention for either group. The practical implication of perceived consumer effectiveness results is that consumer knowledge websites will not be effective if they focus their messaging on increasing the sense that individual purchases can make meaningful differences in the way that clothing brands manufacture their products. Instead, this study contributes that two exogenous variables are more salient than endogenous variables in influencing behavioral intention: consumer knowledge and perceived personal relevance.

Consumer knowledge.

Consumer knowledge results diverged slightly with a breadth of prior scholarship, as cited in chapter 1, which has concluded that consumer knowledge is the most effective way to promote sustainable clothing purchase behaviors. Indirect effects on behavioral intention were not as strong as was hypothesized because of the weak effects of endogenous variables as described above, but consumer knowledge's direct effect on behavioral intention was similarly significant and relatively strong within both groups. These were not the strongest direct effects, however. Further, means comparison between groups suggested that there were only small to moderate practical differences between group responses to consumer knowledge. These were also not the largest practical differences between the two groups. Therefore, the results of between groups analyses pointed to the primacy of more salient factors that influence behavioral intention. The practical implication is that consumer knowledge plays a secondary role in influencing people to buy sustainable clothing and that consumer knowledge websites would be most effective if they focus their messaging on the most influential factor predicting sustainable clothing purchase intention: perceived personal relevance.

Perceived personal relevance.

Perceived personal relevance was defined as the desire to express sustainability attitudes through clothing purchases, and this study diverged with prior scholarship when SEM results suggested that perceived personal relevance had the strongest direct effect on behavioral intention among all variables across groups. Furthermore, the effect was much stronger for the PJ group who also reported stronger intention to purchase sustainable clothing. These results support Niinimäki's findings that people who choose to engage in sustainable clothing consumption do so because they believe it is a visible expression of their personal identity and/or

values (2010). The salience of perceived personal relevance in influencing sustainable clothing consumption behavior would not surprise economists who describe 'conspicuous conservationists' as people who want others to know that they have bought a sustainable product for reasons of social status. For example, Sexton and Sexton (2014) suggest that many people who are willing to spend more for hybrid vehicles are drawn to the Toyota Prius in large part because it has a unique silhouette that is easily identified and therefore signals to others that the driver is practicing socially desirable behaviors and that the driver can afford to pay the premium price that a Prius fetches (Sexton & Sexton, 2014).

The practical implication is that consumer knowledge websites ought to focus their messaging on enhancing perceived personal relevance. For example, messaging could focus on illuminating the disconnection between strong positive attitudes towards sustainability and clothing purchase behaviors. One gap to highlight might be green consumer willingness to pay more for organic food or hybrid vehicles contrasted with their insistence on buying only deeply discounted new clothing in massive quantities. Developing a snappy slogan such as 'buy clothing that matches your values' could be effective at grabbing consumer attention and effectively summarize the website's mission.

Pre-existing behavioral intention.

Four of this study's results build on one another to suggest that pre-existing behavioral intention was the most salient factor in predicting use of ProjectJUST.com. First, descriptive statistics about user experiences within the PJ group indicated that 75.4 % of the PJ group respondents were first-time visitors, and only 33.6 % of the PJ group indicated that ProjectJUST.com had any effect on their shopping behavior. Second, more people in the PJ group reported that they already owned sustainable clothing (71.9 % compared with 37.4). Third,

means analysis indicated that the PJ group's responses to behavioral intention items were the most significantly different in practical terms compared to all other factors. Fourth, data from Google Analytics suggest that ProjectJUST.com users spend an average of only 2 minutes surfing the website and it is unlikely to influence their behavior in such a short period of time without repeated use, but most people did not access ProjectJUST.com more than once.

Taken together, these results contribute that people who seek online sustainable clothing consumer knowledge might already intend to buy sustainable clothing. It is likely that ProjectJUST.com users already have and will continue to buy sustainable clothing, regardless of the consumer knowledge that ProjectJUST.com provides since "... the stronger the intention to engage in a behavior, the more likely should be its performance..." (Ajzen, 1991, pp. 181–182). The implication of these results is that online sustainable clothing consumer knowledge platforms may not be reaching a group of people that they are 'changing' with consumer knowledge—instead, these resources might be serving as a shopping or consumption guide to people who already want to purchase sustainable clothing.

Conclusion

This chapter's results contradicted prior scholarship which has concluded that the most effective way to promote sustainable clothing purchase intention is to increase consumer knowledge. This study contributes that conspicuous expressions of identity as a sustainable consumer have the strongest direct effect on intention to buy sustainable clothing, while consumer knowledge played a secondary role. Further, this study contributes that the people most likely to actively seek online sustainable clothing consumer knowledge already feel knowledgeable, and already intended to buy sustainable clothing. The implication is that online consumer knowledge platforms are not reaching an audience of users that they can change.

Instead, these resources likely serve as a shopping guide. Shopping guides are useful, but ProjectJUST.com was organized around a mission to create change on a massive scale, rather than simply support other champions of their cause. Online sustainable clothing consumer knowledge platforms will need to reach a larger audience that includes people who do not already intend to buy sustainable clothing to promote change. These results suggest that making sustainability a personally relevant priority for consumers could change their clothes shopping behavior. Managerial implications for online sustainable clothing consumer knowledge platforms are described in chapter 6 of this dissertation.

Limitations and future research.

This study contributes an early attempt to measure the effect of online sustainable clothing consumer knowledge on purchase behavior but has limitations. One limitation of quantitative studies is that significance testing procedures are sensitive to sample size (Fornell & Larcker, 1981). Several fit indices were reported where relevant to control this threat to validity. Survey results about sustainability attitudes are also subject to common construct validity threats such as social desirability bias because results are often skewed by respondents who try to give the 'acceptable' or 'best' answer (Rudell, 2006; Wutich & Gravlee, 2010). In this study, each group was given an identical set of items that were included in this SEM analysis, so this threat is equally distributed among groups, making valid comparisons still possible.

This study's sample was subject to a few generalizability limitations. First, the sample was composed of mostly females. ProjectJUST.com had only a small amount of content about menswear, and Google Analytics confirms that 75% of all ProjectJUST.com users were female. This sample is, therefore, representative of the people who usually use the website, but this still poses generalizability issues across genders. Second, the ages of the participants were collected

categorically instead of continuously. Collecting age responses as a continuous variable would have allowed for more flexibility during analysis. However, this study collected survey responses from all ProjectJUST.com users allowing for future research using the data collected here, or data collected in the future, to assess age effects by generation.

One drawback to the study design was that the survey was available immediately upon landing, and therefore the length of time spent surfing the website before taking the survey was not controlled or collected. Some participants may have taken the survey before perusing the website at all. This threat was partially controlled by asking respondents how many times they had used ProjectJUST.com in the past. Future research would benefit by comparing multiple groups based on the number or length of times they sought online sustainable clothing consumer knowledge because there may be a visit frequency or surfing duration effect that was not measured in this study. Future research could also consider a longitudinal study design using multi-time tests with repeat visitors to ProjectJUST.com to gain insight about exposure duration effects. Another limitation of this study was that the data was collected from only one online consumer knowledge platform. Future research could compare effects between platforms using the instrument developed here. This study also did not control for pre-existing behavioral differences between groups, and future studies could consider recruiting respondents from the general population at random, and assigning one group as a control group, while the experimental group was exposed to a sustainable clothing consumer knowledge website. Such a study design would be most useful if measurements were taken at intervals over a long period of time. This study contributes an instrument or data that could be used to this end.

Broadly speaking, surveys also fail to collect rich data about motivations, and Patton (2002) explains that qualitative methods are appropriate for capturing the 'why' of behaviors

while statistics are better at capturing the 'what.' To gain a richer understanding of the effects of ProjectJUST.com on sustainable clothing consumption behaviors, qualitative or mixed methods data are needed. Accordingly, chapter 3 of this dissertation presented qualitative study results, and chapter 4 presented mixed methods results.

Acknowledgments

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CHAPTER 3

"YOU NEED TO PICK YOUR BATTLES": A LONGITUDINAL ASSESSMENT OF THE INFLUENCE OF ONLINE SUSTAINABLE CLOTHING CONSUMER KNOWLEDGE ON GREEN MILLENNIALS

Abstract

There have been few attempts to explore the appeal of online sustainable clothing consumer knowledge despite the broad-reaching consensus that such resources can bridge the gap between green consumer attitudes and sustainable clothing consumption. The purpose of this qualitative inquiry was to identify and describe the factors that motivated, or amotivated, highly educated green Millennials in the northeastern USA to seek online sustainable clothing consumer knowledge, operationalized by ProjectJUST.com. 35 participants were interviewed three times for one-hour during the 6-month study period. During their semi-structured interviews, participants reflected on and described their sustainability attitudes, their clothing consumption behaviors, and were exposed to ProjectJUST.com. Findings suggested that participants conflated motivations to consume sustainable clothing with motivations to seek consumer knowledge about sustainable clothing. Amotivating factors included the selective application of green consumer attitudes, lacking perceived personal relevance, price objections, skepticism about transparency, willful ignorance, and concern that their expressive needs cannot be met by sustainable clothing. Motivating factors included environmental or ethical stewardship, prestige, feeling good, and saving money. Participants drew a distinction between interview effects and ProjectJUST.com effects. The interview had an awareness-raising effect while the website offered participants an information source to learn. Only 10 participants used ProjectJUST.com outside the interview exposure time, suggesting that this sustainable clothing consumer knowledge platform had limited appeal. These findings can provide insight for researchers and

online sustainable clothing consumer knowledge platforms about how to reach green consumers more efficiently and, in turn, promote sustainable clothing consumption behaviors.

Keywords: attitude-behavior gap, consumer knowledge, green consumers, grounded theory, Millennials, sustainable clothing.

Introduction

The market for sustainable clothing has been called 'emergent' since the late 1990's and after two decades of research little has changed (Boulstridge & Carrigan, 2000; S. M. Butler & Francis, 1997; Carrigan, 2017; Carrigan & Attalla, 2001). Consumers have been reporting that they want sustainable clothing since the turn of the millennium, but have consistently failed to create consumer demand by buying sustainable clothing (Carrigan, 2017; Carrigan & Attalla, 2001). Consensus among diverse stakeholders has suggested that consumer knowledge will bridge attitude-behavior gaps between green consumer attitudes and sustainable clothing consumption behavior, but there have been few attempts to explore the appeal of online sustainable clothing consumer knowledge, or its effects (Bly et al., 2015; Dickson, 2000, 2001; Ehrich & Irwin, 2005; Gwozdz et al., 2013; Hiller Connell, 2010; Manchiraju et al., 2012; "SAC," 2015; Weiss et al., 2014; Wiederhold & Martinez, 2018; Zane et al., 2015). For the purposes of this dissertation research, consumer knowledge is considered an accumulation of information over time, and consumer knowledge seeking is the active acquisition of information that informs purchase behaviors. In 2018 most consumer knowledge seeking starts with a Google search; if the search terms include 'sustainable clothing,' a myriad of consumer knowledge websites might be listed such as Good on You (Good on You, 2017), Fashion Revolution ("Fashion Revolution," n.d), or DoneGood ("DoneGood," 2018).. Time and money were being

spent on creating sources of sustainable clothing consumer knowledge without adequately assessing the appeal of these platforms for consumers.

Purpose.

The purpose of this qualitative inquiry was to identify and describe the factors that motivated, or amotivated, highly educated green Millennials in the northeastern USA to seek online sustainable clothing consumer knowledge. Terminology was borrowed from Ryan and Deci (2000); motivating factors were operationally defined as reasons people wanted to, or were moved to, use ProjectJUST.com, and amotivating factors were defined as reasons people did not want or were uninspired, to use ProjectJUST.com. This study contributes an early, if not the first, longitudinal qualitative analysis of the factors that motivate and amotivate green consumers to seek out online sustainable clothing consumer knowledge. In addition to offering valuable insight for future researchers and activists, this study was designed to have immediate effects on interview participants who considered sustainable clothing purchase criteria, often for the first time, while being exposed to sustainable clothing consumer knowledge during the study period.

Review of Literature and Theoretical Framework

The academic discourse on attitude-behavior gaps and sustainable clothing purchase intention has been fixated on the finding that consumers care less about sustainability, and more about the subjective attributes of their clothing, such as price, fit, style, and color, when they shop (Boulstridge & Carrigan, 2000; S. M. Butler & Francis, 1997; Carrigan, 2017; Carrigan & Attalla, 2001; Hiller Connell, 2010; Hiller Connell & Kozar, 2012). There is also a cacophony of optimistic conclusions that increasing consumer knowledge will raise awareness and thereby bridge the gap between green attitudes and unsustainable clothing consumption behaviors. This conclusion has not been sufficiently tested longitudinally, and there is no evidence that having

consumer knowledge about sustainable clothing will make it more expressively appealing or seem less expensive. Further, Pooley and O'Connor's research on environmental education suggests that to maximize impacts "… emotions and beliefs, rather than knowledge, need to be targeted as sources of information…" (2000, p. 711).

Since sustainable clothing is perceived as more expensive and often unfashionable, people shopping for clothing are primed to 'forget' about, or avoid, their own green consumer attitudes at the point of sale (Zane et al., 2015). Consensus that consumer knowledge will increase sustainable clothing consumption rarely takes into account this 'willful ignorance' phenomenon, which refers to being "… motivated to systematically forget [sustainability] information as a coping strategy to avoid the emotional costs of this information" (Walker Naylor et al., 2013, p. 9). Willful ignorance is especially surprising among green consumers who care about the underlying ethical issue because they report being willing to use the information in their decision making if it was provided to them (Ehrich & Irwin, 2005). Given that behavior change does not always stick over the long term, and that consumer knowledge is sometimes actively avoided by green consumers, longitudinal studies of the effect of sustainable clothing consumer knowledge on green consumers are needed. This study heeds Peattie's (2010) call for longitudinal research on green consumer attitudes and behaviors, with the goal of understanding the appeal of sustainable clothing consumer knowledge to green Millennials.

In sustainable clothing consumption research, some emphasis has been placed on measuring the influence of environmental knowledge in undergraduates who are enrolled in fashion programs in the USA. Armstrong and LeHew (2014) explain that noble efforts have gone into teaching fashion undergraduates about sustainable clothing, but these 'front line' efforts have been uncoordinated and have lacked a clear strategy. Baytar and Ashdown (2014) used a

pre-test-post-test experimental design to explore the effect of video as a medium to influence fashion students' environmental knowledge and attitudes. Their tests were administered quickly to avoid confounding effects of external stimuli and therefore fail to replicate the real-world circumstances that affect long-term consumer decision making. This is a significant oversight because there is evidence that consumer knowledge can sometimes change behaviors in the short term, but that such changes are usually minimal and often do not stick when they become inconvenient or go against the cultural norms (Evans, 2011). In a longitudinal assessment, it was suggested that although knowledge of sustainable clothing has increased among fashion undergraduates over time, their intention to consume clothing sustainably has not (Hiller Connell & Kozar, 2012). In an unpublished study conducted at LIM College in New York City, it was found that Millennial fashion program graduates who received information about sustainable clothing throughout their degree were still ambivalent about sustainability when it comes to their clothing consumption behaviors after graduation ("LIM College Study Reveals That When it Comes to Buying, Millennials Are Not Eco-Fashionistas," 2018). Providing sustainability education is vital to shaping the skills of the next generation of fashion designers, but there is no evidence that having a lot of knowledge about sustainable clothing has changed fashion undergraduate behavior over long periods of exposure. The harmonious conclusion that consumer knowledge will change intentions to buy sustainable clothing, therefore, contradicts the effects observed on fashion undergraduates, and suggests that consumer knowledge would have similarly small or negligible effects on non-fashion students. Further research is needed before such conclusions can be accepted broadly.

Motivating and amotivating factors.

The terminology 'motivating' and 'amotivating' factors used throughout this study was borrowed from Ryan and Deci (2000). Motivating factors were operationally defined as reasons people wanted to, or were moved to, use ProjectJUST.com, and amotivating factors were defined as reasons people did not want or were uninspired, to use the site. Both categories were further parsed into two sub-categories describe better understand the 'why' of online sustainable clothing consumer knowledge seeking (Patton, 2002; Ryan & Deci, 2000). The first subcategory was intrinsic motivation "… which refers to doing something because it is inherently interesting or enjoyable…" and the second subcategory was extrinsic motivation, "… which refers to doing something because it leads to a separable outcome" (Ryan & Deci, 2000, p. 55).

Bias.

The tendency of social science scholars to remain 'unbiased' and somehow outside the research process has long been questioned because of the tendency for researchers to be white men of leisure and wealth (Haraway, 1988). Feminist academic Donna Haraway explains that scientific accounts ought to 'position themselves' because "it allows us to become answerable for what we learn how to see... There is no unmediated photograph or passive camera obscura in scientific accounts" (p. 583), instead "translation is always interpretive, critical, and partial" (p. 589). The supremacy of 'unbiased' research among academic scholarship has been reinforced by the ivory tower's self-constructed perception that applied research with impacts in real-world settings is intellectually uninteresting and/or unscientific. This reputation has inhibited opportunities for researchers to immediately affect change in the life-quality of research participants (Greenwood & Levin, 2007). Accordingly, the biases and positionality of the researcher as a sustainable fashion activist were revealed immediately to participants at the

beginning of every interview. Participants were thereby made implicitly aware that, by engaging

in the research process, an attempt was being made to change their clothing consumption

behavior.

Qualitative inquiry and grounded theory.

Survey results such as those employed in chapter 2 of this dissertation, have dominated

research in green consumer preferences because of their precise measurements and ability to

reach geographically diverse groups quickly and relatively inexpensively. Qualitative methods

are more time-consuming, interpretive, and expensive, but are worth pursuing because survey

data does not have the depth and richness required to understand the interconnected facets of

consumer decision making fully. Qualitative methods were appropriate for this study because of

their ability to explore complex thought processes that drive consumer motivation—the 'why' of

behaviors (Patton, 2002; Ryan & Deci, 2000). Further, there are no established methods to

measure the appeal of online sustainable clothing consumer knowledge platforms, making an

exploratory approach more appropriate (Saldaña, 2016).

Use of grounded theory is common among qualitative studies. "Grounded theory is a

strategy of inquiry in which the researcher derives a general, abstract theory of a process, action,

or interaction grounded in the views of participants" (Creswell, 2009, p. 13). When using

grounded theory to analyze interview transcripts, codes are applied to texts line-by-line and are

constantly compared, then organized to craft a general theory about the phenomenon of interest

(Bryant & Charmaz, 2007; Glaser & Strauss, 1967; Saldaña, 2016). Grounded theory is

appropriate for exploratory studies such as this one because the approach allows new theories to

emerge that have not been identified by prior scholarship (Saldaña, 2016) and because a diversity

of definitions, language, contradictions, and multiple meanings should be expected when terms are unfamiliar to participants or emergent (S. Kaiser, 2008; Wutich & Gravlee, 2010).

Method

This qualitative inquiry employed semi-structured interviews and grounded theory to identify and describe the factors that motivated, or amotivated, highly educated green Millennials in the northeastern USA to seek online sustainable clothing consumer knowledge over a 6-month period. The participants, procedures, and data analysis methods are described below.

Participants.

As reported in chapters 2 and 4, people who used ProjectJUST.com were likely to be females with strong green consumer attitudes and/or had strong pre-existing intention to buy sustainable clothing. Millennials with green attitudes and a penchant for sustainability research were therefore recruited to understand better the effects of consumer knowledge about sustainable clothing on people that were most likely to use the platform. Participants were recruited via a mass e-mail sent by Cornell University to the College of Human Ecology, shown in Appendix F. The recruiting e-mail asked participants to 'tell me how you shop for clothing' but sustainability was not mentioned in the letter because listserv subscribers already held pro-environmental attitudes. This assumption is supported by core values implicitly held within the college and community. For example, many people and departments within the college conduct in-depth research on climate change, participate in pro-environmental behaviors, or are activists committed to promoting sustainable causes such as re-use, composting, and recycling—such behaviors are also encouraged throughout the building to remind people of their personal contributions to climate change (Lowery, 2017a). This listserv circulates among a highly educated group of people who have a penchant for research. All participants held undergraduate

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degrees, and most were graduate students. Further, the university was an esteemed research-focused university that is located in one of the USA's top five 'smartest cities', as ranked by the proportion of residents holding advanced degrees in 2008 (Papalia, 2008), and by measures of cognitive performance on Luminosity—an online brain-training game developed by neuroscientists in 2013 (Fernando, 2013).

A large proportion of people were expected to drop out of the study given the six-month, 3-time interview research design; three strategies were used to ensure the final sample of participants was adequate. First, interview dates were selected to avoid confounding shopping behaviors such as gift giving in the month of December and to accommodate the semester-determined time schedule of most participants. Second, participants were provided a generous compensation of $100 USD in cash to be disbursed in full at the end of their third interview. Third, a high recruiting goal of 70 people was set during the first round of interviews to ensure that at least 30 participants finished the study.

Within two hours of receiving the recruiting e-mail, 87 people requested first interviews, and five people were put on a waiting list. 56 people completed their first interview between January 25th and February 16th; 47 people completed their second interview between May 5th and May 25th; 39 people completed their third and final interviews between August 15th and August 30th. Four participants were removed from the final analysis due to recording errors leaving. The final group of participants comprised 21 graduate students, many of whom conducted research on climate change in areas such as nutrition, agriculture, or public policy. Most participants were female ($n = 25$, 71.5%), all of them lived in the Ithaca New York area, and most were citizens of the USA ($n = 24$, 68.5%). Participant demographics are presented in Table 3.1.

Table 3.1

Interview Participant Demographic Characteristics

ID	Age	Gender	Occupation	Residence	Citizenship
1	32	Male	Graduate Student	Ithaca	South Korea
2	24	Male	Graduate Student	Ithaca	USA
3	28	Female	Graduate Student	Ithaca	China
4	38	Female	Assistant Registrar	Burdett	USA
5	23	Female	Graduate Student	Ithaca	USA
6	26	Female	Graduate Student	Ithaca	India
7	23	Female	Archivist	Ithaca	USA
8	32	Female	Teacher	Ithaca	South Korea
9	22	Female	Graduate Student	Ithaca	USA
10	24	Male	Laboratory Technician	Ithaca	USA
11	29	Male	Graduate Student	Ithaca	Singapore
12	26	Female	Graduate Student	Ithaca	Sweden
13	39	Female	Athletics Coach	Ithaca	USA
14	31	Female	Program Coordinator	Ithaca	USA
15	26	Male	Graduate Student	Ithaca	USA
16	29	Female	Graduate Student	Ithaca	USA
17	30	Male	Graduate Student	Ithaca	Canada
18	24	Male	Graduate Student	Ithaca	USA
19	30	Male	Graduate Student	Ithaca	Hong Kong
20	24	Male	Graduate Student	Ithaca	USA
21	29	Female	Graduate Student	Ithaca	USA
22	26	Female	Event Coordinator	Marathon	USA
23	30	Female	Researcher	Ithaca	USA
24	23	Female	Graduate Student	Geneva	USA
25	25	Female	Graduate Student	Ithaca	USA
26	27	Female	Graduate Student	Ithaca	USA
27	25	Male	Accounts Representative	Ithaca	USA
28	29	Female	Fundraising	Ithaca	USA
29	31	Female	Graduate Student	Ithaca	China
30	23	Female	Administrative Assistant	Newark Valley	USA
31	32	Female	Graduate Student	Ithaca	USA
32	30	Female	Graduate Student	Ithaca	Canada
33	25	Female	Circus Arts Instructor and Manager	Ithaca	USA
34	32	Female	Graduate Student	Ithaca	USA
35	33	Female	Graduate Student	Ithaca	India

Procedure and instrument.

Three interviews with each of the 35 participants were conducted at Cornell University in the Human Ecology Building. Interviews were audio recorded using Zoom (versions 4.0.21432.0116 through 4.0.38982.0714) and were transcribed by Rev Transcription Services. Everyone was asked to provide informed consent form at the beginning of every interview, the electronic form is shown in Appendix G. The third interview's consent form also included demographic questions that asked people to provide their gender, age, and citizenship status— Appendix H. The three interview schedules were developed and pilot tested during three focus groups ($n = 11$; held in December 2016). All semi-structured interview schedules are shown in Appendix I.

Semi-structured interview schedules were appropriate because they allowed the use of probes to understand people's viewpoint better, fostered a comfortable conversational tone, and allowed the interviewer to gain richer detail when themes of special interest arose (Creswell, 2009). During their interviews participants were asked to self-define sustainable product or clothing attributes and behaviors due to lacking universal definitions (Carter & Rogers, 2008; S. Kaiser, 2008), and to ensure participants reflected on and defined their personal sustainability values during each interview. Consumer knowledge about sustainable clothing was made freely available by providing a login and password for full access to ProjectJUST.com after the first interview via the e-mail shown in Appendix J.

The first fifteen minutes of each interview was spent discussing participant definitions, sustainable product attributes, and intentions to consume sustainably in general—usually, participants discussed their food or household product purchases. The first question participants were asked in every interview was 'how important would you say sustainability is to you, on a

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scale of 1 – 10, 1 if is low and 10 is high?" After fifteen minutes the conversation was abruptly switched with the question "tell me what you look for when you shop for clothing." When low prices were described as an important shopping criterion, participants were then asked questions such as "tell me when an item of clothing, such as a plain t-shirt or pair of jeans, becomes expensive for you?" The topic was then shifted again to discuss their definition and knowledge of sustainable clothing, as well as their intention to buy it. Participants were asked questions such as "how would you define sustainable clothing, today?" "do you own any sustainable clothing by your definition?" "do you think you could find sustainable clothing that met your other clothes buying criterion?" and "do you know where to find sustainable clothing?" In the final twenty minutes of their first and second interviews, participants were exposed to ProjectJUST.com for 5 minutes—more than twice the average time spent by users on the site which is only 2 minutes according to Google Analytics data about ProjectJUST.com. No surfing constraints were given so that more authentic user experiences could be emulated in the interview. After exposures to ProjectJUST.com, participants were asked about their user experience, which parts of the website they had visited, what they learned, and if they believed that it had changed their behavior. They were also asked to make recommendations for improvement of the website.

The first and second interviews asked similar questions and used the same procedure. During the third interview, participants were not exposed to ProjectJUST.com but instead were asked to draw on their memory of the website, and more time was spent asking participants if they had visited ProjectJUST.com, and if they had contemplated, planned, or taken any action to change their clothing consumption behaviors in the last six months. Questions were posed such as 'have you noticed any differences in the amount of information you look for when you shop for clothing', 'do you think ProjectJUST.com has changed the way you shop?', 'do you think

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this interview process has changed the way you shop?' and 'did you use ProjectJUST.com outside of these interviews?" In the last 15 minutes of each interview, participants were asked about their user experience, which parts of the website they visited, what they learned, if they would go back and if they believe that it had changed, or could change the way they shopped for clothing. They were also asked to make recommendations for improvement of the website.

Data analysis.

Transcripts were analyzed selectively, following the advice of Saldaña (2016). The first and third interviews were selected for analysis because these captured perceived changes in clothing consumption behaviors over the entire study period, leaving 70 interviews with 35 participants that were included in the final analysis. In accordance with Prochaska's (2008) suggestion that pressure to change behaviors will diminish as time passes, the second interview served primarily as a second opportunity to expose participants to ProjectJUST.com and to discuss their sustainability values and clothing consumption behaviors again.

Grounded theory was employed throughout repeated engagements with the interview transcripts, and applied codes were constantly compared to generate a general theory that was rooted in participant perspectives (Saldaña, 2016; Wutich & Gravlee, 2010). Accordingly, a theme defined as "... an underlying (dimension of) meaning that cuts across a variety of expressions" (Wutich & Gravlee, 2010, p. 196).

A three-stage process was used to analyze interview data, as recommended by Miles and Huberman (1994). First, thematic codes were applied to interview transcripts line-by-line using the 11 Plus version of NVivo computer-aided qualitative analysis software. Provisional codes were formed by hunches, and by reviewing coding suggestions that were written as field notes during all interviews, although most codes in the first stage of analysis were iteratively derived,

as suggested by Saldaña (2016). In the second stage of analysis, a summary statement of both interviews was written for each participant. Data saturation, though a hotly debated subject in qualitative research, was considered adequate when further analysis revealed no new themes (Glaser & Strauss, 1967; Saldaña, 2016). Data saturation was deemed sufficient after 30 participant interviews were analyzed, but 35 participants were included in this analysis to ensure that no further themes emerged beyond the saturation point. Third, in a slight departure from the recommended summary tables, codes were organized in NVivo into categories, and the structure that emerged was used to present the key thematic findings in this chapter. In this final phase of analysis, themes were categorized using selective and axial coding methods to create a reporting structure, or 'story' (Creswell, 2009; Glaser & Strauss, 1967; Saldaña, 2016).

All applied codes were defined in a codebook, a sample of which is shown in Appendix K. and were adjudicated by two research assistants for accuracy, clarity, and consistency. Research assistants' adjudication protocol is shown in Appendix L. Throughout the data analysis process research assistants were consulted weekly to discuss emergent themes, the final reporting structure, and to confirm findings. Saldaña (2016) questions "… the utility and application of intercoder agreement for qualitative data analysis since the entire process is an interpretive enterprise. Thus, research teams may wish to dispense with such quantitative measures altogether and rely on intensive group discussion" (p. 37). Accordingly, the agreement goals for this study included affirmative adjudication of all applied codes throughout the line-by-line data analysis and simple group consensus during weekly 1-hour discussions about the applied codes and their categorizations. Themes were then compared with selected literature where appropriate, as recommended by Creswell (2009). Finally, the two research assistants reviewed the findings in

manuscript form, and group consensus was achieved after approximately four months of analysis between February 2018 and May 2018.

Findings

The purpose of this qualitative inquiry was to identify and describe the factors that motivated, or amotivated, green Millennials in the northeastern USA to seek online sustainable clothing consumer knowledge. Participants often confounded reasons for seeking knowledge about sustainable clothing with reasons for buying sustainable clothing (or not). Interconnections and contradictions between themes were also common. Themes are described below with an attempt to capture the interconnected and contradictory nature of participant responses, appropriately grounded in their own words. Findings suggested that amotivating factors had a stronger effect on participant behavior compared to motivating factors, as evidenced by the small number of people who chose to seek online sustainable clothing consumer knowledge during the study period from any source.

For the sake of presentation, themes have been organized using Ryan and Deci's (2000) conception of amotivating and motivating factors, and further subdivided into extrinsic and intrinsic categories, although there are considerable overlap and contradictions between the factors presented below. Extrinsic motivation is usually characterized as weaker than intrinsic, but extrinsic motivation can be particularly strong when people feel "resentment, resistance, and disinterest or, alternatively, [they have] an attitude of willingness that reflects an inner acceptance of the value or utility of a task" (Ryan & Deci, 2000, p. 55). This type of powerful extrinsic motivation can be roused, for example, by passively receiving negative clothing brand information which results in avoidance, or boycotting behavior. This section first addressed amotivational factors, followed by motivational factors, and the implications of this study's

findings for online sustainable clothing consumer knowledge platforms were described throughout. The theme structure that emerged and the number of references that were coded under each theme are presented in Table 3.2.

Table 3.2

Overview of Themes

Amotivation	References	Motivation	References
Extrinsic amotivation		Extrinsic motivation	
Selectively sustainable	41	Stewardship	48
Personal relevance	124	Prestige	37
Price Objections	98		
Transparency	93	Intrinsic motivation	
		Feeling good	88
Intrinsic amotivation		Cost savings	54
Willful ignorance	87	Reflection on attitudes	27
Expressive needs	56		

Note. References are the number of passages of text assessed under this theme within all interview transcripts analyzed.

Amotivating factors.

Ryan and Deci (2000) define amotivation as having no intention to act, usually as a result of believing a behavior has no value, being incompetent or unable to perform a behavior, or that the behavior will not produce the desired outcome. Ryan and Deci do not parse amotivational factors into intrinsic and extrinsic, but the subcategorization was appropriate here given the themes that emerged. Although 23 people made 69 references to an attitude-behavior gap in their own clothing consumption behaviors, only 10 participants visited ProjectJUST.com outside their interview exposures during the six-month period. This finding suggested that amotivating factors had a stronger effect on participants' knowledge-seeking behavior compared to motivating factors. During their interviews, participants consistently conflated motivation to seek knowledge about sustainable clothing with their motivations to consume sustainable clothing. Extrinsic amotivating factors suggested by this study's findings included selective participation in

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sustainability behaviors, lacking personal relevance, price objections, and skepticism about the transparency of consumer knowledge. Intrinsic amotivating factors included willful ignorance and the perception that sustainable clothing will not meet expressive needs.

Extrinsic amotivation.

Selective sustainability behaviors.

The people interviewed were self-reported green consumers who described having extensive prior knowledge about sustainability issues in general. Sustainable product attributes were usually described in tandem with sustainable behaviors that they participated in such as recycling, reducing product packaging waste, or buying local food. However, 15 people made 41 references to being selective in their choice of sustainable behavior participation, supporting prior findings that sustainability values are not applied equally across contexts (Bamberg, 2003; Nordlund & Garvill, 2002; Peattie, 2010). Participants were willing to overcome minor inconveniences to practice some sustainable behaviors such as carrying a reusable water bottle with them all day to avoid creating plastic waste (4 people described this behavior, while many more water bottles were observed in the interview room). As another example, participant 23 enjoyed overcoming the challenge of consuming an entire box of food when they purchased local farms shares by searching for new recipes: "I look in this bag and go 'oh, look. Some kale, and some zucchini, and what am I gonna do with that?' So I like that... A few restraints enhances creativity." In contrast with their willingness to research and try new recipes, participant 23 later expressed that they were somewhat less willing to do sustainable clothing research:

They're all really important. You need to pick your battles… and this is a humongous example of racial and class privilege that I don't think about as often… If I found out a

company was doing something terrible, I would feel terrible about having purchased

[clothing] from them. But it's not something that I've sought out information about.

Participant 4 was less apologetic about their complacent attitude: "certain things, I just don't have

the mental space to care about." Unwillingness or lack of time to do clothing research was a

common sentiment among 27 participants (82 references). 23 participants (49 references)

mentioned the importance of supporting 'good' brands that support causes people care about, 9

participants (29 references) were willing to stop shopping at a brand if they heard negative

information, but such judgements would need to come passively via media they already engage

with or via word-of-mouth (5 references, 4 participants). Results suggested green Millennials are

highly unlikely to seek out online sustainable clothing consumer knowledge actively. The

implication for online sustainable clothing consumer knowledge platforms and activists is that

negative brand information should be pushed to consumers through their preferred media,

instead of trying to pull users away from familiar online platforms to a website.

When asked about sustainable products generally at the beginning of their interviews,

participants often described sustainable product attributes along with a personal behavior they

participated in, such as buying local food, suggesting that an attitude-behavior gap was less

prevalent in some contexts. Behaviors, intrinsic, and extrinsic motivations were described

simultaneously. For example, participant 1 described how their concern for toxic chemicals (an

extrinsic motivation) propelled them to buy more expensive products for their baby (an

inconvenient behavior) because of the potential for negative health consequences (an intrinsic

motivation):

I'm pretty worried about chemical things, probably the reason why I buy only chemical-

free diapers for my baby and probably it's one of the most expensive products for him...

Yeah, especially when it is directly attached to our body or we have to consume that directly into our body. Also, I consider the environment. I believe that we use too much harmful material to grow products and I think that we should reduce the amount. I hope my consumption will contribute to the movement a little bit. It's the reason why I signed up for this [farm share]. (Participant 1)

Buying local food and farm shares was normal behavior for 29 participants (87 references). Most described buying local food because, similarly to participant 1, they believed has it was a positive extrinsic effect on their local community and the global environment. Buying organic food also held an intrinsic benefit for their health, and/or extrinsic benefits for the health of others which provided a sense of stewardship.

In contrast with their description of sustainability generally at the beginning of their interviews, the relationship between personal behavior, intrinsic, and extrinsic motivations were not clearly drawn when the conversation later turned to sustainable clothing—even though participants had been primed to give the most socially desirable answer. There was no limit to the number of characteristics participants could identify when they were asked the question "what characteristics are you looking for when you shop for clothing?" In response, only 7 participants mentioned sustainable or ethical attributes as one of their clothing purchase criteria during any of the 70 interviews that were analyzed (19 references). Of these 7 participants, 2 mentioned seeking clothing with sustainable or ethical attributes during their first interviews only, 4 mentioned this during their third interviews only, and 1 participant mentioned this in both interviews that were analyzed. In summary, participants described selective applications of their green attitudes to their consumption behaviors. This factor was closely interconnected and confounded with personal relevance.

Personal relevance.

Participants accepted minimal, or no responsibility for contributing to the problematic demand for unsustainable clothing making them less likely to search for information about it. Several participants had at least some prior knowledge that clothing supply chains could harm people or the environment: 15 participants made 44 references to sweatshops without being prompted, 9 participants made 19 references to knowing about environmental problems caused by clothing manufacturing, and 4 participants made 5 references to animal rights issues in clothing supply chains. As noted above, participants accepted responsibility for their contributions to sustainability issues in general product categories, particularly food. When the conversation turned to clothes, participants perceived a considerable distance between their consumption behaviors and sustainability issues. For example, participant 31, a graduate student studying nutrition who usually bought local food, described an experience they had while conducting field research:

> When I was in Cambodia last year, they were talking about how they had to tear down a bunch of vegetable and fruit trees to plant cotton plants and stuff like that because the demand for clothing and cheap textiles was up through the roof. They had to, it was very sad to hear, actually. Very unfortunate that they, it's driven, the demand for these types of things that have driven the destruction of a lot of habitat and vegetation.

The same participant (31) described how their price sensitivity forced them to buy from retailers that they did not trust, and they created distance between themselves and their personal responsibility for contributing to the demand had they derided a few minutes prior:

So that means I'll buy Target or whatever, made in Bangladesh or something. I'm fairly

certain that the people who've made my sweatshirt are not being treated very fairly. At

the same time, I'm only one person here, and I'm very far removed ... We all have our

own life struggles, too.

Every participant had reasons that they were on a tight budget or had little time for clothing

research such as buying a new house, attending a graduate program, or having babies/children.

As such, the responsibility to create demand for sustainable products was usually ascribed to

other people who were more financially stable or had more time in their schedule to do the

necessary research. Participants did not feel personally responsible for consuming clothing

sustainably and viewed the behavior as unattainable, making consumer knowledge seeking

unlikely.

The responsibility to behave sustainably was sometimes ascribed to businesses and

governments by 8 participants (7 references)—especially if boycotting a business was not

convenient. For example, participant 14 contrasted their distaste for the President of the United

States in 2017, Donald Trump, with their loyalty to Amazon.com:

It's hard, they have everything but also apparently Trump products. Can someone else

boycott them for me?... To really stop things like child labor or underpaid workers

overseas from happening that has to come from more of a policy standpoint because there

are always going to be people who will buy the lowest cost item out of necessity

(Participant 14).

Externalizing the responsibility for sustainable consumption has been correlated to attitude-

behavior gaps among green consumers (Eckhardt, Belk, & Devinney, 2010) The insistence that

sustainability measures should come from the top (corporations and governments) instead of the

bottom (personal consumption behaviors) because of tight budgeting is consistent with the

literature on Millennial sentiment ("Who Are Millennials," 2016), and amotivated sustainable

clothing consumer knowledge seeking.

A surprising finding was that even people who had witnessed sweatshops first-hand had

failed to make the connection between their personal clothing purchases and the conditions they

had witnessed prior to their interviews, such as participant 29 who grew up in China:

> I remember when I was young, my mom used to work in the factory which just to make,
> like creating the pattern on the fabrics like silk or cotton. Then sometimes I went to her
> factory, and then I saw there's a lot of like smelly stuff, because of the dying. Then
> overall, the space was very crowded, and then it was super hot during the summer. I just
> cannot believe nowadays that people work in such an environment, to making those
> fabrics. Yeah. I never thought like, currently from my clothes to these labels. But when I
> think about that, there's really a lot of relationships.

In summary, personal relevance findings suggest that, in contrast with their sense that recycling

or buying sustainable food was personally relevant, most participants distanced themselves from

the responsibility to consume clothing sustainably. The responsibility for creating demand for

sustainable clothing was ascribed to others who had more time and/or money, as well as

corporations and governments—even by participants who had witnessed the destructive and/or

inhumane effects of clothing production. This was surprising because participants had been

primed to give a socially desirable answer. Participants who mostly purchased second-hand

clothing were the only exception to the rule of personal relevance: 14 participants actively sought

out second-hand clothing on a regular basis and most linked this behavior to textile waste

reduction. The remaining participants either did not mention second-hand items as sustainable clothing options or reported that they had not and/or would not buy second-hand clothing.

Price objections.

Participants conflated price objections with reasons they were unwilling to seek online sustainable clothing consumer knowledge during the study period. The perception that sustainable clothing was more expensive than conventional clothing was referenced 33 times by 11 participants, the preference or need for low-cost clothing was referenced 130 times by 34 participants, and unwillingness to pay any perceived premium for sustainable clothing was referenced 53 times by 20 participants. In more extreme cases, 12 participants explained that the high prices themselves were an indicator of sustainability (23 references). The perception that sustainable clothing is more expensive than mainstream clothing, and the finding that people are unwilling to pay a premium price has similarly been identified in prior studies as a key amotivational factor in sustainable clothing consumption behavior (Amed et al., 2016; Carrigan, 2017; Cline, 2013; Hiller Connell, 2010; "LIM College Study Reveals That When it Comes to Buying, Millennials Are Not Eco-Fashionistas," 2018, "Women's clothing - US: Attitudes toward clothes shopping," 2017; Wiederhold & Martinez, 2018).

Premium pricing for sustainable products in other categories was more palatable for this study's participants: "I'll see items that will be say made with recycled plastic or biodegradable, and I find that appealing as a consumer. Sometimes they cost more… but I feel better buying that one" (Participant 25). Within many product categories, such as cars or food, green consumers often hold the view that the cost of most products is unrealistically low because there is a damaging toll on the environment is that is excluded from the final price (Peattie, 2001). This attitude did not extend to clothing because the added cost premium was characterized as

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comparatively excessive. Participants perceived the price of sustainable clothing to be, on average, twice the price of mainstream clothing and were unsure what made the premium worth paying: "if it's like, $30 for, like, a basic t-shirt. I would wonder what you're actually getting that makes it $30 as opposed to $15" (Participant 16). Paying the premium price for sustainable clothing was characterized as unreasonable, and disproportionate to the premiums paid in other product categories: "I think in [the clothing] category there's more of a gap… Whereas buying recycled toilet paper is not as much of a financial burden or like green products that are eco-friendly" (Participant 14). When asked what price threshold made a piece of clothing expensive, t-shirts ranged from $9 to $30 USD, and for jeans most people thought $50 USD was expensive: "$100.00 for a pair of jeans. That's ridiculous" (Participant 27). In accordance with Cline's (2013) assertion, this study's findings suggest that the lowest price was viewed as being the fairest and reasonable. Many sought low-cost clothing, or deep discounts and sale items when they shopped for clothing—even at low-cost retailers or second-hand stores (referenced 130 times by 34 participants). Accordingly, the knowledge that participants wanted before they bought an item of clothing was usually price comparison information and trustworthy product reviews. Participants were unlikely to seek knowledge about the clothing they that they did not think they could afford, and therefore objections to the perceived price premium on sustainable clothing amotivated participants to seek online sustainable clothing consumer knowledge during the study period.

Transparency.

Skepticism about consumer knowledge, in general, deterred some participants from using ProjctJUST.com because it might be untrustworthy or an overstatement. Throughout the interviews analyzed 17 participants made 35 references to a perception that most corporations

lack transparency or are guilty of green-washing—a term that refers to the use of false or misleading sustainability claims to market products. For example, organic labeling on food was usually considered green-washing among interview participants. Participant 7 summarized: "it's nice to see USDA Organic Certified, but I also know, and I've read articles about how their standards does not necessarily indicate certain things that I might want it to mean." Instead of searching for labels they did not trust, most participants looked for local food whenever possible.

When transparency among clothing brands was discussed, participants seemed even more mistrusting (25 participants made 58 references). For example, referring to 'made in the USA' labels, participant 6 said: "They tell you where it's made and everything so I think that's fine. But we don't know if they are using child labor or are they treating their workers well after treating the clothes." Some prior scholarship has suggested the need for industry-wide sustainable garment labeling (Weiss et al., 2014), and other studies have suggested that such labels have been shown to have limited influence or utility (Adams, 2012; Dickson, 2001).

ProjectJUST.com was not immune to green-washing accusations, partly due to the Just Approved lists and their links to online stores. Participant 9 summarized a common theme: "So my first assumption was that it was a, they were selling clothes themselves." In total, 19 participants made 62 references to being confused about the website's purpose. Product recommendations on the Just Approved pages seemed to add to the confusion. For participants with the strongest green attitudes, shopping from a platform that espoused the virtues of sustainable consumption seemed contradictory because their green attitudes prioritized anti-consumption or second-hand shopping behaviors. ProjectJUST.com did have content that described the virtues of buying second-hand clothing and extending the life of garments with superior care, but this content was easily missed when participants spent most of their time using

the brand wiki, as was often the case. Some participants became suspicious about the economic gains that ProjectJUST.com might be receiving from the sale of Just Approved products. These participants did not acknowledge that ProjectJUST.com requires financial support to maintain the website; altruism was expected.

Instead of using a platform like ProjectJUST.com, 22 participants said they preferred to get their clothing brand information from other sources such as social media or word of mouth (59 references), and 9 participants said they would stop shopping from a brand if they heard negative information about their environmental or ethical practices (29 references). Skepticism and transparency findings suggest that promoting sustainable clothing consumption behaviors online might be done more effectively by pushing consumer information through platforms that people already use, such as social media, because people are more likely to see and trust the brand information they receive through this medium. Findings also suggest that product recommendations should be made cautiously because these can negatively influence the perception that an online sustainable clothing consumer knowledge platform is trustworthy.

Intrinsic amotivation.

Willful ignorance.

The active rejection of sustainability information and prior knowledge has been termed 'willful ignorance,' and is described as a coping mechanism in which feelings of helplessness are soothed by choosing not to consider sustainability attributes while shopping (Ehrich & Irwin, 2005; Walker Naylor et al., 2013; Zane et al., 2015). Findings suggested that willful ignorance was a strong amotivational force among this study's participants that reduced the likelihood of online sustainable clothing consumer knowledge seeking. This finding was implicitly suggested when participants volunteered definitions of sustainability in general with ease and in tandem

with their own sustainable behaviors, as described above, but when the conversation turned to clothes, 21 people expressed that defining sustainable clothing attributes was difficult in their first interviews (44 references) because they were considering it for the first time, as participant 5 summarized:

When I think of sustainable, I always pictured it more in the food and hybrid car kind of context. Even, I've never really seen what a sweatshop is, so I don't really have as tangibly of an understanding of how that works in the scheme of things. I think that I'm more removed from that issue, makes it harder.

29 participants claimed that they were not completely informed about the clothing they consume (83 references). 20 participants also felt that the information they had was sufficient (35 references) suggesting that they were not interested in seeking more knowledge about their clothing, even if they felt uninformed.

When directly asked if they were willing to seek more information about the clothing they consume, 27 participants made 82 references to a feeling that they did not have time, or did not want to research the sustainability of their clothing purchases because that would make shopping less fun or convenient: "I just want to shop for clothes. I don't want to think about all this hassle of how it's made and whatnot, or the impact it has ... It shouldn't be such a huge hassle" (Participant 10). Participant 14 explained, "I think shopping, you want it to be a fun experience and that would get in the way of that." Accordingly, findings suggested that participants were unlikely to actively seek consumer knowledge about sustainable clothing from any source, which corroborated prior findings on the prevalence of willful ignorance among clothing consumers (Boulstridge & Carrigan, 2000; Carrigan & Attalla, 2001).

Acknowledgment of the attitude-behavior gaps and willful ignorance were reported by 23 participants (69 references). Attitude-behavior gaps were usually described in conjunction with price sensitivity. For example, participant 14 explained that they continued to shop for brands that they suspected of using underpaid child labor because of their low pricing:

> I'll read about this stuff because I'm actually interested in it and then when I'm shopping I'm not necessarily even thinking about that… We know days when we just want a three-dollar camisole from Old Navy even though I know underpaid child labor probably made it. Three dollars!

In most circumstances, price-motivated willful ignorance induced expressions of guilt, as Participant 7 explained:

> There's a budget issue, but here's this place now that's providing this information so that it's easier to tell which brands to support. I either don't make the time for it, or I find something out I don't like, but I end up in their store and buy something I really like… You make me feel guilty… Because if I'm living in ignorant bliss… seeing how the sausage gets made… Sometimes it's good to know, well it's probably always good to know because then you have a great understanding and you can make more informed decisions, I feel like it's always better than not. Man, sometimes you just wish you didn't know. (Participant 7)

In summary, the prevalence of willful ignorance among the group would suggest that guilt-avoidance was an inhibitor of active consumer knowledge seeking. By reaching consumers more passively via mediums they already engage with, such as social media, online sustainable clothing consumer knowledge platforms could harness guilt more effectively and potentially overcome the willful ignorance barrier by making the information harder to ignore.

Expressive needs.

The primacy of meeting expressive needs when buying clothing was an amotivational force that reduced the desire to seek information about sustainable clothing. 25 participants made 37 references to their assumption that they would need to compromise on their expressive needs in order to consume clothing sustainably, and that sustainable clothing was considered unfashionable or undesirable, supporting prior research (S. M. Butler & Francis, 1997; Hiller Connell, 2010; Zane et al., 2015). Participants believed that sustainable clothing was not their style because "it's just a general hippie vibe" (Participant 7), and it was also more expensive making it unattainable even if they liked the product, as participant 14 explained:

> [I can't find clothing at] those little indie brands that have great style and supposedly great labor practices 'cuz, you know, a sundress is $400. I can't afford things like that. And then to go more like, I don't know I guess, Patagonia's also really expensive but that's not my style so much if you get into the crunchy granola type or the super outdoorsy type of stuff.

Negative attitudes towards the style and price of sustainable clothing made participants less likely to seek out information about it because it was viewed as inferior, or meant for someone else with a different style and/or a bigger clothing budget. The implication is that people's perception of sustainable clothing as unfashionable and too expensive will need to change before they are willing to seek more information about it. Among this study's participants, having the sense that cheap clothing was made in sweatshops was not enough to stop them from shopping for $3 USD tank-tops—price and expressive needs must still be met to entice people to consume clothing more sustainably.

Motivating factors.

Motivating factors have been organized into extrinsic and intrinsic motivations for the sake of presentation, although there is considerable overlap between the factors presented below. According to Ryan and Deci's (2000) definition, intrinsic motivations refers to being moved to do something because it is an inherently interesting and enjoyable process, while extrinsic motivation refers to being moved to do something because it has an outcome that is separable from an enjoyable process. Participants expressed extrinsic motivation to seek knowledge about or to consume sustainable clothing because of their inclination towards stewardship, as well as a desire to model behavior or raise awareness in others—as long as they did not appear too self-interested in doing so. Intrinsic motivations to seek information about, and in turn consume sustainable clothing, included feeling good about oneself for making informed and conscientious decisions, and saving money. Finally, participants explained that any increases in their motivation to seek online sustainable clothing consumer knowledge or to consume clothing more sustainably, were primarily the result of reflection during one-on-one conversations. Participants described ProjectJUST.com as a resource to inform themselves but, as noted, only 10 participants chose to access the website outside of the interview stimuli suggesting that the motivational factors described below were less impactful than amotivating factors during the study period.

Extrinsic motivation.

Stewardship.

Findings suggested that assuming personal responsibility for the protection of the environment and human dignity, here termed 'stewardship,' could serve as a strong motivational factor in consuming clothing more sustainably, and in turn, seeking consumer knowledge about

how to do so. This was evidenced by 28 participants who made 86 references to a feeling of responsibility to behave in a sustainable manner because they are "… some tiny, cog in a very large machine… what little economic power I have, should be going for good and not evil…." (Participant 13). A 'drop in the bucket' analogy was frequently used describe personal contributions to climate change: "it's kind of hard to conceptualize. I don't feel like I'm making a huge impact, but I understand the importance of kind of a drop in the bucket effort" (Participant 24). Participants unanimously believed that their general consumption behaviors had the power to impact climate change, labor rights issues, or making self-defined meaningful differences— this is consistent with prevailing research on Millennial consumer sentiment (Cone Communications, 2017; "Who Are Millennials," 2016). Participants felt that their purchase power had the biggest effects on sustainability when they supported brands that were behaving in an ethical and environmentally friendly way (23 participants, 86 references), reducing waste such as excessive product packaging (24 participants, 47 references), and by supporting local businesses (14 participants, 29 references). Tapping into these perceived responsibilities could be a motivating factor in generating demand for sustainable clothing, and demand for consumer knowledge about such behaviors.

Participants were not deterred by the rigors of sustainability knowledge seeking generally. Many participants cared so deeply about making a positive contribution to sustainability causes that they had dedicated their course of research, and indeed their careers, to seeking and contributing more knowledge to this end. For example, participant 15 explained how their interest in environmental stewardship lead them to research and practice environmentally motivated consumption behaviors voraciously, even when the behaviors were inconvenient:

An interest in the environment, studying the environment, reading a lot as a student,

reading outside of being a student, becoming like changes in eating habits, general

cognizance about the amount of waste people contribute to, animal rights stuff… This is

the hardest thing to do, is not buy things that have a lot of plastic or things that are

eventually going to end up in the landfill or in the water.

In summary, among this green Millennial group, stewardship played a strong role in their

appetite for knowledge seeking in general, suggesting that online consumer knowledge platforms

should, therefore, emphasize personal responsibility, personal relevance, and stewardship in their

content to attract more users to the site and promote desirable behaviors.

Prestige.

A sense of prestige could serve as a motivational force in encouraging sustainable

clothing consumer knowledge seeking and consumption behaviors if harnessed appropriately.

When participants were asked 'do you think it is important for others to know when you have

bought a sustainable product in general?' 34 participants explained that they wanted their

sustainable choices to raise awareness in others via modeling and discussing sustainable

behaviors, but not at the risk of offending others, and without bragging (72 references).

Sustainable consumption was often described "like a lifestyle, that it affects your reputation, that

it comes with this identity" (Participant 12). Bragging about one's sustainable behaviors was

described as a character flaw of the 'social justice warrior.' Social justice warrior was a popular

slang term of derision used during the study period to describe people that were annoyingly

vocal about their sustainability values and behaviors, or too aggressive in their efforts to raise

awareness ("Words You Can't Say," 2018). Participant 20 described the tenuous relationship

between raising awareness, personal identification, and modeling sustainable behaviors:

I'm not the type of person who seeks the gratification. Like, 'Oh, I buy this, and you

should too.' I mean, I don't tell people how they should live… I don't personally think I

deserve bragging rights just because I do it. In my opinion, it's just something you should

do anyway.

In tandem with voicing concerns about being perceived as a braggart or social justice warrior,

participants simultaneously mentioned that they would like to promote sustainable behaviors

among their peers: "if you tell people, 'I bought a reusable water bottle' maybe they'll buy one

and then you're helping to promote that as a cause" (Participant 9). The conflict between raising

awareness and bragging was unresolved and warrants future research, but the finding that

behaving sustainably gave a person something to brag about was revealing. Online sustainable

clothing consumer knowledge platforms could consider emphasizing a sense of prestige, perhaps

in the form of stylishness, to reach more users and promote sustainable clothing consumption.

Having a sense of prestige is an extrinsic motivation because it concerns the perceptions of

others, but prestige was interrelated and conflated with feeling good which is intrinsic

motivation.

Intrinsic motivation.

Feeling good.

An intrinsic motivating theme that arose during interviews was that people feel good

when they consume sustainably (19 participants made 38 references). This finding offered

support for prior research which suggested that people tend to feel good about participating in

behaviors such as recycling or buying organic cotton clothing (Peattie, 2001). For example,

participant 22 recounted: "I actually bought sustainable sponges the other day, which I was really

proud of myself for," and participant 28 exclaimed "I felt really good about it. I bought his vegan

toothpaste. Like excessively good about it." Accordingly, when participants saw their preferred brands on ProjectJUST.com, they also reported good feelings. Participant 27, a loyal customer of Levis jeans, explained "then I saw Levis on there. That made me feel good that they were honorably mentioned." Online sustainable clothing consumer knowledge platforms ought to consider feeling good as a form of instant gratification that they can harness from their site. Making website users feel like they are well informed, innovative stewards and prestigious role models could be a viable strategy which is supported by Bly, Gwozdz, and Reisch's (2015) findings who note that early adopters in, and influencers of, sustainable fashion were motivated by pleasurable feelings, a sense of wellbeing, feeling stylish, and anti-consumption attitudes. Perhaps people could be motivated to learn about and consume sustainable clothing simply because it feels good.

Cost savings.

Price objections and lack of personal relevance were often used as a rationale for consuming clothing without consideration for sustainability, and for failing to access more information about sustainable clothing, as noted above. Prior research suggests that approximately 60% of Millennials are motivated to practice sustainable behaviors such as reducing, recycling, and reusing because it saves them money (Haws et al., 2014; Rosenburg, 2015). Participant 17 explained how cost savings and sustainability were related within their peer group, even when the upfront costs were comparatively higher: "… I know people who own Priuses, and it's certainly not for the sustainability. It's the low gas mileage" (Participant 17). Similarly, 14 participants made 21 references to durability as an attribute of sustainable products which had a cost-saving side-effect. For example, participant 1 said: "I mean, if I have some problem with the product, I have to spend my time and money on repairing or getting

information. So if I buy more durable products, it saves my time and money." Durability and versatility were also characteristics attributed to sustainable clothing by 19 participants (54 references). Therefore the cost savings inherent in paying a little bit more for products up front could be stressed in online sustainable clothing consumer knowledge platform content.

Reflection on attitudes.

In their final interview, 20 participants were asked if the interview or ProjectJUST.com was more salient in changing their behavior; 17 participants said the interview was more salient, 3 participants said both had an equal effect, and 1 said the ProjectJUST.com had a stronger effect in changing their behavior. Participant 32 explained:

> I think it has a lot more to do with me thinking about really matters to me. You're getting people to really think about those important issues... there's a selection bias of course. I'm interested in what sustainable clothing means. I've already had that curiosity and a similar commitment to whatever sustainable living means.

Findings suggest that if reflection on personal values can be harnessed effectively by online sustainable clothing consumer knowledge platforms, they may see an increase in traffic, which is supported by Pooley and O'Connor's (2000) findings that attitudes and emotions are needed to change behavior, alongside consumer knowledge. Creating dynamic conversations about personal values is a tremendous hurdle for websites that do not interface directly with the people they are trying to attract, but, niche market use of online consumer knowledge platforms had done little to change behaviors at a large scale before the study period. The findings presented here suggest that amotivational factors had a stronger effect on participants' desire to seek more knowledge about sustainable clothing, and implied that online sustainable clothing platforms

should consider new tactics that offer dynamic opportunities for reflection on sustainability attitudes and personal responsibility.

Conclusion

In conclusion, findings suggested that the amotivational factors described here were stronger than motivational factors in influencing people to seek consumer knowledge about sustainable clothing from ProjectJUST.com, as evidenced by the low number of participants who chose to seek online sustainable clothing consumer knowledge from any source during the study period. This study's participants were not interested in seeking clothing knowledge actively, so they were unlikely to access a website like ProjectJUST.com, and therefore the effects of such websites on clothing consumption behavior were necessarily minimal. This did not apply only to ProjectJUST.com; participants did not want more information about their clothing at all in some cases (willful ignorance), and they were unwilling to search for information about sustainable clothing actively from any source (selective sustainability, personal relevance, price objections). Instead, participants wanted to receive their information about clothing passively via social media or word-of-mouth from people they trust.

The effect of ProjectJUST.com on behavior was minimal among the participant interviews assessed and was described as a sense that the information was available should they seek it, but few did. The interview effect was described as having more influence on participant buying behaviors because they were invited to reflect on their sustainability values and their clothes buying behavior which made the impact of their clothing consumption more personally relevant. Most acknowledged that there was a gap between their green attitudes and their clothing consumption behavior, while a few minutes earlier in their interview they described exactly how their green attitudes were exemplified by their behaviors such as buying local food.

Despite social desirability effects, only 7 participants (10% of participants) mentioned sustainable or ethical attributes as one of their clothing purchase criteria during any of the 70 interviews that were analyzed (19 references). Of these 7 participants, 2 mentioned seeking clothing with sustainable or ethical attributes during their first interviews only, 4 mentioned this during their 3rd interviews only, and 1 participant mentioned this in both interviews that were analyzed. This suggests that only minor changes to self-reported sustainable clothing purchase intention were experienced during the study period among the group.

Amotivational factors that were described by participants and reported in this study included the selective sustainability, personal relevance, price objections, willful ignorance, and skepticism about the truthfulness of marketing claims and transparency—to which ProjectJUST.com was not immune. Several factors that could motivate sustainable clothing consumption and knowledge seeking also emerged, including stewardship, prestige, feeling good, cost savings, and reflection. Online consumer knowledge platforms should craft their content with amotivational and motivational factors in mind to increase engagement in the use of their platforms so that they can reach their goal of changing popular clothing consumption habits.

An implication of this study is that activist organizations hoping to encourage sustainable clothing consumption might be more effective if they focused on educating consumers via social media, and through dynamic conversation in which people reflect on their personal sustainability values and clothing consumption habits. Technology in 2018 offers a way to reach people all over the world with an activist message, and this study suggests that a push-model of grassroots activism may still be the most effective way to raise awareness. Online sustainable clothing

consumer knowledge platforms would be wise to adopt a push-model instead of a pull-model which tries to convince people to access a website they might not be interested in accessing.

Limitations and future study.

The results of any research are subject to some limitations, and this study is no exception. First, "… the value of qualitative research lies in the particular description and themes developed *in context* of a specific site" (Creswell, 2009, p. 193), and results should, therefore, be generalized with caution. This study was subject to the usual limitations of qualitative inquiries which are interpretive and exploratory and draw their findings from small samples. This study also used a convenience sample from a university, which has been critiqued above. The difference between this study and those that study undergraduates are twofold: first, undergraduates were excluded due to age restrictions. The participants interviewed had more life experience outside of academic settings, and this could affect purchase behaviors by changing priorities, for example, some participants owned their homes which is less common among undergraduate populations. Second, the participants interviewed mostly did not have experiences or much knowledge of the fashion industry, but were green consumers with a willingness to conduct extensive sustainability research. This study, therefore, captures a new population whose behavior and consumer knowledge seeking has not been adequately described by prior scholarship given the emphasis on fashion undergraduate populations among prior studies.

Another limitation of this study was that participants were supplied with only one consumer knowledge resource during the six-month period, although they were encouraged to seek knowledge from any source. Some participants were dissatisfied with the ProjectJUST.com user experience, which may have deterred them from using the site irrespective of their interest in sustainable clothing consumer knowledge. Expressions of dissatisfaction were captured to

learn more about improving online consumer knowledge platforms which led to suggestions for improving the user experience; these insights are the subject of chapter 5. Future studies could employ the methods developed here to assess and compare a variety of platforms and populations or market segments. Further research is also needed to assess the differential effects of using online sustainable clothing consumer knowledge platforms among green Millennials using a vetted model that explains behavior change, or using mixed methods and segmentation approaches; chapter 4 addresses this need.

Acknowledgments

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CHAPTER 4

CLOSING THE ATTITUDE-BEHAVIOR GAP: THE INFLUENCE OF ONLINE SUSTAINABLE CLOTHING CONSUMER KNOWLEDGE ON GREEN MILLENNIAL CONSUMPTION BEHAVIORS

Abstract

Among sustainable clothing scholarship and activism, there is broad, but untested consensus that increasing consumer knowledge will promote sustainable clothing consumption. The purpose of this mixed methods study was to measure and characterize the differential effects of an online sustainable clothing consumer knowledge platform, operationally defined by ProjectJUST.com, on clothing consumption behaviors among green Millennials. In study 1, quantitative survey data were collected from two groups, one group of people had used ProjectJUST.com ($n = 700$) and a group of people who had not used the website ($n = 685$). Study 1 results suggested that ProjectJUST.com users had stronger green consumer attitudes and stronger pre-existing intention to buy sustainable clothing compared to people who had not used ProjectJUST.com. In study 2, qualitative interviews were conducted three-times over a six-month period with 35 green Millennial participants. During their first two interviews participants were exposed to ProjectJUST.com for 5 minutes, and in their final interviews, they were asked to describe any perceived changes in their clothing consumption or knowledge seeking behaviors. Interview transcripts were thematically coded, and findings suggested that the interview process was awareness raising, while the effect of consumer knowledge was a feeling that information about sustainable clothing was available on ProjectJUST.com, but only 10 participants chose to access it between their interviews. Some participants were changed more than others by their experiences during the study and were therefore segmented into four groups based on their progression through 'the stages of change' (Andreasen, 1995; Prochaska & DiClemente, 1982).

This study offers insight for academics and sustainable clothing activists about who is likely to seek online sustainable clothing consumer knowledge, what is the effect on their behavior, and why some participants' behaviors were changed more than others. Implications for websites like ProjectJUST.com are discussed throughout.

Keywords: attitude-behavior gap, consumer knowledge, green consumers, Millennials, stages of change, sustainable clothing.

Introduction

There have been few attempts to measure the effect of online sustainable clothing consumer knowledge in real-world settings, yet there is broad consensus among diverse researchers that knowledge will bridge gaps between green consumer attitudes and sustainable clothing consumption. For the purposes of this dissertation research, consumer knowledge is considered an accumulation of information over time, and consumer knowledge seeking is the active acquisition of information that informs purchase behaviors. In 2018 most consumer knowledge seeking starts with a Google search; if the search terms include 'sustainable clothing,' a myriad of consumer knowledge websites might be listed such as Good on You (Good on You, 2017), Fashion Revolution ("Fashion Revolution," n.d), or DoneGood ("DoneGood," 2018). Considerable time, effort, and money have been spent to create sources of sustainable clothing consumer knowledge, but the efficacy of these efforts in bridging attitude-behavior gaps remains insufficiently measured or described.

Purpose.

The purpose of this sequential, two-phase research was to measure and describe the effects of an online sustainable clothing consumer knowledge platform, ProjectJUST.com, on green Millennial clothing consumption behaviors. In study 1, survey data was collected from two

Millennial groups: (1) people who had accessed ProjectJUST.com ($n = 700$), and (2) people who had not accessed or heard of the website ($n = 685$). The hypotheses that ProjectJUST.com users had stronger green attitudes and stronger intentions to buy sustainable clothing than people who had not accessed the website were supported. Accordingly, in study 2, a smaller group of 35 Millennials with strong green consumer attitudes were recruited to participate in three one-hour interviews over a six-month period. During their interviews participants were exposed to ProjectJUST.com twice for five minutes each time, and they were given full membership to the platform for the six-month study period. Interview transcripts were coded iteratively using grounded theory, and four consumer profiles emerged which were then compared and characterized using the 'stages of change' social marketing segmentation model (Andreasen, 1995). This study offers a more nuanced understanding of how online sustainable clothing consumer knowledge platforms, like ProjectJUST.com, can reach and influence the behavior of different groups of green consumers. Two segments of participants were identified as the most likely among the four to be influenced to change by online sustainable clothing consumer knowledge platforms. This study offers insight for academics and sustainable clothing activists about who is likely to seek online sustainable clothing consumer knowledge, what is the effect on their behavior, and why some participants' behaviors were changed more than others. Implications for websites like ProjectJUST.com are discussed throughout.

Review of Literature and Theoretical Framework

Kaiser and Green (2016) explain that "... any single method has its limits. The wildly interdisciplinary field of fashion studies requires a mixture of methods" (p. 160). Mixing methods have been advocated in fields of social science research because it seeks convergence between at least two types of data and therefore loosens the assumptions of each method to

capture a more realistic and balanced conclusion (Creswell, 2009; S. Kaiser & Green, 2016). Accordingly, this study employed several methods and theoretical frameworks. In study 1, a quantitative survey design was informed by the GREEN consumer scale (Haws et al., 2014) and an expanded theory of planned behavior (Kang et al., 2013). In study 2, grounded theory was used to thematically code interview transcripts (Glaser & Strauss, 1967; Saldaña, 2016), and finally the stages of change segmentation model was used to propose four green consumer profiles based on reported changes in behavior or attitudes towards sustainable clothing consumption and knowledge seeking (Andreasen, 1995; Prochaska & DiClemente, 1982). Descriptions of all frameworks and models follow, presented in tandem with the rationale for their use.

The GREEN consumer scale.

The construct of green consumption values was defined by Haws, Winterich, and Naylor as "… the tendency to express the value of environmental protection through one's purchases and consumption behaviors… consumers with stronger green consumption values (i.e., "green" consumers) are generally oriented toward protecting resources at both the environmental and personal level" (Haws et al., 2014, pp. 336–337). Haws et al. developed the 5-item GREEN consumer scale to measure eco-friendly apparel consumption values among survey respondents. Use of this vetted scale was appropriate for this study because it acknowledges that some consumers are less willing to purchase environmentally friendly clothing because of product preference, limited selection, and/or cost. For example, item GRN_5 asks respondents the following: "I am willing to be inconvenienced in order to take actions that are more environmentally friendly." The GREEN scale was adapted for use in this study to measure

survey respondents' self-reported intention to purchase sustainable clothing, and green consumer attitudes were an observed outcome variable in study 1.

The expanded theory of planned behavior.

The theory of planned behavior has been employed widely in studies of intention to purchase sustainable clothing (Halepete et al., 2009; Hustvedt & Dickson, 2009; Kang et al., 2013) and was selected as a suitable framework for use in this study's quantitative assessment. In a review of empirical papers that employed the theory of planned behavior, Ajzen notes that in most circumstances "... the stronger the intention to engage in a behavior, the more likely should be its performance..." (1991, pp. 181–182). Kaiser, Hubner, and Bogner (2005) explain that despite a heterogeneous history of research, most of the literature on sustainability attitudes and behaviors can be split by two dominating frameworks: the value-belief-norm theory (Stern, 2000), and the theory of planned behavior (Ajzen, 1991). In comparing the two frameworks, Kaiser et al. determined that in a clothing purchase context the theory of planned behavior could "... account for 76% of people's intentions, which in turn explain a stunning 95% of the variance in conservation behavior," while the value-belief-norm theory only explained 21% of people's intentions, and 64% of their conservation behaviors (2005, p. 2165). For the purposes of this study, items from Kang, Liu, and Kim's (2013) expanded theory of planned behavior instrument was adapted to measure intention to buy sustainable clothing as an observed outcome variable.

The transtheoretical model of intentional behavior change.

The transtheoretical model of intentional behavior change, shown in Figure 4.1, integrates leading theories of behavior change into a dynamic process model with six stable but changeable stages that unfold over time (DiClemente, 2007; Prochaska, 2008; Prochaska & DiClemente, 1982). The transtheoretical model was originally developed as a model for health

interventions aimed at changing behaviors such as smoking cessation (Prochaska & DiClemente, 1982), but was used here because it offers a sequence of stages that are common among a diversity of people undergoing behavior changes (Prochaska, 2008). The transtheoretical model has been used in studies outside the health discipline, for example in the study of social media's effects (Levit, Cismaru, & Zederayko, 2016), or in studying the efficacy of teaching methods in ethics education at a business school (Tyler & Tyler, 2006). This model was appropriate for use in this study for three reasons: first, because the stages offer measurable indicators that can help characterize the complex and non-linear phases of sustainability-motivated clothes buying behaviors. Second, the transtheoretical model accounts for changes in behavior that are not always conscious or rational and is non-linear because relapses are common (for example, buying fast fashion impulsively). Third, the stages are typically considered observable over a six-month time frame, which was the same length of time as the study period described here.

Enter

Termination
Behavior becomes automatic

Precontemplation
No recognition of need or interest in change

Maintenance
Ongoing practice of new behavior

Contemplation
Thinking about change

Action
Adopting new habits

Preparation
Planning for change

Exit & re-enter at any stage
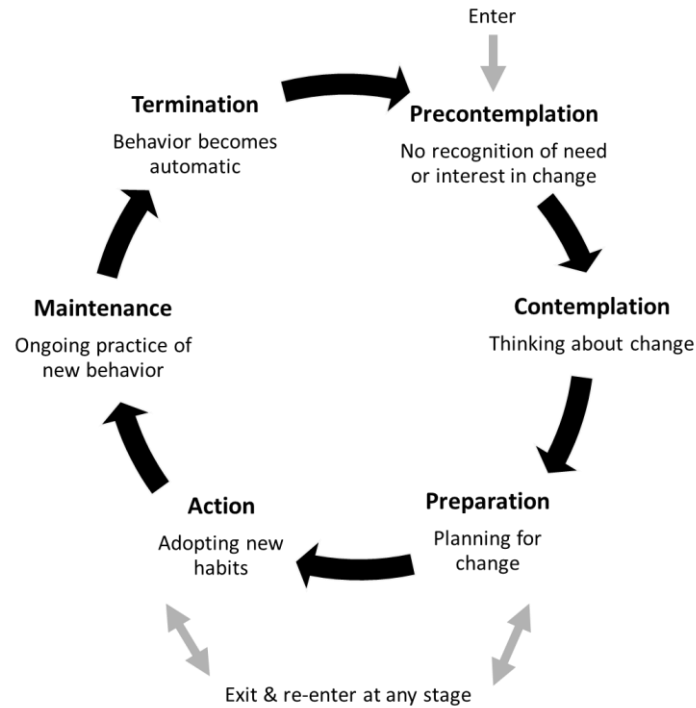
Figure 4.1. The transtheoretical model of behavior change. Figure adapted from "Transtheoretical therapy: Toward a more integrative model of change" by J.O. Prochaska and C.C. Di Clemente, C. C., 1982, *Psychotherapy: Theory, Research and Practice*, 19 (3), p. 283.

Segmenting consumers using the stages of change.

Andreasen (1995) has offered a method of social marketing segmentation that draws from the transtheoretical model, called the 'stages of change.' This segmentation model was appropriate for use in study 2 because ProjectJUST.com was trying to affect behavior change among a broad audience, and by Andreasen's definition:

Social marketing is the application of proven concepts and techniques drawn from the commercial sector to promote changes in diverse socially important behaviors such as drug use, smoking, sexual behavior, family planning, and child care… Most commonly, social marketing is confused with *social advertising*. While many social marketing programs use advertising and advertising techniques, its core approach is much broader. Social marketing recognizes that influencing behavior—especially behavior change—

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cannot come about simply by promoting the benefits of some new course of action.

Careful attention must be paid to the natures of the behavior to be promoted (the

Product), the ways in which it will be delivered (the Place), and the costs that the

consumer perceives they will have to pay to undertake it (the Price). (1995, pp. x–xi)

The acknowledgment of product, place, and price in a cause-related social marketing strategy is

reminiscent of the barriers to consuming sustainable clothing that has been noted in chapter 1:

sustainable clothing is considered unfashionable (product), hard to find (place), and expensive

(price).

The stages of change approach draw from Prochaska and DiClemente who acknowledge

that people tend to move towards behavior change in stages (1982). Influencing behavior

requires a different approach at each stage, hence the need to segment and create differentiated

strategies to influence each group effectively (Andreasen, 1995). Andreasen also notes that when

adopting a social marketing strategy, people that are already demonstrating the desired behavior

or groups that are unlikely to ever adopt the behavior for reasons that cannot be controlled should

be neglected from the overall marketing strategy.

The stages of change segmentation model is useful in this context because it can identify

where resources should be allocated to fine-tune the social message for audiences that are open

to change, thereby offering insights about how websites like ProjectJUST.com can maximize

returns on time, effort, and financial investments (Andreasen, 1995). This mode has been

similarly employed in a report from the Copenhagen Business School to segment young Swedish

consumers (aged 16-30) and compare sustainable clothing attitudes, knowledge, and reported

consumption behaviors between groups. Interview participants in study 2 were therefore

assigned one of the following four groups based on the changes they reported to their sustainable

clothing consumption or knowledge seeking behaviors over the study period.

Group 1: Precontemplation, or 'precontemplators.'

"Precontemplation is the stage in which the individual is not intending to take action in

the foreseeable future (usually measured in the next six months)" (Prochaska, 2008, p. 845).

People in the precontemplation group, here referred to as precontemplators, had no intention to

consume sustainable clothing or seek knowledge about the behavior at the end of the study

period. Precontemplators may not be aware of sustainable clothing behaviors at all or suspect

that it will be difficult to consume clothing sustainably. Most participants in this study started the

six-month period in this group, but many passed through this stage quickly. Other

precontemplators will not change for reasons that cannot be controlled, for example, they may

not believe in climate change or ever acknowledge that buying unsustainable clothing is a

problem, therefore targeting this segment via marketing strategies would be a poor use of

resources (Andreasen, 1995).

Group 2: Contemplation, or 'contemplators.'

"Contemplation is the stage in which people are intending to take action in the next 6

months. This stage is characterized by considerable ambivalence..." (Prochaska, 2008, p. 845).

People in the contemplation group, here referred to as contemplators, are aware of the harm

caused by clothing manufacturing and are seriously thinking about how they can consume

clothing more sustainably. Usually, contemplators have not taken any action because they

suspect that finding sustainable clothing that meets their price, color, fit, or style needs will be

difficult. Demonstrating the benefits of sustainable clothing to contemplators is a worthwhile use

of resources because they are willing to change, but are still rooted in undesirable behaviors (Andreasen, 1995).

Group 3: Preparation, or 'preparers.'

Preparation is a stage of change in which a plan is made to act immediately (within a month), and actions that align with the desired behavior have usually happened within the preceding year (Prochaska, 2008). People in the preparation stage, or 'preparers,' have made small behavioral changes, or 'taken baby steps' towards consuming clothing more sustainably, but might still purchase mostly mainstream or fast fashion clothing (Gwozdz et al., 2013). Preparers might have adjusted their attitude towards second-hand clothing, looked up their favorite brands on ProjectJUST.com, evaluated new sustainable clothing options, but they have taken few if any actions to change their consumption behavior. To target preparers, demonstrating where and how to find sustainable clothing could be a worthwhile use of resources because they are ready and willing to change—preparers just need an extra nudge (Andreasen, 1995).

Group 4: Action and maintenance, or 'maintainers.'

The action stage of change in which people have adjusted their behavior within the preceding six months, and maintenance encompasses those who are maintaining their prior relevant behaviors, here referred to as maintainers (Prochaska, 2008). The gap between sustainability attitudes and consumption behaviors is narrower among maintainers. Consuming clothing more sustainably has become a habit and is sometimes viewed as an outward expression of their green attitudes. Buying second-hand clothing, mending, donating, or recycling their used clothing are the most common sustainable clothing consumption behaviors reported among this group (Bly et al., 2015). Maintainers are usually formed by a small group among studies of

sustainable clothing consumers (Bly et al., 2015; Gwozdz et al., 2013). Maintainers are already demonstrating the desired behavior, therefore targeting this segment via marketing strategies would be a poor use of resources (Andreasen, 1995).

Hypotheses and research questions

   Study 1: Quantitative survey hypotheses.

   Study 1 was used to identify the pertinent psychographic characteristics of Millennial ProjectJUST.com users to inform participant recruiting in study 2. Prior findings have suggested that people who engage in sustainable clothing consumption behaviors often have strong pro-sustainability attitudes (Bly et al., 2015; Haws et al., 2014). To test if this was true, H1 measured the green consumer attitudes of people who had used ProjectJUST.com, and people who had not using the GREEN scale (Haws et al., 2014). It was hypothesized that:

   H1) ProjectJUST.com users will report stronger green consumer attitudes than non-users.
Results suggested that green consumers were well suited to participate in study 2. Intention to buy sustainable clothing was assessed using Kang, Liu, and Kim's (2013) vetted behavioral intention items, and user experience data was collected and compared with Google Analytics information about the website's user base. The following was hypothesized:

   H2) ProjectJUST.com users will report stronger intention to consume sustainable
   clothing than non-users.

   Study 2: Qualitative interview research questions.

   Chapter 1 presented evidence that green consumers selectively exhibit conservation behaviors and the gaps between sustainability attitudes and clothing consumption behaviors have been well established. A meta-analysis of the literature to date on sustainable clothing consumption, presented in chapter 1, revealed a consensus among scholars and marketing

intelligence that consumer is knowledge is needed to perpetuate demand for more sustainable clothing. There have been efforts to measure the effect of ethical product labeling on purchase intention (Dickson, 2001), and taxonomies of interconnected activist efforts have been developed (Balsiger, 2010). In an era when most consumer knowledge seeking starts with a Google search, longitudinal efforts to measure the effects of available online consumer knowledge platforms on consumer behavior are conspicuously lacking. Prominent scholars in the field have made suggestions to measure the effect of consumer knowledge on sustainable clothing purchase intention, (Dickson, 2000), yet the call has not been satisfactorily fulfilled. To better understand the effects of consumer knowledge on self-reported Millennial clothing consumption behaviors, the following research questions were addressed using qualitative interview data:

> *RQ1) How do highly educated green Millennials describe the longitudinal effect of online sustainable clothing consumer knowledge from ProjectJUST.com on their clothing consumption behaviors?*

People who seek out additional sustainability information about their clothing usually have a high level of prior knowledge, and they are more likely to make consumption decisions with these criteria in mind compared to those with less information (Carrigan, 2017; Dickson, 2001; Gwozdz et al., 2013). This led to the assumption that the people interviewed in study 2 will describe seeking sustainable clothing information and its effects on their behavior in diverse ways based on their background knowledge and the strength of their green consumer attitudes. Profiling participants can, therefore, offer valuable insight for organizations, researchers, and activists about where to funnel their energy, effort, and finances by identifying people who are likely to seek consumer knowledge online and alter their behavior as a result. Consumer profiling offers a more nuanced approach to activism that targets diverse groups in diverse ways.

The following research question was posed to profile interview participants based on the degree and nature of the changes reported:

> *RQ2) To what extent and in what ways do interview results contribute to a more comprehensive and nuanced understanding of the effects on online consumer knowledge on highly educated green Millennials?*

Study 1: Identifying Online Sustainable Clothing Consumer Knowledge Platform Users

Study 1 Methods: Online Surveys

Survey samples.

Two groups of international Millennial respondents (aged 22-39) were recruited to assess H1 and H2. The ProjectJUST.com user group (PJ group) was recruited using a banner on the ProjectJUST.com landing page that was live from November 5, 2016 – October 3, 2017, as shown in Figure 4.2. No incentive was provided to the PJ group for completing the survey. A separate group of respondents to the same survey was collected using Amazon Mechanical Turk (MT group) in August 2017 and were compensated with up to $1.50 USD for their participation. The MT group was collected to match the gender distribution of the PJ group, which skewed heavily female.
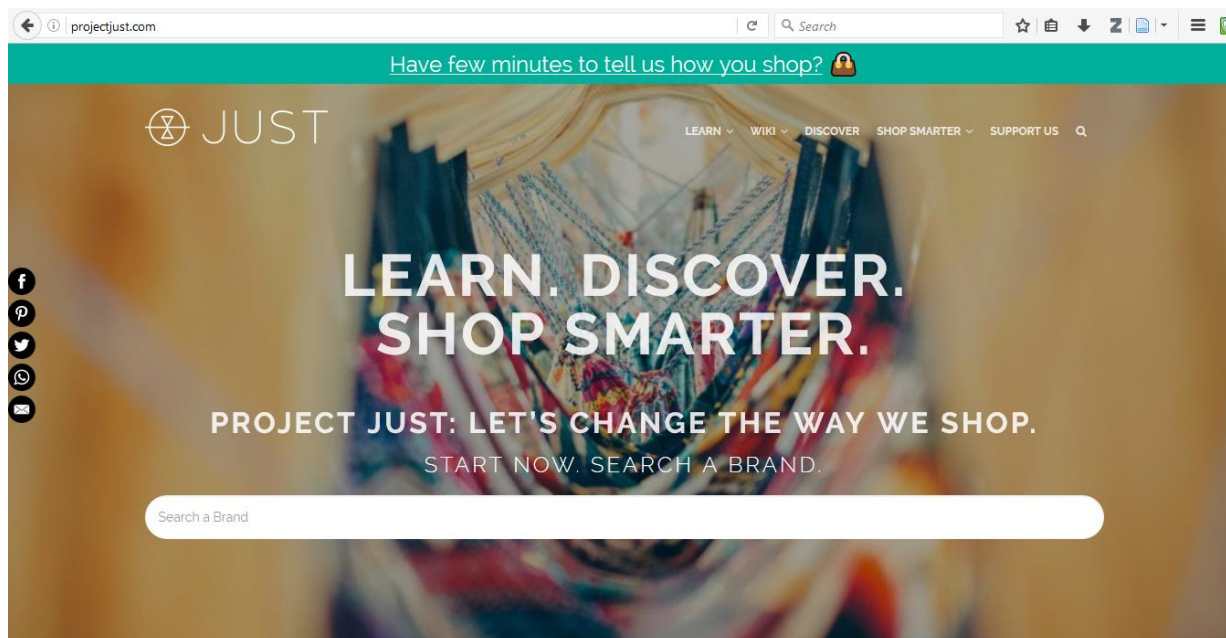
Figure 4.2. ProjectJUST.com website with survey banner during the study period (November 5, 2016 – October 3, 2017).

Survey procedure and instrument.

The instrument survey was created and distributed using Qualtrics and was optimized for mobile or computer response collection. The survey, shown in Appendix C, was designed to take respondents 5-10 minutes to complete and requested responded to 46 statements using 5-point Likert scales. 31 items were excluded from this analysis but are reported in chapter 2. A complete list of final questionnaire items included in this study's analysis is shown in Table 4.1. Five GREEN scale items were used to test H1, and H2 was assessed using five behavioral intention items. Demographic details (gender, location) and user experience details were also collected at the end of the survey. The surveys provided to both groups were identical with only two exceptions; first, the MT group survey included a captcha to ensure that the respondent was a human, and they were asked: "have you ever heard of, or visited the website ProjectJUST.com?" Respondents who selected 'Yes' were removed from the MT group and excluded from the final analysis. Second, ProjectJUST.com users responded to an additional set

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of three items that assessed their user experiences. Google analytics data for ProjectJUST.com

users was also gathered.

Table 4.1

Quantitative Analysis Survey Items

Label	Item	Scale
GREEN Consumer Values Items		
GRN_1	Buying sustainable products is important to me.	1= Not true,
GRN_2	I consider sustainability when making buying decisions.	2= Mostly not true
GRN_3	I am concerned about wasting resources.	3= Neutral
GRN_4	I would describe myself as environmentally and socially responsible.	4= Mostly true 5= True
GRN_5	I am willing to be inconvenienced in order to take actions that are more sustainable.	
Behavioral Intention Items		
BI_1	When I go shopping, I usually intend to buy sustainable clothing.	1= Not true 2= Mostly not true
BI_2	When I see stores that sell sustainable clothing, I am likely to shop there.	3= Neutral 4= Mostly true
BI_3	When I find clothing that meets my needs, I am more likely to buy it if it is sustainable.	5= True
BI_4**	I intend to buy sustainable clothing within the next 12 months.	
BI_5**	I have bought sustainable clothing in the last 12 months.	
ProjectJUST User Experience Items		
	How often do you shop for clothing?	1= Every day! 2= Weekly 3=Monthly 4=Every 3 Months 5= Every 6 months 6= Yearly 7= I avoid it at all costs!
FirstTime	Is this your first time visiting ProjectJUST.com? OR Do you remember visiting the website ProjectJUST in the past?	1= Yes, 2= No
#Visits	How many times have you visited ProjectJUST?	0= N/A 1= Once or twice before

Label	Item	Scale
		2= More than 3 times
		3= Too many to count!
PJChange	Do you think using ProjectJUST has changed the way you shop?	1= Yes
		2= No
		3= Maybe/Not sure

Note: **Item was added to survey from pilot test results. GRN items adapted from "Seeing the World Through GREEN-Tinted Glasses: Green Consumption Values and Responses to Environmentally Friendly Products," by K. L. Haws, K. P. Winterich, and R. W. Naylor, 2014, Journal of Consumer Psychology, 24(3), pp. 336-354. Behavioral Intention (BI) items adapted from "Environmentally Sustainable Textile and Apparel Consumption: The Role of Consumer Knowledge, Perceived Consumer Effectiveness and Perceived Personal Relevance" by J. Kang, L. Chuanlan, and K. Sang-Hoon, 2013, International Journal of Consumer Studies, 37(4), pp. 442-452. Copyright 2013 by John Wiley & Sons Ltd. Copyright 2013 by the Society for Consumer Psychology.

Survey data analysis.

Data were prepared for analysis in Microsoft Excel (version 1708, build 8431.2153) using the procedures listed in Appendix D. Statistical analysis was conducted in R Studio (version 1.1.383), using the R Markdown package (version 0.9.6). The complete R Markdown code that was used in this analysis is reproduced in Appendix E.

H1) ProjectJUST.com users will report stronger GREEN attitudes than non-users.

H1 was tested using the GREEN consumer attitudes scale (Haws et al., 2014); the PJ and the MT group means (m), standard deviation (SD), and alpha coefficients (a) were compared. This study borrows Fornell and Larker's (1981) criteria. Therefore Cronbach's alpha (α) > 0.07 was considered acceptable. Welch two-sample t-tests were used to compare group means, but relying on estimates of statistical significance alone can be unreliable when large samples are assessed, such as those in this study (Cohen, 1988). The threat of a large sample size was controlled by using Cohen's measures of practical significance (d) which groups t-test results into practical effect sizes into three categories: small ($d > 0.2$), medium ($d > 0.5$), and large ($d >$

0.8). Cohen's effect size measures were used to assess H1 assumptions that people who seek online sustainable clothing consumer knowledge have green attitudes, which in turn guided study 2's qualitative interview participant recruitment.

H2) ProjectJUST.com users will report stronger intention to consume sustainable clothing than non-users.

H2 was assessed using the same statistical analyses and indices as in H1. Welch two-sample t-tests and Cohen's effect size measures were used to assess the practical significance of differences between means on five behavioral intention items derived from Kang, Liu, and Kim's (2013) expanded theory of planned behavior. H2 was also assessed with PJ group responses to three user experience items, and additional information about ProjectJUST.com users was gleaned from Google Analytics.

Study 1 Results

Survey sample results.

1980 people responded to the survey in the PJ group. 13 responses were removed because they did not give informed consent to participate in the study. 679 responses were removed because they were less than 75% complete. 596 responses were removed because their age was outside the Millennial demographic target. The final PJ group sample comprised 700 responses (*n* = 700). In the MT group, 834 responses were collected. 1 response was deleted because they did not give informed consent to participate in the study, and another was removed from this analysis because they had heard of ProjectJUST.com before. 124 responses were removed because they were less than 75% complete. 24 responses were removed because they fell outside the Millennial age target. The final MT group sample comprised 685 survey responses. Demographics and user experience results are shown in Table 4.2. Since effort was made to

match the groups to one another, the groups were demographically similar except for the

following. First, the MT group was comprised of a relatively higher percentage of males (PJ

group = 5.6 %, and MT group = 37.9%). Second, European respondents were slightly

underrepresented in the MT group (PJ group = 29% and MT group = 3.4%). Third, Asian

respondents were slightly overrepresented in the MT group (PJ group = 3% and MT group =

10.3%).

Table 4.2

Demographics of Valid Respondents

Characteristic	Across Groups		ProjectJUST Group		Mechanical Turk Group	
	n	%	n	%	n	%
Gender						
Female	1190	85.9	656	93.7	534	78.0
Male	185	13.4	39	5.6	146	37.9
Other	7	0.5	3	0.4	4	0.6
Prefer not to say	3	0.2	2	0.3	1	0.1
Location						
North America	1010	72.9	435	62.1	575	83.9
Canada	71	5.1	59	8.4	12	3.1
USA	935	67.5	373	53.3	562	82.0
Mexico	4	0.3	3	0.4	1	0.1
South America	20	1.6	10	1.4	10	1.5
Europe	226	16.3	203	29.0	23	3.4
Asia	93	2.1	21	3.0	72	10.3
Africa	5	0.4	2	0.3	3	0.4
Australia	29	2.1	27	3.9	2	0.3
Antarctica	0	0.0	2	0.3	0	0.0
Do you own sustainable clothing?						
Yes	759	54.8	503	71.9	256	37.4
No	118	8.5	35	5.0	83	12.1
Maybe/not sure	505	36.5	160	22.9	345	50.4
Number of Visits						
First time			528	75.4		

Characteristic	Across Groups		ProjectJUST Group		Mechanical Turk Group	
Once or twice			69	9.9		
> 3 times			74	10.6		
Too many to count!			29	4.1		
Has ProjectJUST.com changed the way you shop?						
Yes			235	33.6		
No			94	13.4		
Maybe/not sure			371	53.0		
Total valid responses	1385	100	700	100	685	100

The user experience data that were collected from the PJ group ('do you own sustainable clothing?' 'how many times have you visited ProjectJUST.com?' and 'has ProjectJUST.com changed the way you shop?') echoed the Google Analytics data that most PJ group respondents were first-time users ($n = 528$, 75.4%). Google Analytics suggests that users spend, on average, only two minutes using ProjectJUST.com, it followed logically that most of the PJ group was unsure if the website had changed the way they shop ($n = 371$, 53%) given their short exposure. More people in the PJ group also reported owning sustainable clothing ($n = 503$, 71.9%) compared to the MT group who were unsure ($n = 345$, 50.4%). Prior purchase behavior responses suggested that the PJ group already had stronger intentions to purchase sustainable clothing when they first accessed the website.

H1 Results: ProjectJUST.com users will report stronger GREEN attitudes than non-users.

H1 was supported, there were both statistically and practically significant differences in responses to green consumer attitude items between groups. Welch two-sample t-test results suggested that PJ group ($m = 4.06 – 4.64$) responded more favorably to all items compared to the MT group ($m = 3.41 – 4.01$, $t = 7.74 – 16.60$, $p < 0.005$). PJ group also responded more similarly

to all items ($SD = 0.65 – 0.93$) compared to MT group ($SD = 0.93 – 1.10$). T-test significance

was assessed using Cohen's measure of practical effect size; four of the five items used to

measure the green consumer attitudes construct (GRN_1, GRN_2, GRN_3, GRN_5), suggested a

moderate to high practical significance ($d = 0.54 – 0.79$), while GRN_4 ($d = 0.35$) suggested a

small practical significance. Full green consumer attitudes analysis results are shown in Table

4.3. Results suggest that ProjectJUST.com users share similar green consumer attitudes

compared to people who have not used the website. Accordingly, participants likely to have

green consumer values were recruited for study 2.

Table 4.3

Green Consumer Attitudes and Behavioral Intention Towards Sustainable Clothing Consumption

Construct	m		SD		t	d	α	
Item	PJ	MT	PJ	MT			PJ	MT
Green Attitudes							0.79	0.85
GRN_1	4.51	3.77	0.68	0.93	16.60	0.79**		
GRN_2	4.22	3.56	0.93	1.10	12.03	0.54**		
GRN_3	4.64	4.01	0.65	0.97	14.23	0.67**		
GRN_4	4.06	3.69	0.81	0.94	7.74	0.35*		
GRN_5	4.20	3.41	0.83	1.07	15.44	0.71**		
Behavioral Intention							0.78	0.88
BI_1	3.82	2.57	1.11	1.21	19.96	0.89***		
BI_2	4.24	3.12	0.82	1.09	21.54	0.99***		
BI_3	4.54	3.26	0.71	1.16	24.56	1.17***		
BI_4	4.60	3.29	0.68	1.12	26.06	1.25***		

Note. *Cohen's effect size (d) small > 0.2; medium ** $d > 0.5$; large ***$d > 0.8$; PJ = ProjectJUST group, MT = Mechanical Turk group, m = Mean, SD = standard deviation, t = t-value, α = Cronbach's alpha. Standard Cronbach's alpha (α) is reported. 95% confidence boundary used. All p-values < 0.05.

H2 Results: ProjectJUST.com users will report stronger intention to consume

sustainable clothing than non-users.

H2 was supported, there were both statistically and practically significant differences in responses to behavioral intention items between groups. Welch two-sample t-test results suggested that the PJ group ($m = 3.82 – 4.60$) responded more favorably to all items compared to the MT group ($m = 2.57 – 3.29$, $t = 19.96 – 26.06$, $p < 0.05$). The PJ group also responded more similarly to all items ($SD = 0.61 – 1.11$) compared to the MT group ($SD = 1.09 – 1.12$). Significance was assessed using Cohen's measure of practical effect size; all five items used to measure the behavioral intention construct suggested a highly significant practical difference between groups ($d = 0.89 – 1.25$). Full behavioral intention results are shown in Table 4.3. Results suggested that the PJ group had stronger intention to buy sustainable clothing compared to non-users. It follows that PJ group would continue to buy sustainable clothing, regardless of the consumer knowledge that ProjectJUST.com provides since "... the stronger the intention to engage in a behavior, the more likely should be its performance..." (Ajzen, 1991, pp. 181–182).

Study 2: Segmenting Online Sustainable Clothing Consumer Knowledge Seekers Using the Stages of Change

Study 2 Methods: Qualitative Interviews

Interview participants.

In study 2, participants with stronger green consumer attitudes were recruited for qualitative interviews that asked them to describe the effect of ProjectJUST.com. To better understand the effects of consumer knowledge about sustainable clothing on people most likely to use the platform, a convenience sample of highly-educated green Millennials were recruited via a mass e-mail that was sent by Cornell University to the College of Human Ecology, shown in Appendix F. Participants were expected to be highly educated, have a penchant for research,

and to express strong green consumer attitudes because of the participant age constraints and recruiting method. The people who were enrolled in College of Human Ecology graduate programs suited the participant constraints, and often conducted in-depth research on climate change, participated in green behaviors or were vocal activists committed to promoting sustainable behaviors such as re-use, composting, and recycling. Such behaviors are also encouraged throughout the building to remind people of their personal contributions to climate change and as an outward expression of the values held by the college (Lowery, 2017a). Sustainable behaviors such as buying local farm shares and recycling were also encouraged with signage and events throughout the building (Lowery, 2017a). Participants are here described as highly educated and have a penchant for research because they already held undergraduate degrees, and were working on graduate degrees. Further, participants were recruited from an esteemed research-focused university that is located in one of the USA's top five 'smartest cities,' as ranked by the proportion of residents holding advanced degrees in 2008 (Papalia, 2008), and by measures of cognitive performance on Luminosity[1] in 2013 (Fernando, 2013).

A large proportion of people were expected to drop out of the study given the six-month, 3-time interview research design. Three strategies were used to ensure the final sample of participants was adequate. First, interview dates were selected to accommodate the semester-determined time schedule of most participants. Second, participants were provided a generous compensation of $100 USD in cash to be disbursed in full at the end of their third interview.

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[1] Luminosity is an online brain-training game developed by neuroscientists.

Third, a high recruiting goal of 70 people was set during the first round of interviews to ensure that at least 30 participants finished the study.

Within two hours of receiving the recruiting e-mail, 87 people requested first interviews, and five people were put on a waiting list. 56 people completed their first interview between January 25th and February 16th; 47 people completed their second interview between May 5th and May 25th; 39 people completed their third and final interviews between August 15th and August 30th. Four participants were removed from the analysis due to recording errors leaving 105 interviews with 35 participants to be transcribed. The final group of participants comprised 21 graduate students, many of whom conducted research on climate change in areas such as nutrition, agriculture, or public policy. Most participants were female ($n = 25, 71.5\%$), all of them lived in the Ithaca New York area, and most were citizens of the USA ($n = 24, 68.5\%$). All collected participant demographics are presented in Table 4.4.

Table 4.4

Interview Participant Demographic Characteristics

ID	Age	Gender	Occupation	Residence	Citizenship
1	32	Male	Graduate Student	Ithaca	South Korea
2	24	Male	Graduate Student	Ithaca	USA
3	28	Female	Graduate Student	Ithaca	China
4	38	Female	Assistant Registrar	Burdett	USA
5	23	Female	Graduate Student	Ithaca	USA
6	26	Female	Graduate Student	Ithaca	India
7	23	Female	Archivist	Ithaca	USA
8	32	Female	Teacher	Ithaca	South Korea
9	22	Female	Graduate Student	Ithaca	USA
10	24	Male	Laboratory Technician	Ithaca	USA
11	29	Male	Graduate Student	Ithaca	Singapore
12	26	Female	Graduate Student	Ithaca	Sweden
13	39	Female	Athletics Coach	Ithaca	USA
14	31	Female	Program Coordinator	Ithaca	USA
15	26	Male	Graduate Student	Ithaca	USA
16	29	Female	Graduate Student	Ithaca	USA

ID	Age	Gender	Occupation	Residence	Citizenship
17	30	Male	Graduate Student	Ithaca	Canada
18	24	Male	Graduate Student	Ithaca	USA
19	30	Male	Graduate Student	Ithaca	Hong Kong
20	24	Male	Graduate Student	Ithaca	USA
21	29	Female	Graduate Student	Ithaca	USA
22	26	Female	Event Coordinator	Marathon	USA
23	30	Female	Researcher	Ithaca	USA
24	23	Female	Graduate Student	Geneva	USA
25	25	Female	Graduate Student	Ithaca	USA
26	27	Female	Graduate Student	Ithaca	USA
27	25	Male	Accounts Representative	Ithaca	USA
28	29	Female	Fundraising	Ithaca	USA
29	31	Female	Graduate Student	Ithaca	China
30	23	Female	Administrative Assistant	Newark Valley	USA
31	32	Female	Graduate Student	Ithaca	USA
32	30	Female	Graduate Student	Ithaca	Canada
33	25	Female	Circus Arts Instructor and Manager	Ithaca	USA
34	32	Female	Graduate Student	Ithaca	USA
35	33	Female	Graduate Student	Ithaca	India

Interview procedure.

Three interviews with each of the 35 participants were conducted at Cornell University in the Human Ecology Building. Interviews were audio recorded using Zoom (versions 4.0.21432.0116 through 4.0.38982.0714) and were transcribed by Rev Transcription Services. Everyone was asked to provide informed consent at the beginning of every interview, shown in Appendix G, and the third interview's consent form also included demographic questions that asked people to provide their gender, age, and citizenship status, as shown in Appendix H. The three interview schedules were developed and pilot tested during three focus groups ($n = 11$; held in December 2016). All semi-structured interview schedules are shown in Appendix I.

Semi-structured interview schedules were appropriate because they allowed the use of probes to understand people's viewpoint better, fostered a comfortable conversational tone, and allowed the interviewer to gain richer detail when themes of special interest arose (Creswell,

2009). During their interviews participants were asked to self-define sustainable product or clothing attributes and behaviors due to lacking universal definitions (Carter & Rogers, 2008; S. Kaiser, 2008), and to ensure participants reflected on their personal sustainability values during each interview. Consumer knowledge about sustainable clothing was made freely available by providing a login and password for full access to ProjectJUST.com after the first interview via the e-mail shown in Appendix J.

The first fifteen minutes of each interview was spent discussing participant definitions, sustainable product attributes, and intentions to consume sustainably in general—usually, participants discussed their food or household product purchases at this time. For example, the first question participants were asked in every interview was 'how important would you say sustainability is to you, on a scale from 1 – 10, 1 if is low and 10 is high?" After fifteen minutes the conversation was abruptly switched with the question "tell me what you look for when you shop for clothing." When low prices were described as an important shopping criterion, participants were then asked questions such as "tell me when an item of clothing, such as a plain t-shirt or pair of jeans, becomes expensive for you?" The topic was then shifted again to discuss their definition and knowledge of sustainable clothing, as well as their intention to buy it. Participants were asked questions such as "how would you define sustainable clothing, today?" "do you own any sustainable clothing by your definition?" "do you think you could find sustainable clothing that met your other clothes buying criteria?" and "do you know where to find sustainable clothing?" In the final twenty minutes of their first and second interviews, participants were exposed to ProjectJUST.com for 5 minutes—more than twice the average time spent by users on the site which is only 2 minutes. No surfing constraints were given so that more authentic user experiences could be emulated in the interview. After exposures to

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ProjectJUST.com, participants were asked about their user experience, which parts of the website they had visited, what they learned, and if they believed that it had changed their behavior. They were also asked to make recommendations for improvement of the website. The first and second interviews asked similar questions and used the same procedure. During the third interview, participants were not exposed to ProjectJUST.com but instead were asked to draw on their memory of the website, and more time was spend asking participants if they had contemplated, planned, or taken any action to change their clothing purchase behaviors in the last six months. Questions were posed such as 'have you noticed any differences in the amount of information you look for when you shop for clothing', 'do you think ProjectJUST.com has changed the way you shop?' and 'do you think this interview process has changed the way you shop?' In the last 15 minutes of each interview, participants were asked about their user experience, which parts of the website they visited, what they learned, and if they believe that it had changed, or could change the way they shopped for clothing. They were also asked to make recommendations for improvement of the website.

Interview data analysis.

Transcripts were analyzed selectively, following the advice of Saldaña (2016); the first and third interviews were selected for analysis to capture perceived changes in clothing consumption behaviors over the entire study period. In accordance with Prochaska's (2008) suggestion that pressure to change behaviors will diminish as time passes, the second interview served primarily as a second opportunity to expose participants to ProjectJUST.com and to discuss their sustainability values and clothing consumption behaviors again.

Grounded theory was employed throughout repeated engagements with the interview transcripts, and applied codes were constantly compared to generate a general theory that was

rooted in participant perspectives (Saldaña, 2016; Wutich & Gravlee, 2010). Grounded theory was appropriate because a diversity of definitions, language, contradictions, and multiple meanings were expected throughout participant responses. Accordingly, a theme defined as "... an underlying (dimension of) meaning that cuts across a variety of expressions" (Wutich & Gravlee, 2010, p. 196).

A three-stage process was used to analyze interview data, as recommended by Miles and Huberman (1994). First, codes were applied to interview transcripts line-by-line using the 11 Plus version of NVivo computer-aided qualitative analysis software. Provisional codes were formed by hunches, and by reviewing coding suggestions that were written as field notes during all interviews, although most codes in the first stage of analysis were iteratively derived as suggested by Saldaña (2016). In the second stage of analysis, a summary statement of both interviews was written for each participant. Data saturation, though a hotly debated subject in qualitative research, was considered adequate when further analysis revealed no new themes (Glaser & Strauss, 1967; Saldaña, 2016). Data saturation was deemed sufficient after 30 participant interviews were analyzed, but 35 participants were included in this analysis to ensure that no further themes emerged beyond the saturation point. Third, in a slight departure from the recommended summary tables, codes were organized in NVivo into categories, and the structure that emerged was used to present the key thematic findings in this chapter. In this final phase of analysis, themes were categorized using selective and axial coding methods to create a reporting structure, or 'story' (Creswell, 2009; Glaser & Strauss, 1967; Saldaña, 2016).

Participants were then clustered into four groups based on the stages of change social marketing segmentation model in a three-phase process. First, the clustering function was used in NVivo to chart participants based on the thematic similarities in their final interviews. This

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function places participants with similar thematic coding closest to one another in a branched-diagram, NVivo clustering by coding similarity results are shown in Figure 4.3. Second, the transcripts and memos of each participant were reviewed, and adjustments were made to ensure participants were in an appropriate and clearly defined segment based on interviewer and research assistants' adjudication. In the third and final phase of participant segmenting, coding similarities within groups and between groups to pertinent codes were assessed code-by-code to confirm segment response similarity in an Excel spreadsheet, a sample of which is shown in Appendix M. Similarity in responses to 23 codes were assessed, such as "ProjectJUST.com changed the way I shop," "I do not want, or do not have time, to research the clothing that I buy," and "The number of times I visited ProjectJUST.com outside of my interview exposures." 12 participants were reassigned to a different segment than the one defined by NVivo after close repeated readings of their interview transcripts: 0 participants were reassigned to the maintainer group, 2 participants were reassigned to the precontemplation group, 3 participants were reassigned to the preparer group, and 7 were reassigned to the contemplation group.

Study 2 Findings

> **RQ1 findings: How do highly educated green Millennials describe the longitudinal effect of online sustainable clothing consumer knowledge from ProjectJUST.com on their clothing consumption behaviors?**

In their final interviews, participants usually parsed the study's effects into two categories: interview effects versus online consumer knowledge effects. The effects of the interview were described as awareness raising (31 participants made 101 references), and sometimes guilt-inducing as participants confronted their own attitude-behavior gaps (23 participants made 69 references). The effects of ProjectJUST.com were described by 34

participants as a feeling that consumer knowledge was available to them if they chose to access it

(86 references)—though only 10 participants chose to return to ProjectJUST.com outside of their

study exposure. When reporting on any changes they had noticed to their clothing consumption

behaviors, 17 participants said the interview had more effect on their behavior than

ProjectJUST.com (24 references), 3 participants said that the interview effects and

ProjectJUST.com effects were equally impactful, and 1 participant said ProjectJUST.com had

more effect on their behavior than the interview.

When the interview effects were described as more impactful, participants usually said

that this was because they had spent time reflecting on their personal values throughout the

conversation:

> I think it has a lot more to do with me thinking about really matters to me. You're getting
>
> people to really think about those important issues… And there's a selection bias of
>
> course. I'm interested in what sustainable clothing means. I've already had that curiosity
>
> and a similar commitment to whatever sustainable living means. (Participant 32)

Findings suggested that the interview had more effect on participant behavior than using

ProjectJUST.com because discussion about green consumption values brought awareness to

sustainable clothing issues, and sometimes guilt was reported when participants noticed a gap

between their attitudes and clothing consumption behaviors.

When participants acknowledged their attitude-behavior gaps, guilt was often a feature of

the disclosure (23 participants made 69 references). For example, participant 21 became

increasingly despondent throughout their interview and said:

> Because of these interviews that I've realized maybe my behavior doesn't match with my
>
> intentions as much as I would want… Sorry if I seem like really depressed. I'm just like

tired and now that I'm thinking about this stuff and I'm like ah shit. I'm a shitty person in

a shitty world. (Participant 21)

Pooley and O'Connor's (2000) findings suggested that strong emotions are needed to change

sustainability attitudes, in tandem with consumer knowledge (2000). Emotions such as guilt were

aroused among interview participants when their awareness was raised about sustainable

clothing and personal attitude-behavior gaps. But, guilt was not enough to motivate participants

to seek online sustainable clothing consumer knowledge from ProjectJUST.com outside of their

interview exposures. Only 10 participants returned to ProjectJUST.com outside of their interview

exposures, implying that, the website would have little or no effect on their behavior outside of

the study's conditions, even if participants experiencing guilt.

Interview effects.

21 participants expressed through 44 references that defining the attributes of sustainable

clothing was difficult, usually because they were considering sustainable clothing issues for the

first time. Participants said that they had not considered sustainability criteria when consuming

clothing, but that they did use these criteria when shopping for other products such as food (29

participants made 87 references), supporting prior findings that green consumption attitudes are

not applied equally in all behavioral contexts (Bamberg, 2003; Carrigan, 2017; Carrigan &

Attalla, 2001; Nordlund & Garvill, 2002).

Explicit acknowledgments of attitude-behavior gaps were linked to lacking consumer

knowledge and the perception that participants were removed from the problem, as summarized

by participant 5:

When I think of sustainable, I always pictured it more in the food and hybrid car kind of

context. Even, I've never really seen what a sweatshop is, so I don't really have as

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tangibly of an understanding of how that works in the scheme of things. I think that I'm

more removed from that issue, makes it harder.

Similarly to participant 5, 14 others made 44 references to their awareness of sweatshops without

any prompt, suggesting that they had at least some awareness that ethical issues were a concern

in clothing supply chains. Surprisingly, even participants who had witnessed sweatshops first

hand claimed that they were unaware of the relationship between their consumption behaviors

and sustainable clothing issues, such as such as participant 29 who grew up in China:

> I remember when I was young, my mom used to work in the factory which just to make,
>
> like creating the pattern on the fabrics like silk or cotton. Then sometimes I went to her
>
> factory, and then I saw there's a lot of like smelly stuff, because of the dying. Then
>
> overall, the space was very crowded, and then it was super hot during the summer. I just
>
> cannot believe nowadays that people work in such an environment, to making those
>
> fabrics. Yeah. I never thought like, currently from my clothes, to these labels. But when I
>
> think about that, there's really a lot of relationships.

As described in chapter 3, much of the attitude-behavior gap described by participants can be

attributed to 'willful ignorance.' Willful ignorance refers to a coping mechanism in which

feelings of helplessness are soothed by choosing not to consider sustainability attributes while

shopping (Ehrich & Irwin, 2005; Walker Naylor et al., 2013; Zane et al., 2015). Findings

suggested that participants were affected by the interview when they confronted their own willful

ignorance.

Second, implicit acknowledgments of attitude-behavior gaps were expressed by

omission. In the first 15 minutes of every interview, participants were asked questions about their

sustainability values before the conversation abruptly turned to their desired clothing criterion.

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There was no limit on the number of characteristics participants could identify when they were asked the question "what characteristics are you looking for when you shop for clothing?" Only 7 participants ever mentioned sustainable or ethical attributes as one of their clothes buying criterion during the entire study period (19 references). Given that social desirability bias was built into the study design, the omission of sustainability criterion by 80% of these green Millennial participants was an unexpected finding. Even if sustainability considerations were not part of participants' clothing consumption decisions, it was expected that they would list it among their consumption criteria during their interviews, especially the last one. Findings suggested that ProjectJUST.com had little influence on closing attitude-behavior gaps among participants after repeated exposures.

Online consumer knowledge effects.

The effect of ProjectJUST.com was described by 34 participants (86 references) as a feeling that information about sustainable clothing consumption was available if they chose to access it. Participants explained that they might use online sustainable clothing consumer knowledge if they were pre-planning a large purchase, but usually, items of clothing were bought without doing extensive research. For example, participant 4 explained that they did not have the bandwidth to consider sustainable clothing consumption: "certain things, I just don't have the mental space to care about." Participant 10 did not want to be inconvenienced: "I just want to shop for clothes. I don't want to think about all this hassle of how it's made and whatnot, or the impact it has ... It shouldn't be such a huge hassle" (Participant 10). Most participants were unwilling to submit themselves to the hassle of research (27 participants made 82 references), and would not pay a premium for sustainable clothing (20 participants made 42 references) because they had low price and durability expectations:

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I mean, like the stuff that I don't do research on like I said, a tee shirt I'm going to spend

10, 20 bucks max, I don't much research on it, because I couldn't care less. If it turns to

shreds in a couple of years, it doesn't matter. I have a bunch of tee shirts I use as stuff for

the gym. I really don't care. Those are not things I would have bothered to do research on.

But, if it's a shirt that I can't get anywhere else, like a souvenir kind of shirt, then I

wouldn't do research on it, but I would minimize my usage of it. Which is good. To last a

lot longer. (Participant 31)

This negative attitude towards clothing research was echoed implicitly by the low proportion of

participants that used ProjectJUST.com outside of their interview exposure time (10

participants). The effect of exposure to ProjectJUST.com was, therefore, a sense that information

was available, but even when emotions such as guilt had been roused, attitude-behavior gaps had

been acknowledged, and social desirability was a factor, participants were still not likely to seek

consumer knowledge about sustainable clothing online. The effects of interview discussions

were, therefore, more impactful on participant behaviors, compared with online consumer

knowledge effects. The implication for online sustainable clothing consumer knowledge

platforms is that they should develop more dynamic strategies to interact with users, possibly

through conversations in real-world settings offline.

User experiences.

User experiences with ProjectJUST.com may have played a role in the likelihood that

participants return to the website between interview exposures. Participants liked the design or

aesthetic of ProjectJUST.com and appreciated the good-natured mission of the website.

However, 19 participants made 62 references to being confused about the website's purpose as

an educational resource during their interviews. Some were still confused after their second 5-

minute exposure: "I would say it's still a shopping website trying to make people aware of where their clothing is coming from" (Participant 6). Participants who believed that ProjectJUST.com was an online shopping platform were disappointed when their attempts to browse clothing were repeatedly thwarted by large blocks of dense text appearing where clothing for sale should have been. Participants were also disappointed when they were redirected to external brand websites by clicking on products in Just Approved lists. Confused participants leveled criticisms that their price needs were not being met by the Just Approved brands: "I never realized underwear could cost $24. I don't know I guess I got stuck on the price and I didn't really look at much else. And I was just floored by it" (Participant 30). Familiar price objections dominated such conversations. Negative user experiences, and the perception that ProjectJUST.com was a shopping website they cannot afford to use would logically serve as an inhibitor to repeated use of ProjectJUST.com between first and second interviews. User experiences form a confounding factor in this study. However, low participant return rates between interviews suggest that the website might still have had limited appeal for this study's participants had its purpose been clear upon landing.
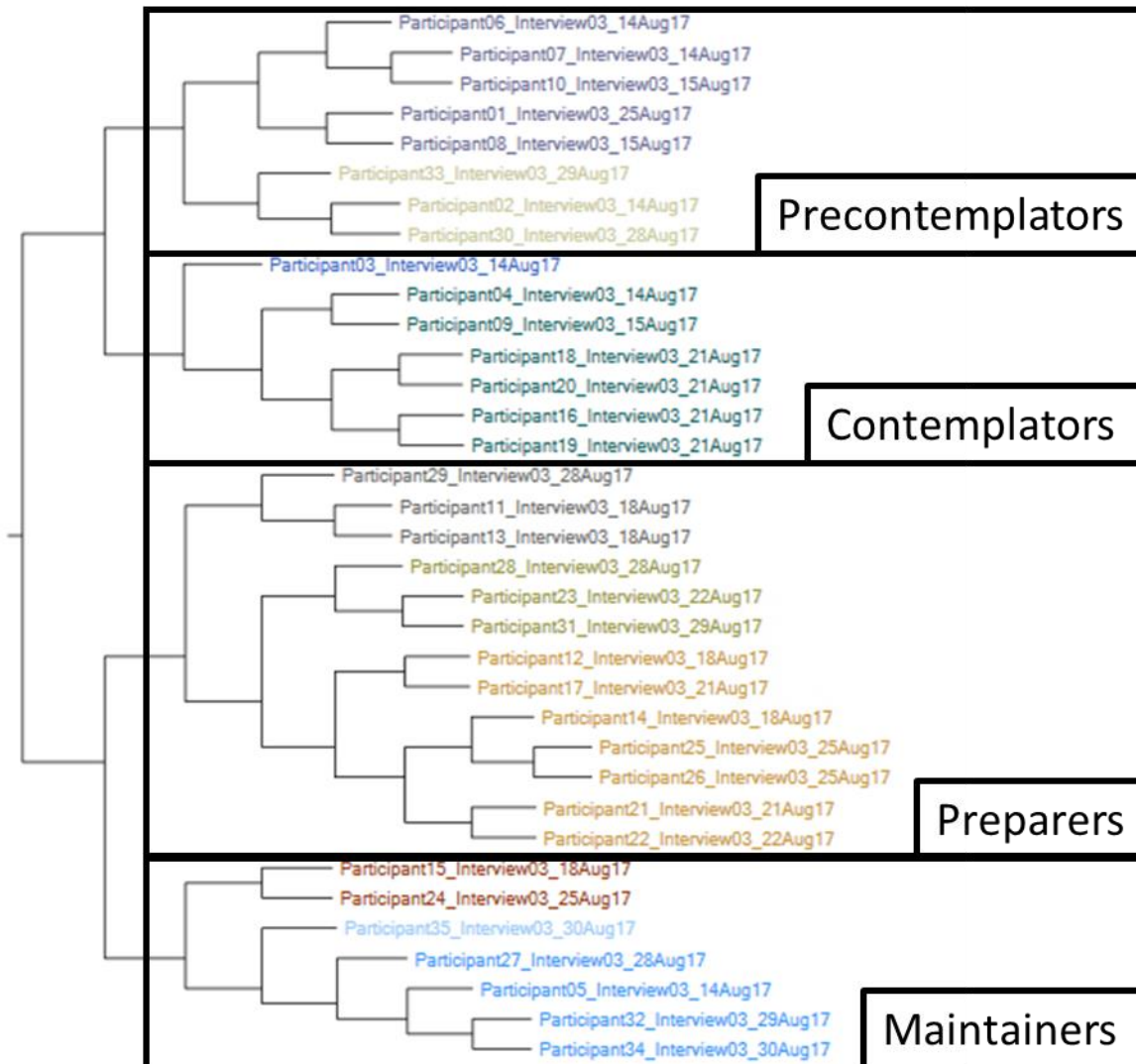
Figure 4.3. Third Interview Coding Similarity NVivo Cluster Results.

All applied codes were defined in a codebook, an excerpt from the codebook is shown in Appendix K. All applied codes were adjudicated by two research assistants for accuracy, clarity, and consistency. Throughout the data analysis process, the same research assistants were consulted weekly to discuss emergent themes, the final reporting structure, to define segmentation profiles, and to confirm or provide new insight on emergent findings. Saldaña (2016) questions "… the utility and application of intercoder agreement for qualitative data analysis since the entire process is an interpretive enterprise. Thus, research teams may wish to

dispense with such quantitative measures altogether and rely on intensive group discussion" (p. 37). Accordingly, the agreement goals for this study included affirmative adjudication of all applied codes throughout the line-by-line data analysis and simple group consensus during weekly 1-hour discussions. Literature was selected iteratively during and after analysis to ensure that emergent themes were not contaminated by prior findings which are not rooted in this study's context, as recommended by Glaser and Strauss (1967). Themes were then compared with selected literature where appropriate, as recommended by Creswell (2009). Finally, the two research assistants reviewed the findings in manuscript form, as presented below, and group consensus was achieved after approximately four months of analysis between February 2018 and May 2018.

RQ2 findings: To what extent and in what ways do survey and interview results contribute to a more comprehensive and nuanced understanding of the effects on online consumer knowledge on highly educated green Millennials?

During data analysis, it became evident that not all participants were affected to the same degree, or in the same ways by the study. Participants were therefore segmented based on the changes they reported to their clothing consumption behaviors during the study period using Andreasen's (1995) stages of change social marketing segmentation model. Four groups emerged: precontemplators, contemplators, preparers, and maintainers. This model has been used in a prior study to segment a general population of young Swedish consumers based on their intention to consume sustainable clothing (Bly et al., 2015). In this study, the maintainer group was comparatively overrepresented; this is likely an effect of recruiting green participants instead of a subset from the general population. An overview of the findings is presented in Table 4.5, followed by a description of results within each segment. All percentages provided in this section

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refer to the proportion of participants within their respective stages of change segment and not

their proportion of the total sample.

Table 4.5

Overview of Participant Segmentation Results

Code	Pre-contemplators	Contem-plators	Preparers	Maintainers
	n (% of segment)	*n* (% of segment)	*n* (% of segment)	*n* (% of segment)
<u>Attitudes, consumption behaviors, and perceived consumer knowledge</u>				
My consumption behaviors can make a meaningful difference to climate change issues	5 (62.50)	8 (72.73)	9 (90.00)	6 (100.00)
I feel good when I consume sustainable products	2 (25.00)	8 (72.73)	5 (50.00)	4 (66.67)
I do not feel completely informed about the clothing that I buy	6 (75.00)	9 (81.82)	10 (100.00)	4 (66.67)
I have enough information about the clothing that I buy	7 (87.50)	8 (72.73)	4 (40.00)	2 (33.33)
I have never thought about sustainable clothing before, or it is hard to define	2 (25.50)	7 (63.64)	9 (90.00)	4 (66.67)
Sustainable clothing might be expensive	2 (25.00)	4 (36.36)	4 (40.00)	0 (0.00)
I am probably not willing to pay more for sustainable clothing	4 (50.00)	8 (72.73)	6 (60.00)	2 (33.33)
It might be hard to find sustainable clothing that satisfies my expressive preferences	5 (62.50)	9 (81.82)	8 (80.00)	2 (33.33)

Code	Pre-contemplators	Contem-plators	Preparers	Maintainers
	n (% of segment)	*n* (% of segment)	*n* (% of segment)	*n* (% of segment)
I can probably find sustainable clothing that meets my expressive preference	7 (87.50)	6 (54.55)	8 (80.00)	1 (16.67)
I buy second-hand clothing	1 (12.50)	3 (27.27)	5 (50.00)	5 (83.33)
I look for sustainable or ethical characteristics when I shop for clothing	1 (12.50)	1 (9.09)	4 (40.00)	1 (16.67)
I would stop shopping at a brand that did not match my values	0 (0.00)	2 (18.18)	3 (30.00)	4 (66.67)
I do not want/do not have time to do clothing research	6 (75.00)	7 (63.34)	10 (100.00)	3 (50.00)
ProjectJUST.com effects				
Using ProjectJUST.com changed the way I consume clothing	0 (0.00)	2 (18.18)	1 (10.00)	0 (0.00)
I visited ProjectJUST.com outside of my interview exposures	1 (12.50)	6 (54.44)	2 (20.00)	2 (33.33)
I trust ProjectJUST.com	7 (87.50)	9 (81.82)	6 (60.00)	6 (100.00)
I do not understand the purpose of ProjectJUST.com, or I am confused	5 (62.50)	9 (81.82)	5 (50.00)	1 (16.67)
ProjectJUST.com increased my awareness of sustainable clothing	3 (37.50)	6 (54.55)	2 (20.00)	3 (50.00)

Code	Pre-contemplators	Contem-plators	Preparers	Maintainers
	n (% of segment)	*n* (% of segment)	*n* (% of segment)	*n* (% of segment)
The study raised my awareness of sustainable clothing	3 (37.50)	7 (63.64)	9 (90.00)	3 (50.00)
ProjectJUST.com increased my consumer knowledge	3 (37.50)	7 (63.64)	7 (70.00)	5 (83.33)
I bought less clothing during the study period than before	1 (12.50)	2 (18.18)	3 (30.00)	2 (33.33)
My preferred brands changed during the study period	0 (0.00)	2 (18.18)	2 (20.00)	3 (50.00)
I became more willing to pay a premium price for sustainable clothing during the study period	1 (12.50)	3 (27.27)	2 (20.00)	0 (0.00)
I became more willing to compromise on my expressive needs during the study period to consume sustainable clothing	0 (0.00)	2 (18.18)	1 (10.00)	1 (16.67)
I became more willing to buy second-hand clothing during the study period to consume sustainable clothing	1 (12.50)	2 (18.88)	1 (10.00)	0 (0.00)
I have increased the amount of knowledge I seek about my clothing during the study period	3 (37.50)	4 (36.36)	4 (40.00)	3 (50.00)

Group 1: Precontemplation, or 'precontemplators.'

During the interview analysis, 8 participants (22.86%) were coded as precontemplators.

Compared to the other segments identified in this analysis, precontemplators were the least likely

to believe that their consumption behaviors can make an impact on climate change issues (5 participants, 62.50%). Similarly, they were the least likely segment to report feeling good about consuming sustainable products (2 participants, 25%), and no precontemplators were willing to stop shopping at a clothing brand that they heard negative information about. 6 precontemplators indicated that they did not feel informed about the clothing that they consumed (6 participants, 75.00%), but they were also the segment that was the most satisfied with the level of knowledge they already had (7 participants, 87.50%). Contradictorily, precontemplators were also the least likely segment to say that they had not considered sustainable clothing in the past, only 2 participants (25.50%) reported having never thought about sustainable clothing. Compared with other groups, precontemplators were less concerned with the price of sustainable clothing, only 2 (25.00%) suggested that it would be more expensive than mainstream clothing, and only 4 (50.00%) suggested that they would be unwilling to pay a premium for sustainable clothing. 5 precontemplators believed that it would be hard to find sustainable clothing that met their expressive needs, and only one (12.50%) reported seeking ethical or sustainable characteristics when they shopped for clothing.

More than half of the precontemplators segment (5 participants, 62.50%) were confused about the purpose of ProjectJUST.com, and precontemplators were the least likely to report any study effects. Only 3 precontemplators (37.50%) indicated that ProjectJUST.com or the study had raised their awareness of sustainable clothing, or increased their consumer knowledge. No precontemplators suggested that ProjectJUST.com had changed the way they shop. Only 6 precontemplators (75%) indicated that they were unwilling to do research about the clothing that they buy, making them the second most likely group to do such research. Further, the only effect on behavior that was reported by more than one precontemplator over the study period was an

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increase in the amount of knowledge that they sought (3 participants made 37.50 references).

However, only 1 precontemplator (12.50%) returned to ProjectJUST.com outside of their

interview, and this segment, therefore, had the lowest rate of return suggesting a contradiction

between reported changes and actual behaviors. The implication is that this group was unaffected

by the study or the information they learned on ProjectJUST.com and that they would not seek

more knowledge in the future. The implication was that efforts to change this segment's behavior

would not yield the desired behavior change and should, therefore, be directed elsewhere, as is

also recommended by Andreasen (1995).

Group 2: Contemplation, or 'contemplators.'

During the interview analysis, 11 participants (31.43%) were coded as contemplators.

Most contemplators believed that their consumption behaviors could make meaningful

differences to climate change issues (8 participants, 72.73%) and they were the most likely

among segments to report feeling good when they bought sustainable products in general (8

participants, 72.73%). Only 2 contemplators (18.18%) said they would avoid a brand that they

heard negative sustainability information about suggesting that such information would have

limited effect or utility for this segment. Contemplators felt relatively uninformed about the

clothing they buy (9 participants, 81.82%), but also felt relatively satisfied with the amount of

information they had (8 participants, 72.73%, indicated that they had enough information). 7

contemplators (63.64%) had difficulty defining sustainable clothing. Compared to other

segments, contemplators were the most skeptical that they could find sustainable clothing that

met their expressive needs such as style, fit, or color (9 participants, 81.82%).

Findings suggested that contemplators were the most likely group to seek online

sustainable clothing consumer knowledge. Only 7 contemplators (63.34%) indicated that they

were unwilling to do research on the clothing they consume making them the second most likely segment to do such research, and they had the highest rate of return to ProjectJUST.com outside of their interview exposures (6 participants returned to the website, 54.44%). Contemplators were the most likely group to report being confused about the purpose of ProjectJUST.com after their first interviews (9 participants, 81.82%), but also the most likely to report trusting the website's content (9 participants, 81.82%). Contemplators reported perceiving relatively strong study effects compared with other segments, 2 participants (18.18%) reported significant changes to their shopping behaviors during the study period. 7 participants (63.64%) reported having a heightened awareness of sustainable clothing. 4 contemplators (36.36%) increased the amount of knowledge they sought during the study period. 7 participants (63.64%) reported an increase in the amount of consumer knowledge they had about sustainable clothing during the study period. Notably, contemplators had been the least willing to pay a premium for sustainable clothing at the beginning of the interview period; 4 contemplators (36.36%) perceived sustainable clothing to be more expensive, and most (8 participants, 72.73%) were unwilling to pay the premium. During the study period, the contemplators segment reported the most change in their willingness to pay a premium for sustainable clothing (3 participants, 18.88%).

The implication of these contemplator findings is that websites like ProjectJUST.com might appeal to, and affect contemplators more when compared with effects on other groups. This segment was more willing to seek this information by being pulled to ProjectJUST.com compared to others. Contemplators were curious about change but more skeptical that their expressive and price needs would not be met; prior scholarship has characterized this stage of change as a time of considerable ambivalence toward the desired behavior (Prochaska, 2008). Efforts spent influencing this group to change their clothing consumption behavior ought to

focus on making sustainable clothing expressively appealing. Taking Andreasen's (1995) recommendation, demonstrating the benefits of sustainable clothing to contemplators is a worthwhile use of resources because they are needing and willing to change, but have no plan (Andreasen, 1995).

Group 3: Preparation, or 'preparers.'

During the interview analysis, 10 participants (28.57%) were coded as preparers. Most preparers believed that their consumption behaviors could make meaningful differences to climate change issues, and 5 preparers (50.00%) reported feeling good when they consumed products sustainably. Compared to other segments, preparers were the second most willing to stop shopping at a brand that did not match their sustainability values (3 participants, 30%). Preparers were the most likely segment to report feeling uninformed about the clothing that they buy (10 participants, 100%), but compared with other groups, they were the least satisfied with the amount of information they had (only 4 participants, 40%, said that the amount of knowledge they had about the clothing that they buy was sufficient). Compared to other segments, preparers had the most difficult time defining sustainable clothing. More preparers believed sustainable clothing was more expensive than mainstream clothing compared to any other group (4 participants, 40%), but they were somewhat more willing than contemplators to pay a perceived price premium for sustainable clothing. Compared to other segments, preparers were the least likely to believe that it would be hard to find sustainable clothing that met their expressive needs (2 participants, 33.33%).

All preparers indicated that they were unwilling to do research about the clothing that they consume, and only 2 preparers (20.00%) returned to ProjectJUST.com outside of their interview exposures suggesting that they are the third least likely segment to use such websites.

Half of the preparer segment was confused about the purpose of ProjectJUST.com after their first exposure. Only 1 preparer (10%) suggested that ProjectJUST.com influenced their shopping behaviors, and only 2 preparers (20%) suggested that ProjectJUST.com had increased their awareness of sustainable clothing. Only 6 preparers (10%) indicated that they trusted the information on ProjectJUST.com, making them the least trusting segment, and 4 preparers (40%) indicated that ProjectJUST.com had increased their consumer knowledge during the study period.

In contrast, 9 preparers (90.00%) indicated that their interview experiences had raised their awareness of sustainable clothing, and this segment also reported the second most changes to their preferred brands over the study period (2 participants, 20.00%). They were also the most likely segment to start buying less clothing during the study period (3 participants, 30%). Findings suggest that although preparers were the least likely to seek sustainable information actively on websites like ProjectJUST.com, they were also the segment that expressed the most curiosity and desire to know more. The implication is that pushing information to preparers via media they already engage with might be an effective way to increase their knowledge and change their clothing consumption behavior. Demonstrating where and how to find sustainable clothing could that meets preparer's price expectations would be a worthwhile use of resources because they are curious but are the most likely to raise price objections. Andreasen notes that preparers are worthy of specialized social marketing because of their need and willingness to change (1995).

Group 4: Action and maintenance, or 'maintainers.'

During the interview analysis, 6 participants (17.14%) were coded as maintainers. All maintainers believed that their consumption behaviors could make meaningful differences to

climate change issues, and 4 maintainers (66.67%) felt good when they consumed products sustainably. Compared to other groups, maintainers were the most likely to stop shopping from a brand that did not match their sustainability values (4 participants, 66.67%). Maintainers were also the most confident in their consumer knowledge about the clothing they buy compared to other segments; only 4 participants reported feeling uninformed (66.67%). They were also the least satisfied with the amount of knowledge they had with only 2 participants (33.33%) indicating that they had enough knowledge of the clothing they buy. 4 maintainers (66.67%) had never considered sustainable clothing before, and no maintainers believed that sustainable clothing was more expensive, perhaps because most of them (5 participants, 83.33% of maintainers) bought second-hand clothing.

Compared with other groups, findings suggested that maintainers were more willing to research the clothing they consume, only 3 (50.00%) maintainers described being unwilling. Only 2 maintainers (33.33%) returned to ProjectJUST.com outside of their interview exposures, and only 1 maintainer was confused by ProjectJUST.com—a relatively small percentage compared with other segments. All maintainers trusted the website, and 4 (66.67%) said that ProjectJUST.com had increased their consumer knowledge. 3 maintainers said that their preferred brands had been affected by the information that they learned on ProjectJUST.com. No one in the maintainer group said that the website had changed the way they shop for clothing, and they were unlikely to return to the website as a result. Because maintainers did not shop for clothing frequently, a finding that is supported by prior scholarship (Gwozdz et al., 2013; Peattie, 2010), ProjectJUST.com does not hold much use-value for this group who's purchase behaviors already align with the website's intention. Targeting this segment via social marketing strategies would be a poor use of resources (Andreasen, 1995).

Conclusion

This research sought first to identify the pertinent characteristics of ProjectJUST.com users, and then measure and describe the website's differential effects on clothing consumption behaviors among green Millennials. The combined study findings present an interdisciplinary perspective that offers academics and activists a new understanding of the effects of online sustainable clothing consumer knowledge platforms on green Millennial consumer behavior. Several implications and contributions are described below.

First, this research contributes a contrary finding to the harmonious conclusions among sustainable fashion academics that sustainable clothing consumer knowledge will promote behavior change at a large scale. People who were seeking information about sustainable clothing on ProjectJUST.com were already intending to consume clothing sustainably when they landed on the site. The implication is that online sustainable clothing consumer knowledge platforms might serve as an important shopping or advice resource, but with the current user base, such websites are unlikely to create wide-spread changes in clothing consumption behaviors. Reaching a wide audience and changing popular clothing consumption behavior is important because consumers hold power to create demand for sustainable clothing and, in turn, can pressure brands to meet their demand.

Second, the green Millennials that were interviewed in study 2 only reported small behavior changes across the group after spending a cumulative 10 minutes on the website. Participants parsed effects between the interview and ProjectJUST.com. Many said that conversation and reflection on the attitude-behavior gap during the conversation were more effective in raising awareness about sustainable clothing and that ProjectJUST.com could serve as a resource for more information if they were inclined to seek it. Only 10 participants returned

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to the website outside of their study exposures, suggesting that the website did not entice participants, and few effects on behavior were reported. The implication is that exposure to consumer knowledge will have limited effects on changing green Millennial clothing consumption behaviors.

Third, this research contributes that even though attitudes and beliefs about sustainable clothing may be positive, many green Millennial consumers will still choose not to access consumer knowledge online. This could be partially explained by the perspective that green consumers will sometimes remain willfully ignorant of sustainability information when they shop (Ehrich & Irwin, 2005), which was also a finding in chapter 3. This could also be partially explained by the user experience findings reported above. Many participants were very confused about the website's purpose, even after 5 or 10 minutes of use. The very notion of sustainable clothing was new to many participants, and the website had the appearance of a shopping website. The depth and breadth of the information on ProjectJUST.com were impressive to many of study 2's participants who also appreciated the transparency of the research being conducted. However, the same large blocks of text that made ProjectJUST.com informative also dissuaded users looking to do less reading or hoping to have a quicker, more visual, or more interactive experience. One implication is that clear and concise purpose statements should be visible to viewers immediately upon landing. Online sustainable clothing consumer knowledge platforms could also consider a push-model in which content is posted on social media feeds and shared.

Fourth, this research contributes a method of quantifying sustainable clothing behavior change and 4 consumer segment profiles based on the changes reported in study 2. These profiles offer an early baseline in understanding the differential effects of sustainable clothing consumer knowledge on green Millennials. Findings suggested that contemplators and preparers formed

the ideal target market for online sustainable clothing consumer knowledge platforms. Contemplators and preparers were the most likely to use ProjectJUST.com because they were curious and still have room to change their behaviors. In contrast, precontemplators may never choose to use online sustainable clothing consumer knowledge at all, and maintainers already exhibit sustainable clothing, or anti-consumption, behaviors—there is little room for change, and little need.

One idea that was presented by participants in study 2 was the notion that online sustainable clothing consumer knowledge could reach a wider audience by segmenting and targeting their messages. For example, an organization could operate multiple websites. The first could emphasize that sustainable clothing might be 'made in America' which could appeal to nationalists. A second website could emphasize the use of sweatshop labor among specific brands to encourage boycotting. A third website could emphasize the virtues of buying second hand to appeal to anti-consumers. The implication is that online sustainable clothing consumer knowledge platforms should consider a more nuanced approach to create change. Managerial implications for online sustainable clothing consumer knowledge platforms are the discussed in greater depth in chapter 5.

Limitations and future study.

This study was subject to the usual limitations, and a few unique limitations. A common limitation of quantitative studies, such as study 1, is that significance testing procedures are sensitive to sample size (Fornell & Larcker, 1981). Several fit indices were reported where relevant to control for sample size threats to validity. Survey results about sustainability attitudes are also subject to common construct validity threats such as social desirability bias because results are often skewed by respondents who try to give the 'acceptable' or 'best' answer

(Rudell, 2006; Wutich & Gravlee, 2010). In this study, each group was given an identical set of items that were included in this SEM analysis, so this threat is equally distributed among groups, making valid comparisons still possible. Also, the language used in the survey design that may have stifled more creative responses. The word 'buy' or 'purchase' should be replaced with the more inclusive word 'consume' if this quantitative instrument is to be used in the future because people who engage in sustainable clothing consumption may practice a variety of non-buying behaviors such as anti-consumption, re-using, swapping, and/or mending. In the qualitative interviews, more flexibility in terms was built into the study design, and therefore sustainable clothing consumption behaviors were collected more inclusively in study 2.

Among the common limitations of qualitative research are that the results should be generalized with caution given the threats of small sample sizes, convenience sampling, selection bias, and subjective interpretation. However, Creswell notes that "… the value of qualitative research lies in the particular description and themes developed *in context* of a specific site" (2009, p. 193). The qualitative findings presented in study 2 offers an exploratory foray into measuring the effects of online sustainable clothing consumer knowledge platforms, but further study is needed to confirm that results are generalizable. Across studies, females were overrepresented within all samples. ProjectJUST.com had only a small amount of content about menswear, and Google Analytics data suggested that 75% of all ProjectJUST.com users were female. These samples are therefore representative of the people who used the website but pose generalizability issues across genders.

One drawback of study 1 was that the survey was available immediately upon landing, and therefore the length of time spent surfing the website before taking the survey was not controlled or collected. Some participants may have taken the survey before perusing the website

at all. This threat was partially controlled by asking respondents how many times they had used ProjectJUST.com in the past. Future research would benefit by comparing multiple groups based on the number or length of times they sought online sustainable clothing consumer knowledge because there may be a visit frequency or surfing duration effect that was not measured in this study. Future research could also consider a longitudinal design using multi-time surveys with repeat visitors to ProjectJUST.com to gain insight about exposure frequency or duration effects.

Finally, only one consumer knowledge resource was assessed. Some interview participants were dissatisfied with the ProjectJUST.com user experience, which may have deterred them from using the site irrespective of their interest in sustainable clothing consumer knowledge. Although this dissertation did not aim, nor can it be used, to compare sustainable clothing consumer knowledge platforms, the findings presented can provide insight into the broad themes that influence the efficacy of consumer platforms and how to target their content for various consumer segments with diverse needs, motivations, and perceived barriers. These insights are the subject of chapter 5 of this dissertation.

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CHAPTER 5

CONCLUSION

Introduction

ProjectJUST.com was an online sustainable clothing consumer knowledge platform that was established by activists with a mission. Founders Natalie Grillon, Rhea Rakshit, and their team wanted to change consumer behavior, and in turn pressure the fashion industry to improve their supply chain practices for the betterment of the planet and people. Unfortunately, ProjectJUST.com went offline after struggling to find a financial model that could support their rigorous research and time investment. There are many lessons to be learned from ProjectJUST.com's successes and challenges retrospectively that can help other online sustainable clothing consumer knowledge platforms in the future.

The quantitative data collected in this study form the first assessment of a live online sustainable clothing consumer knowledge platform on consumers that use the platform of their own free will without participation incentives. The interview data collected during this dissertation research represented the most robust set of in-depth interview data collected about the efficacy of online sustainable clothing consumer knowledge platforms collected before 2018. Chapters 3 and 4 both garnered their results from over 105 hours of audio recordings were that were collected from 35 participants. Many more hours of audio recordings were not included in this analysis because of participant drop-out or recording errors, but the themes that arose during these interviews were used to inform initial theories and coding categories.

Purpose.

The purpose of this chapter was to synthesize and interpret the results of this dissertation research to present new insight for online sustainable clothing consumer knowledge. After a

summary of the results presented in chapters 2 through 4, managerial implications and

recommendations were presented, followed by a description of this chapter's limitations.

Summary of Results by Chapter

Chapter 2.

Chapter 2's quantitative survey results suggested that ProjectJUST.com was mostly

reaching people who already wanted to consume clothing more sustainably. An online

quantitative survey was developed and distributed to two groups of international Millennials: one

group that had used ProjectJUST.com (the PJ group, $n = 700$) was collected using a banner

appearing on the website. Another group with similar demographic characteristics that had not

used ProjectJUST.com was collected using Amazon Turk (the MT group, $n = 685$). Results

added nuance to prior scholarship and activism which has widely concluded that increasing

consumer knowledge is the most effective way to promote sustainable clothing consumption.

Means comparison suggested that perceived personal relevance was the second most salient

distinguishing feature between groups, after behavioral intention. The PJ group showed a

significantly stronger intention to buy sustainable clothing; across groups and between groups

analyses suggested that perceived personal relevance had the strongest effect on intention. In

other words, the people who accessed ProjectJUST.com were already intending to consume

clothing sustainably when they accessed ProjectJUST.com because sustainable clothing

consumption helped them express their identity as a green consumer.

The implication of chapter 1 was that online sustainable clothing consumer knowledge

platforms might not reach the wide audience that is needed to pressure clothing brands to change.

Instead, ProjectJUST.com was serving as a resource, or perhaps shopping guide, for people who

were already championing the cause. It is important to help interested consumers find clothing

that matches their values, to encourage them to consider second-hand or to extol the virtues of superior quality, care, and maintenance. However, if the goal is to change behavior and affect the fashion industry, people outside the niche group of sustainable fashion pioneers will need to be mobilized as well.

Chapter 3.

Chapter 3's longitudinal 3-time interview findings suggested that participants conflated their perceived barriers to buying sustainable clothing with reasons not to seek knowledge about it. Highly educated green Millennials with a penchant for research participated in three 1-hour interviews spaced equally over a six-month period. During their interviews, participants first reflected on their sustainability values and attitudes, were then asked about their prior knowledge of sustainable clothing, followed by questions about their clothing consumption behaviors. Participants were exposed to ProjectJUST.com for 5 minutes during their first two interviews, and during their final interviews, more time was spent asking them to describe any changes to their consumption or knowledge seeking behaviors. At the end of all the interviews, participants were asked about their user experiences, and their answers helped to form the recommendations presented in this chapter.

Much of the prior scholarship cited in chapter 1 about the perceived barriers to consuming sustainable clothing were upheld; participants described an attitude-behavior gap, selective sustainability behaviors, willful ignorance, guilt, skepticism about sustainability marketing claims, and the reaffirmed the primacy of subjective clothing attributes such as price, style, or fit. Chapter 3 contributed that these barriers are conflated with the reasons people were motivated or amotivated to seek online sustainable clothing consumer knowledge. Participants described a 'drop in the bucket' attitude towards sustainability behaviors generally but felt far

removed from sustainability issues in the clothing industry—even if they had witnessed sweatshop conditions first hand. Price was usually the top consumer priority when shopping for clothing among interview participants, and most people said that they were unwilling to pay a premium for sustainable clothing. Because they perceived the Just Approved brands as too expensive, this amotivated them to seek more information about sustainable clothing. There was no utility in learning about clothing that they cannot, or will not, afford. The responsibility for sustainable clothing consumption was externalized to others who were more financially stable or had more time to do clothing research. Responsibility was also placed on governments and corporations to accept responsibility for sustainability issues and enact legislation or policies that protect the planet and people. Participants reported feeling far removed from sustainable clothing issues, and that they could not afford to consume sustainable clothing, therefore they were not inclined to seek more information or to change their consumer behavior as a result.

Chapter 3 also described some motivational factors that influenced green Millennial interview participants to consume or seek information about sustainable clothing: stewardship, prestige, feeling good, and cost savings. Participants pointed to the importance of reflection on personal sustainability attitudes in raising awareness about the negative consequences of some clothing consumption behaviors. When asked if the interview discussions or consumer knowledge from ProjectJUST.com were more influential in changing their consumption behaviors, nearly all participants said that the interview had more influence, usually because it made sustainable clothing consumption personally relevant.

The implication of chapter 3 was that green Millennial consumers needed to be motivated to believe that sustainable clothing consumption was a personally relevant component of their identity as a green consumer to change their behaviors. Many of the participants interviewed

conducted in-depth research on sustainability issues and practiced sustainable consumption

behaviors such as recycling or buying local food. The connection between their green attitudes

and other consumption behaviors was clear, and to encourage sustainable clothing consumption a

similar connection should be made.

Chapter 4.

Chapter 4 presented two-phase mixed-methods results from the quantitative surveys

described above (study 1), and findings from the qualitative interviews described above (study

2). The quantitative survey results presented in study 1 suggested that ProjectJUST.com's

Millennial users tended to have stronger green consumer attitudes and greater intention to buy

sustainable clothing compared to a demographically similar group that had not used the platform.

Accordingly, during study 2, 35 green Millennial people were recruited to participate in three

interviews over a six-month period. After multiple exposures to ProjectJUST.com participants

were asked to describe any changes to their clothing consumption or knowledge seeking

behaviors. Participants were then segmented using the stages of change to understand better what

motivated some users to access the platform but not others, and to understand better who was

willing and able to change their behaviors, why, and what had changed. Chapter 4 proposed that

not all participants were affected by the study in the same way, and then profiled four-groups

using a segmentation strategy derived from the stages of change model for social marketing

(Andreasen, 1995). The implications of chapter 4 were twofold: first, ProjectJUST.com served as

an important shopping guide for a small group of people that already intend to buy sustainable

clothing, but this group's behavior does not need to be changed because they already intend to

exhibit the desired behaviors. Second, chapter 4 implied that differentiated content and

messaging could offer ways to reach a broader audience of consumers that could ultimately affect industry change.

Recommendations

The cumulative results of this dissertation highlighted the salience of reflection on personal sustainability values and increasing perceived personal relevance when trying to influence people to seek knowledge about, or to consume sustainable clothing. The remainder of this final chapter provides recommendations that could serve to improve the efficacy of online sustainable clothing consumer knowledge platforms in changing Millennial consumers' clothes shopping behaviors. These recommendations come after 2 years of intensive study, primary data collection, and lengthy conversations with committee advisors. All recommendations were also discussed with two research assistants throughout the spring of 2018. Some of the recommendations that follow were in use during the study period by either ProjectJUST.com or other online sustainable clothing consumer knowledge platforms, and some are novel contributions from the research team.

Overview of recommendations.

- Use differentiated social marketing strategies.

- Increase visibility across channels.

- Make the mission and purpose clear.

- Offer a customizable experience to increase perceived personal relevance.

- Use bullet points and a scale.

- Push information instead of pulling users.

- Overcome price objections and offer incentives.

Use differentiated social marketing strategies.

Throughout this dissertation research, it was suggested that people who were inclined to seek online sustainable clothing consumer knowledge already had strong intentions to consume clothing sustainably. If online sustainable clothing consumer knowledge platforms want to change behaviors on a massive scale, appealing to people who are already maintaining their sustainable clothing consumption behaviors is not an effective strategy. Online sustainable clothing consumer knowledge platforms will need to reach a wider audience of consumers to affect fashion industry change. Online sustainable clothing consumer knowledge platforms could consider a segmented approach to social marketing that has the power to reach more people who are willing or able to change their clothes shopping behaviors but need an extra push. Andreasen's (1995) stages of change approach to market segmentation could inform the development of best practices to broaden the reach of online sustainable clothing consumer knowledge platforms, as described in chapter 4. Findings suggested the need for differentiated social marketing, but researching the efficacy of new strategies in greater depth are beyond the scope of this dissertation. A future collaborative study between activists and people with social marketing expertise is recommended to establish best practices that can entice more people to seek online consumer knowledge about sustainable clothing or to promote the behavior in other ways.

Increase visibility across channels.

Participants were asked how they thought ProjectJUST.com could reach more people, increase website traffic, and promote sustainable clothing consumption among a broader audience. Participants widely explained that negative brand information is difficult to ignore when it comes from a variety of sources at the same time, and felt that ProjecJUST.com should

also activate a multi-channel approach. Some participants thought they would have already known about ProjectJUST.com "if they had signs in stores…. [because] That would peak my interest. Then it's like, 'oh, I'm excited I just bought this thing and let me go read'" (Participant 5). In contradiction, participant skepticism towards clothing tags that make sustainability claims was described in chapter 4. Therefore a variety of channels is needed to increase credibility. Participants similarly recommended that the website post on a variety of social media, gain mention in magazines, be endorsed by appropriate celebrities, or be endorsed by other activist organizations that they trust to increase visibility. Some of these were strategies being employed by ProjectJUST.com and other online sustainable clothing consumer knowledge platforms (for example social media), while others were not (for example in-store labeling). Achieving visibility across many channels at the same with a clear and consistent message is recommended.

Make the mission and purpose clear.

Most particiapnts recommended clarifying the purpose of the website they were asked how to improve the website or make it more appealing. As described in chapter 3 and 4, many participants were still unclear about ProjectJUST.com's purpose and motives after using the website for 10 minutes. Given that the average user spent only spent 2 minutes on the website, it is likely that many of them were also confused. Participants 9 suggested that "… some quick catchier messaging would be helpful." Interview participants similarly complained that the title of ProjectJUST.com gave no indication of their mission and recommended selecting a name that more explicitly reflected the website's content. The mission and motives should be made instantly clear with the use of text or infographics—participants preferred infographics. The use of emojis was strongly discouraged.

Participants were particularly confused by the click-through-to-shop functionality of

ProjectJUST.com. When they were perusing the Just Approved brands, if they clicked on the

product displayed, they were redirected to that brand's website where they could shop. Many

participants did not realize that they had been bounced to a new page given the similarity of

website aesthetics in 2017[2]. Shopping from a platform espousing the virtues of sustainable

consumption seemed contradictory to ultra-green participants, such as the maintainers referred to

in chapter 4, because their sustainable behaviors prioritized anti-consumption or second-hand

shopping behaviors. In short, "… [online sustainable clothing consumer knowledge platforms]

shouldn't have a shop button" (participant 12). Some participants were also suspicious about the

economic gains ProjectJUST.com might incur from the sale of products on the website, or

through their recommendations. Participants did not acknowledge that ProjectJUST.com requires

financial support to maintain the website; altruism was expected. It is recommended that any

snappy text or infographics that clarify the mission of online sustainable clothing consumer

knowledge platforms also mention their financial model to gain user trust and increase the clarity

of their purpose.

There were several user-interface recommendations that also emerged. First, some

participants mistakenly assumed that any brand listed in the ProjectJUST.com brand wiki was a

Just Approved brand. Implementing a ranking or sorting scheme would be useful to help users

understand when a website is evaluating and comparing brands to one-another, as opposed to

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[2] Some common website design elements in 2017 included white backgrounds, tabs,
sans-serif fonts, tiled-images of products to shop by clicking or scrolling downward. Some
participants also criticized ProjectJUST.com for using such a ubiquitous format.

providing a straightforward list of approved brands. Second, participants without prior

knowledge of the difference between wholesalers and retailers were also frustrated when they

tried to search for the name of a mega-retailer they were familiar with but could not find them:

"… I tried to search for a big company like Macy's, and they didn't have that" (Participant 15).

Online sustainable clothing consumer knowledge platforms should consider this point of

confusion when organizing searchable content. One recommendation would be to offer a search

bar that allows people to search by the retailer, as well as by the brand name, without needing to

know the difference. Third, streamlining the variety of content presented on a single website was

recommended because participants expressed confusion: "… it was difficult to navigate it

primarily because of the options that they have" (Participant 10). Google Analytics data revealed

that the most frequented page on the site was the brand wiki, followed by Zara and H&M's brand

pages. The importance of the brand wiki was supported by survey respondents who assigned the

searchable resource to the top position when they were asked to rank their favorite features of

ProjectJUST.com. The brand wiki and Just Approved guides were the two favorite features,

while wardrobe management advice and city guides were their least favorite. Full results of the

survey respondents' preferred feature rankings are presented in Table 5.1. Eliminating the least

used features of the website while maintaining the brand wiki (or similar searching features) and

approved-brand lists are recommended.

Table 5.1

ProjectJUST.com Preferred Website Features as Ranked by Survey Respondents

Feature	*m*	Ranking
Searchable wiki/database of brand information	1.58	1
Just Approved shopping guides	2.62	2

Feature	m	Ranking
Brand features/spotlights	4.38	3
Product Features (Style Files, Gift Guides, Products of the Day)	4.43	4
City or neighborhood guides	4.82	5
Wardrobe management advice (ex. how-to build a capsule wardrobe)	4.93	6
Social media (Instagram, Facebook, Twitter, etc.)	5.28	7

Note. n = 700.

Offer a customizable experience to increase perceived personal relevance.

Results from chapter 2 about the importance of perceived personal relevance were highlighted when interview participants were asked why they did, or why they might return to ProjectJUST.com outside of their study exposures. First, some participants were excited to find a resource providing access to information, and believed ProjectJUST.com was an easy source to help them understand the notoriously opaque fashion industry:

… it offered up more avenues of information... like information that I didn't have access to, as a consumer, I feel that now maybe I have more access than I thought. Like there's more possibility of it being a transparent industry. (Participant 21)

Second, as participant 1 explained, ProjectJUST.com could save them time: "I don't want to spend time on doing research about brands, and the website gives some critical information about the thing. Now I have an easy way to research each brand." Accordingly, participants usually returned or said they might return to search the brand wiki for information about the familiar brands they already shop from, or to identify brands that offered more sustainable alternatives if they were planning a large purchase such as winter coats or boots. Taken together, these findings suggest that participants were mostly focused on utilizing the platform in a way

that would conveniently integrate quickly and intuitively with their preexisting shopping habits, implying that customizable experiences were preferred.

One recommendation to foster customizable user experiences on online sustainable clothing consumer knowledge platforms is to offer various methods of searching or filtering content. Some participants were satisfied with searching by brand, while others wanted to search by retailer, clothing category, or by product:

> … let me funnel down what I want and then give me the information. I don't want to read about [a brand first]… Let me pick the things that I like, give me ten options, and then go, 'this company makes crappy clothes.' I'm starting from clothes, the product first, and then getting a backstory. I guess flipping those. Don't give me the backstory and then give me the corresponding clothes. Give me the clothes and then give me the backstory. And maybe let me use that as criteria. (Participant 17)

Participants also wanted to search or filter by price: "do I have to go to each of those websites to find out that all of them are out of my price range and are selling their jeans for $150, or can I just see, like Yelp, number of dollar signs" (Participant 23). If searching by brand, pricing could be expressed relatively with a points system, for example, a brand could be scored on a four-point dollar-sign system (like the one used by Yelp.com); more expensive brands could get more dollar-signs, and less expensive brands could have fewer dollar-signs assigned to them. One participant also recommended having a 'stores near me' function to help them locate nearby brick-and-mortar locations of Just Approved brands so that they could learn where to go to in a more personally relevant manner.

Use bullet points and a scale.

Interview participants wanted to receive the information they found on ProjectJUST.com in a faster format, a sentiment that was echoed by the 2-minute average session duration reported by Google Analytics. Participants were critical of dense paragraphs:

> … I think it gets a little wordy over here, I mean, I did an internship in looking at websites and content design, so I realized that beyond a certain point, people just don't read anymore. They just scroll and see if there's anything that pops out after that…"
>
> (Participant 11)

Participant 12 echoed the sentiment saying that all they wanted from a website like ProjectJUST.com was "like, five things that you need to do" (Participant 12). Easy, simplified texts or infographics can deliver impactful information quickly for those who are reluctant to do more research. Short bullet points could hyperlink or drop down with more content such as denser paragraphs or with links for people want to learn more could customize the user experience and increase personal relevance. Similarly, participants wanted a numeric score, ranking system, or easily interpretable scale assigned to brands so that they could quickly evaluate the sustainability of a brand or garment in the moment and at-a-glance, without needing to look at any bullet points at all. A search filter could also allow people to search by such rankings. Convenience and ease of understanding were important themes for most participants, but the density of the information available on ProjectJUST.com also made the website seem more credible and trustworthy. A balance of both is recommended so that participants can select just the right amount of information they want, when they want it—otherwise, they are likely not to seek out this information at all.

Push information instead of pulling users.

Although many participants were interested in sustainable clothing and their awareness was raised during their interviews, when they were shopping online or in-store it was easy to forget about their green attitudes—and most people did not go back to pre-plan their clothing purchases. For online shoppers, one strategy that participants recommended was to create a ProjectJUST.com app or plug-in that could be installed and operate in the background of an internet browser or cell phone. When users put items into an online shopping cart, sustainability information about the brand could pop-up before a purchase is made, users could be offered a score or a few bullet points praising, denouncing, or conveying neutral information about the brand. This same pop-up could provide sustainable alternatives at a similar price point when people were making an unapproved choice. Pushing the information to people while they are shopping offers a more reliable way to get personally relevant consumer knowledge when it is needed most, while simultaneously reminding people of their green attitudes at the point of sale. Further, downloading a plugin only asks participants to actively seek information one time, while the rest is pushed to them passively when needed. Some consumer knowledge sources have already created such a plug-in, for example, DoneGood, Avoid, and Cause Cart indicating that this functionality was possible with the technology available in 2018.

Overcome price objections and offer incentives.

Price objections from consumers are a widely recognized hurdle facing any activist organization trying to promote sustainable clothing consumption. Most participants believed that sustainable clothing was more expensive than mainstream clothing, and most were unwilling, or unable to pay the premium price. This is not just a problem for sustainable clothing brands to overcome, this is a problem for online sustainable clothing consumer knowledge platforms to

overcome as well. For example, some interview participants explained that they did not want to return to ProjectJUST.com because of the high prices they saw on the Approved Brand page:

> … in order for sustainability to work, you have to be able to reach all economic incomes. So, for me, I wouldn't come back unless they were to offer more education on how to find sustainable products that are within lower economic status price range… I never realized underwear could cost $24. I don't know I guess I got stuck on the price and I didn't really look at much else. And I was just floored by it. (Participant 30)

Allowing people to search brand suggestions by price is therefore recommended. A second strategy could be to offer rewards for shopping from approved brands such as discount codes or gift cards. A third strategy could be to offer price comparison information on brand pages, or via the website's plug-in. For example, if people were looking for denim at Zara in a $60 to $80 USD price range (a brand that is not preferred by ProjectJUST.com), a pop-up could show them denim from a competing brand who shared a similar price point that was preferred (such as Everlane). For some people, this may either empower them to believe that sustainable clothing is more accessible than they had once thought, and for others, this may dispel the notion that sustainability needs to be expensive.

ProjectJUST.com version 2.0

A key takeaway from this research is that increasing consumer knowledge does not always motivate consumers to consume clothing more sustainably. In fact, as noted in chapter 2, increasing consumer knowledge about sustainable clothing can sometimes reduce the perception that behaviors can be controlled, or that individual behavior can be effective in promoting desirable outcomes. The following section offers two examples of how future of consumer knowledge websites might re-envision their strategy to influence Millennials' purchase behaviors

based on this dissertation's findings. The strategies presented here draw from research on energy conservation, and behavioral economics. First, in their study of the effects of message framing on energy conservation behaviors, Van de Velde and Verbeke (2010) found that positively framing social marketing messages had a stronger positive relationship with motiving people to conserve energy. Particularly among Millennials, women, and people with weaker green attitudes, messages aimed at promoting energy conservation ought to focus on the positive impacts of individual contributions, rather than focusing on the negative aspects of consumption. In the clothing context, such findings might suggest that the use of horrific images of sweatshops or copious negative brand information, for example, would be ineffective at changing Millennial clothing consumption behaviors. Instead, drawing inspiration from behavioral economics, curating choices to promote sustainable clothing consumption positively might be more effective. Had Nobel Prize in Economics winner Richard Thayler and co-author Pratt Sunstein addressed the issue of sustainable clothing consumption in their best selling book *Nudge: Improving Decisions About Health, Wealth, and Happiness* (2009), it is likely they would have prescribed better 'choice architecture' when making clothing purchase decisions. Better choice architecture refers to curating and presenting solutions in such a way that beneficial selections seem popular, easy, intuitive, and sometimes automatic. Two strategies that positively frame sustainable clothing consumption and offer better choice architecture follow.

Future consumer knowledge websites could have a browser add-on and an app that runs in the background of personal devices. When the consumer puts clothing into an online shopping cart, the app could pop-up to show that brand's sustainability ranking compared to others selling similar products; if the user wants more information, perhaps a few bullet-points explaining the score could drop down upon clicking. Avoid large blocks of text on consumer knowledge

websites, such as those favored by ProjectJUST.com, is essential because some information sources about sustainability can confuse and overwhelm consumers (Peattie, 2010). Offering a numeric score or icon that ranks brands according to their sustainability efforts and bullet-points would be clear, and have a better chance of being read and absorbed in the short time the people will use the site, and to accomodate an impulsive moment before buying clothing online. This application would not be complete without providing alternative options with similar, or identical, subjective attributes such as price, style, fit, or color. For example, Zara is a brand with a bad sustainability reputation, but Everlane is known for their transparent approach to sustainable clothing supply chain management. Zara and Everlane both shared a similar range of regular-priced basic denim jeans in 2018 which usually cost approximately $70 USD. Providing pop-up imagery and links to sustainable alternatives that meet the shopper's subjective needs at the time of purchase would help eliminate the perception that sustainable clothing is unfashionable and prohibitively expensive (Zane, Irwin, & Reczek, 2015), and help to demonstrate the gap between a consumer's sustainability values and their intended purchase behaviors. Introducing consumers to fashion brands that they like might also generate a new loyalty to the more sustainable brand and, in turn, influence lasting behavior change. Further, Millennials frequently purchase clothing and other products impulsively (Meredith, 2017) and comparable product presentations at the point of sale caters to this tendency.

Consumer knowledge websites might also consider developing some form of mark or symbol that can be adopted widely to signal when someone consumes sustainable clothing. Conspicuous expressions of identity confer prestige because sustainable products are usually more expensive than their conventionally made counterparts, hence, green consumers tend to be relatively affluent and are sometimes characterized as 'conspicuous conservationists' who seek

status symbols identifying themselves as sustainable consumers such as the easily identifiable at-a-glance Toyota Prius (Sexton & Sexton, 2014). However, in the clothing context, sustainable consumption might be less visible to others because of preferences for second-hand clothing and because "many of the most significant contributions that consumers can make towards environmental quality come in product use, maintenance, and disposal, or in delaying or avoiding making a purchase through a 'make do and mend' mentality" (Peattie, 2001). Economist Dr. Robert Frank, when discussing this study's findings in a personal communication, suggested that one way to enhance conspicuous conservation would be with a visible marker, such as a pin or logo, that could be worn to identify sustainable clothing consumers. While such a solution may not be suitable for all style preferences, adoption of such a symbol by many people might increase the perception that most people engage in sustainable clothing consumption behaviors which can then nudge people to participate (Thaler & Sunstein, 2009). Therefore, one way that sustainable clothing activists might increase sustainable clothing consumption among a wide population could be to devise a conspicuous marker that would identify champions of the cause for others. Such a marker may need to adapt with changes in fashion, for example, a T-shirt with a logo may be adopted one season, but as trends change a bracelet, ribbon, or associating the movement with a particular color might be more effective.

Limitations

The recommendations made here have some limitations. The first limitation, and the most obvious is that only one online sustainable clothing consumer knowledge platform was assessed throughout this dissertation research. These recommendations respond to the particularities of ProjectJUST.com in 2017, but also offer insight for other consumer knowledge platforms given their similar format, for example, Good on You (Good on You, 2017) and DoneGood

("DoneGood," 2018) which also provided searchable content organized by brand and/or issue approved brand lists. Also, in this case, it was advantageous to establish a close relationship with a single organization to foster open the communication that enabled extensive data sharing between all parties during the study period. The depth of this analysis would not have been possible without the collaboration and trust afforded by ProjectJUST.com. A future study could employ the methods described in this dissertation to compare the efficacy of multiple online sustainable clothing consumer knowledge platforms in achieving their behavior change goals.

A second limitation is found in the samples that were used throughout this dissertation's qualitative and quantitative studies. The samples used in qualitative interview research are commonly small, this study is no exception, and results are inherently situated in a particular context (Creswell, 2009). Interview findings, though they should be generalized with caution, offer rich data that is not captured by surveys or quantitative methods (Saldaña, 2016). Rich data can explain the 'why' of behaviors (Patton, 2002), which was important to this study's research goals. A limitation of the quantitative survey data was that most survey respondents and interview participants were females. This accurately represents the gender distribution of people who were accessing ProjectJUST.com based on data from Google Analytics, but fails to address the opinion of males adequately, or examine differential effects between genders. The men that were interviewed complained that ProjectJUST.com had a comparatively small selection of menswear brands that were included in the brand wiki and Just Approved guides. A future study could assess the efficacy of online sustainable clothing consumer knowledge in promoting sustainable clothing consumption among men or compare genders. There was no attempt to balance the gender distribution in this study equally because it was desirable to assess the effects of people who used the platform of their own accord, instead of forcing an artificial condition.

Simulations of buying scenarios are ubiquitous among academic studies because of their ability to tightly control experimental conditions and therefore contribute highly precise measurements suitable for submission to academic journals. This research contributes an assessment of an online sustainable clothing consumer knowledge platform's efficacy 'in the field,' with at least one group of people that were using the website of their own accord. Further, this assessment and set of recommendations were guided by activists and experienced researchers in the areas of sustainable fashion, environmentally-motivated behavior change, and behavioral economics. Drawing on expertise at the intersection of activism and academia forms the unique value of this contribution to literature, and it is our hope that the results, findings, and recommendations contained in this dissertation can contribute in some small way to changing the way people shop for clothing.

In closing, it is worth noting that anti-consumption or second-hand buying behaviors are the most effective way to reduce personal contributions to climate change, and "green consumption is a problematic concept, not least because it is an apparent oxymoron" (Peattie, 2010, p. 197). Regulation, governance, and industry-wide standards must also be designed to pressure brands to change their supply chain practices. However, consumer behavior research, such as that reported here, is still important because the pressure to change the fashion industry must come from both sides of the supply chain.

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APPENDIX A

Example Brand Page from ProjectJUST.com's Searchable Brand Wiki

DATA

/ From 2016, H&M aims to move towards a 100% circular business model. The H&M brands goal is to use 100% recycled or other sustainably sourced materials by 2030. In 2016, 26% of its materials met this criteria. The brand requires its sustainably sourced materials to be verified by a third party (e.g. through a Life Cycle Assessment report, HIGG MSI Tool, or MADE-BY fibre benchmark).

/ H&M aims to only use cotton from sustainable sources by 2020. In 2016, H&M's use of sustainable cotton was 43% of its overall cotton use (2015: 34%) made up of certified organic cotton, Better Cotton or recycled cotton.

/ The brand aims to use 100% Responsible Wool Standard certified wool by 2022. In 2016, approximately 25% of H&M second tier spinners completed the Content Claim Standard (CCS) used to verify wool through the entire supply chain for RWS.

/ In 2016, H&M used recycled polyester equivalent to more than 180 million PET bottles (2015: 90 million) making it the second largest user globally.

/ H&M launched its 2016 Conscious Exclusive Collection in March 2016. H&M's 2017 Conscious Exclusive collection features a dress made from Bionic®, a recycled polyester made from plastic shoreline waste. The collection also includes items made from lyocell, organic silk, recycled polyester, organic cotton, organic linen and Tencel.

/ H&M has been partnering with WWF since 2011 on water stewardship and in 2016, renewed this for a further 5 years, working with WWF to develop its 2040 Climate Positive Strategy and the goals to achieve it.

/ H&M has a ban on the use of chrome 6 for all its production, including leather. The brand admits that some of the tanning is performed further down the production chain where it does not perform controls, so its long-term strategy is to aim for a complete phase-out of chrome tanning.

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/ H&M shares a list of 98.5% of first tier suppliers names and addresses and 56% of its second tier suppliers (fabric and yarn) names and addresses through an interactive map which the brand aims to update every 3 months. The brand lists each supplier's rating – platinum, gold, silver and other – stating that suppliers graded with platinum or gold are its preferred suppliers producing around 60% of its products.

/ H&M Group aims to have full traceability of its cotton by 2020.

/ In 2016, H&M collaborated with Control Union on a pilot traceability system for organic cotton and viscose, developing a web-based system to record shipments and provide transaction records and a QR code for each one. The pilot was considered a success and H&M plans to scale up the system to cover the entire viscose supply chain over the next few years.

/ H&M states it cannot trace its entire supply chain.

/ A February 2016 Business & Human rights Resource Centre (BHRC) report outlined H&M's response to child labour being identified in one of its factories in Turkey. The brand terminated the business relationship immediately and worked with its NGO partner, CYDD (Association for the Support of Contemporary Living), to make an action plan identifying the most suitable education option for the child.

/ H&M discloses the 2015 compliance level of all audited first tier factories by region (it is unclear what % of first tier factories were audited). Results included:

- Is there a trade union represented in the factory? EMEA scored 17%, Far East scored 60%, South Asia scored 6%
- Is the factory covered by a collective agreement? EMEA scored 33%, Far East scored 75%, South Asia scored 3%.
- Are monthly overtime hours within legal limits? EMEA scored 56%, Far East scored 10%, South Asia scored 17%.
- Are the chemical containers properly labelled? EMEA scored 78%, Far East scored 51%, South Asia scored 55%.
- Have the workers who regularly handle chemicals been trained in safe chemical handling? EMEA scored 70%, Far East scored 66%, South Asia scored 53%.

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∕ In 2016, H&M replaced its Code of Conduct with its Sustainability Commitment which outlines fundamental and aspirational requirements for its suppliers to comply with. Fundamental requirements include:

- All workers have the right to join or form a trade union and bargain collectively

∕ In its Sustainability Commitment, H&M states that "a fair living wage should always be enough to meet the basic needs of employees and their families, and provide some discretionary income." H&M reports that living wages are assessed in the brand's sustainability index and those suppliers achieving this will be rewarded with more business.

∕ H&M has developed a fair living wage strategy which outlines the stakeholders involved in bringing systemic change in this area, including other brands using the same suppliers, government, factory owners and workers. In 2016, H&M reported that 140 manufacturing factories had implemented the Fair Wage Method, representing 29% of its production volume and around 250,000 workers. The brands overall goal is that by 2018, suppliers of 50% of the H&M group's production volume will have improved wage management systems and democratically-elected worker representation. It is unclear if this has led to improved wages at these factories.

∕ The H&M Group has a whistleblower policy in place for its direct employees but no such policy is publicly available for the workers in its supply chain. Grievances raised by workers' representatives during 2015 concerned issues related to freedom of association and discriminatory practices.

∕ H&M aims to ensure democratically-elected worker representation at suppliers producing 50% of H&M group's product volume by 2018. In 2016, 290 factories received workplace dialogue training, representing 42% of total product volume, and more than 370,000 factory workers are currently directly covered by democratically elected worker representation through the brands programs in Bangladesh, Cambodia, China, Ethiopia and India.

∕ In 2015, H&M Group began using its Sustainable Impact Partnership Programme, called SIPP, which helps it monitor and measure suppliers' compliance against implementation of fundamental and aspirational levels of its Sustainability Commitment. SIPP is closely linked with SAC's Higg facility modules. Following an initial assessment, suppliers set their own goals and self-report annual results to H&M. A key element of the SIPP method is that all brands can use the results of the SIPP, meaning that suppliers only have to complete one assessment, rather than multiple brand-specific assessments.

- As of May 2016, H&M's monitoring programme (SIPP) covered 100% of first tier suppliers and those second tier suppliers (fabric and yarn suppliers) producing about 60% of the production volume for the H&M group.

∕ In January 2017, SOMO published the report "Branded Childhood: How garment brands contribute to low wages, long working hours, school dropout and child labour in Bangladesh", where 75 adult workers were interviewed at 14 factory units at 10 different garment companies in Dhaka, Bangladesh, supplying several multinational companies including H&M. The report noted that:

- The majority of interviewed workers said their basic wage was insufficient to meet their families' basic needs and that they therefore needed to work overtime hours.
- Low wages and long working hours have been found to play a key role in parents' decisions to take their children out of school. Almost all families had multiple income earners.

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APPENDIX B

Institutional Review Board Exemption Form

Cornell University
Office of
Research Integrity and Assurance

East Hill Office Building, Suite 320
395 Pine Tree Road
Ithaca, NY 14850
p. 607-254-5162
f. 607-255-0758
www.irb.cornell.edu

Institutional Review Board for Human Participants

Concurrence of Exemption

To: Sarah Portway

From: Amita Verma, Director, ORIA

Approval Date: September 21, 2016

Protocol ID#: 1608006574

Protocol Title: Reconciling Purchase Intention and Environmentalism: Can ProjectJUST.com Make You Buy Sustainable Clothing?

Your above referenced request for **Exemption from IRB Review** has been approved according to Cornell IRB Policy #2 and under paragraph(s) 2 of the Department of Health and Human Services Code of Federal Regulations 45CFR 46.101(b).

▪ Paragraph 2 allows to be exempted from IRB review research activities in which the only involvement of human subjects will be in the following category: Surveys/Interviews/Standardized Educational Tests/Observation of Public Behavior – Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior if: i) information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; or ii) any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability or reputation.

Please note the following:

- Investigators are responsible for ensuring that the welfare of research subjects is protected and that methods used and information provided to gain participant consent are appropriate to the activity. Please familiarize yourself with and conduct the research in accordance with the ethical standards of the Belmont Report (http://www.hhs.gov/ohrp/policy/belmont.html).
- Investigators are responsible for notifying the IRB office of change or amendments to the protocol and acquiring approval or concurrence **BEFORE** their implementation.
- Progress reports, requests for personnel or other administrative changes, or requests for continuation of approval are not required for the study.

For questions related to this application or for IRB review procedures, please contact the IRB office at irbexemptions@cornell.edu or 254-5162. Visit the IRB website at www.irb.cornell.edu for policies, procedures, FAQs, forms, and other helpful information about Cornell's Human Participant Research Program.

Survey Instrument

(ProjectJUST.com group survey is shown)

Survey Flow

> **Standard: Informed Consent (2 Questions)**
> **Standard: Demographic Details (4 Questions)**
> **Standard: Personal Definition (1 Question)**
> **Standard: General Sustainability (6 Questions)**
> **Standard: Clothing General (6 Questions)**
> **Standard: Sustainable Clothing (6 Questions)**

> **Branch: New Branch**
>   **If**
>   **If I have read and understand the above consent form and desire of my own free will to participate i... Yes Is Selected**

> **Standard: # of Visits (7 Questions)**

Page

Break

Start of Block: Informed Consent

C1 **Introduction**

This is a study of your opinion on sustainable clothing. You will be asked to spend 5-10 minutes responding to an online questionnaire as honestly as possible.

Participation

Participation in this research study is voluntary. If you desire to withdraw, please close your internet browser.

Risks, Discomforts, and Confidentiality

Your participation in this questionnaire presents no greater risk than everyday use of the Internet. All data obtained from participants will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones).

Questions about the Research

If you have questions regarding this study, you may contact Sarah Portway, at sgp63@cornell.edu. If you have questions you do not feel comfortable asking the researcher, you may contact Dr. Tasha Lewis, tll28@cornell.edu. Or contact the Senior Administrator of Cornell's Institutional Review Board, Myles Gideon, mbg223@cornell.edu.

X→

C2   I have read and understand the above consent form and desire of my own free will to participate in this study.

○ Yes (1)

○ No (2)

Skip To: End of Survey If C2 = 2

End of Block: Informed Consent

X→

Q01 What is your age?

○ Under 22 (1)

○ 22-39 (2)

○ 39-52 (3)

○ 52-70 (4)

○ 70+ (5)

X→

Q02 What gender do you most identify with?

○ Female (1)

○ Male (2)

○ Other (3)

○ Prefer not to say (4)

X→

Q03 Where do you live?

○ North America (1)

○ South America (2)

○ Europe (3)

○ Asia (4)

○ Africa (5)

○ Australia (6)

○ Antarctica (7)

X→

Q03a Where do you live?

○ Canada (1)

○ U.S.A. (2)

○ Mexico (3)

End of Block: Demographic Details

Start of Block: Personal Definition

Q04 In a few words, how would you define 'sustainability'?

_____

_____

_____

_____

_____

Q05

For the purposes of this study, the term **'sustainability' encompasses environmentally, ethically, and economically responsible production practices.**

Q06

The following questions ask you about your intentions to buy sustainable products *generally*. Please consider your shopping decisions as a whole (ex. food, gifts, personal care products, cars, home goods, electronics, etc.).

X→

Q07 (AT) How true are the following statements?

	Not true (1)	Mostly not true (5)	Neutral (2)	Mostly true (4)	True (6)
Buying sustainable products is important to me. (1)	○	○	○	○	○
I consider sustainability when making buying decisions. (2)	○	○	○	○	○
I am concerned about wasting resources. (3)	○	○	○	○	○
I would describe myself as environmentally and socially responsible. (4)	○	○	○	○	○
I am willing to be inconvenienced in order to buy things that are more sustainable. (5)	○	○	○	○	○

X→

Q08 (PCE) *How much do you agree with each of the following statements?*

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
It is worth the effort to make sustainable consumption choices. (1)	○	○	○	○	○
Since each individual can have sustainability impacts, what I do can make meaningful difference. (2)	○	○	○	○	○
By purchasing products made in a sustainable way, each consumer's behavior can have a positive effect. (3)	○	○	○	○	○

X→

Q09 (PPR) *How much do you agree with each of the following statements?*

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (5)	Strongly agree (7)
I feel good when other people notice me buying/using sustainable products. (1)	○	○	○	○	○
Buying and using sustainable products helps me to attain the type of life I strive for. (2)	○	○	○	○	○
I buy and use sustainable products because they reflect my personal beliefs. (3)	○	○	○	○	○
Buying and using sustainable products is important to me personally. (4)	○	○	○	○	○
Buying and using sustainable products helps me to express who I am. (5)	○	○	○	○	○

X→

Q10 (BI) How important are each of the following feelings to you?

	Not important (1)	Slightly important (2)	Neutral (3)	Important (4)	Very important (5)
Being healthy. (1)	○	○	○	○	○
Making the world a better place. (2)	○	○	○	○	○
Feeling good about buying a sustainable product. (3)	○	○	○	○	○
Feeling good when wearing clothes. (4)	○	○	○	○	○

End of Block: General Sustainability

Start of Block: Clothing General

X→

Q11 How often do you shop for clothing?

○ Everyday! (1)

○ Weekly (2)

○ Monthly (3)

○ Every 3 months (4)

○ Every 6 months (5)

○ Yearly (6)

○ I avoid it at all costs! (7)

Q12 When I decide to buy clothing, the most important decision I make is:

_____

_____

_____

_____

_____

X→

Q13 (SN) How true are each of the following statements?

	Not true (1)	Mostly not true (2)	Neutral (3)	Mostly true (4)	True (5)
I usually take advice from my close friends about what clothing to buy. (1)	○	○	○	○	○
I usually take advice from my family members about what clothing to buy. (2)	○	○	○	○	○
I usually take advice from my romantic partner or spouse about what clothing to buy. (3)	○	○	○	○	○

Q14 When I shop for clothing, I wish I could find:

_____

_____

_____

_____

_____

Q15 In a few words, how would you define 'sustainable clothing'?

_____

Q16 Do you own any sustainable clothing?

○ Yes (1)

○ No (2)

○ Maybe/Not sure (3)

End of Block: Clothing General

Start of Block: Sustainable Clothing

Q17

For the purposes of this study, the term **'sustainable clothing' refers to garments/apparel that are produced in an environmentally, ethically, and economically responsible manner.**

The following questions ask you about your intentions to buy *sustainable clothing* specifically.

Q18 How much do you agree with each of the following statements?

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (7)
I am quite familiar with sustainable clothing. (1)	○	○	○	○	○
I see sustainable clothing in the places I shop. (2)	○	○	○	○	○
When I shop, I buy sustainable clothing. (3)	○	○	○	○	○
When I shop, I try on sustainable clothing. (4)	○	○	○	○	○
I know a lot about sustainable clothing. (5)	○	○	○	○	○
There is a lot of information about sustainable clothing available. (6)	○	○	○	○	○

X→

Q19 (AT) How true are each of the following statements?

	Not true (1)	Mostly not true (2)	Neutral (3)	Mostly true (4)	True (5)
Buying sustainable clothing improves my physical health. (1)	○	○	○	○	○
Buying sustainable clothing has a positive effect on the world. (2)	○	○	○	○	○
Buying sustainable clothing improves my mental health. (3)	○	○	○	○	○
Buying sustainable clothing makes me feel good about wearing clothing. (4)	○	○	○	○	○

X→

Q20 (SN) *How much do you agree with each of the following statements?*

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
My close friends think l should buy sustainable clothing. (1)	○	○	○	○	○
My parents or family members think l should buy sustainable clothing. (2)	○	○	○	○	○
My romantic partner or spouse thinks l should buy sustainable clothing. (3)	○	○	○	○	○

X→

Q21 (BC) *How much do you agree with each of the following statements?*

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (7)	Strongly agree (5)
Sustainable clothing is expensive. (1)	○	○	○	○	○
Sustainable clothing is not available in the places where I shop. (2)	○	○	○	○	○
Sustainable clothing is only available far away from where I live. (3)	○	○	○	○	○
It is difficult to know what clothing is sustainable. (4)	○	○	○	○	○
There might be no way for me to ensure clothing is genuinely 'sustainable,' even if it says so. (5)	○	○	○	○	○
I can not afford sustainable clothing. (6)	○	○	○	○	○

X→

Q22 (BI) How true are each of the following statements?

	Not true (1)	Mostly not true (2)	Neutral (3)	Mostly true (4)	True (5)
When I go shopping, I usually intend to buy sustainable clothing. (4)	○	○	○	○	○
When I see stores that sell sustainable clothing, I am likely to shop there. (2)	○	○	○	○	○
When I find clothing that meets my needs, I am more likely to buy it if it is sustainable. (3)	○	○	○	○	○
I intend to buy sustainable clothing within the next 12 months. (5)	○	○	○	○	○
I have bought sustainable clothing in the last 12 months. (6)	○	○	○	○	○

End of Block: Sustainable Clothing

Start of Block: # of Visits

X→

233

Q23 Was this your first time visiting ProjectJUST.com?

○ Yes (1)

○ No (2)

X→

Q23a How many times have you visited ProjectJUST?

○ Once or twice before (1)

○ More than 3 times (2)

○ Too many to count! (3)

X→

Q24 Do you think using ProjectJUST has changed the way you shop?

○ Yes (1)

○ No (2)

○ Maybe/Not sure (3)

Q24a In a few words, describe the change ProjectJUST has made in your clothes

shopping decisions.

_____

_____

_____

_____

_____

X→

Q24b Which of the following ProjectJUST features have had the most influence on your

shopping decisions? Please rank from most influential to least influential.

Please note: not all of the features are available just yet but are rolling out soon- we're working on it!

_____ Searchable wiki/database of brand information (1)

_____ JUST APPROVED Guides (2)

_____ Product features (Style Files, Gift Guides, Products of the Day) (3)

_____ Social media (Instagram, Facebook, Twitter, etc.) (4)

_____ City or neighborhood guides (5)

_____ Wardrobe management advice (ex. how-to build a capsule wardrobe) (6)

_____ Brand features/spotlights (7)

Q 24c Did we miss anything important/influential for you?

(You may leave this response blank)

_____

_____

_____

_____

_____

Q25 Why do you think ProjectJUST has/has not changed the way you shop?

_____

_____

_____

_____

_____

APPENDIX D

Quantitative Data Cleaning Protocol

1. Download both the experimental and control .csv files from Qualtrics, open in Excel
2. Save both raw data sets in a 'Raw Data Sets' folder:
   a. Protect this file from editing by selecting File>Protect Workbook > Mark as final
3. Save both data sets as a new file for cleaning in a separate folder – mark as 'cleaned' in the title and keep in a separate folder to protect the raw data from destructive editing
4. First look at the two sets of data to be cleaned:
   a. If needed: specify row height for ease of visibility to 15pt - Right click > Specify Row Height > 15
   b. Any large sections missing, disorganized, or is the set complete?
5. In both sets, delete rows/columns without analyzable data, be sure to keep response ID column and row 1:
   a. Any MTurk ID's (columns BV and BW deleted)
   b. Any columns containing no data or that appear as that appear as '###########' (columns J-O, column D deleted)
   c. Any columns that repeat data in another column (columns A-C deleted)
6. Search and eliminate unfinished results or results outside study parameters (while cells are still in text format is best)
   a. Sort rows alphabetically from values in column C2 (Informed Consent) – delete all rows with NO
   b. Sort rows by numerically from values in column Progress – delete all rows with completion value lower than 80 (i.e. surveys less than 80% completed)
   c. Sort rows by age variable, eliminate responses outside Millennial range
7. Use codebook to 'find and replace' text variables into numeric variables across both data sets
   a. Remember that the 'find and replace' function will read *all* words in the cells, and excel will replace word fragments that appear in other cells (ex. If you search and replace 'true' with 1, the word 'true' will also be replaced with '1' in the cells containing the words 'mostly true' leaving these cells containing the words 'mostly 1'. To avoid this, re-code 'mostly true' as a phrase first, then re-code 'true')
   b. Note: Q21 items are reverse coded
8. Be sure all steps above have been completed in both experimental and control group data sets.
9. To combine both groups into a single data set:
   a. First create a new column to the left of Q01 with the header EC (Experimental/Control) in both data sets
   b. In the experimental group, fill this entire column's rows with 1
   c. In the control group, fill this entire column's rows with 2
   d. Combine both data sets into a single spreadsheet
   e. Visual check to ensure that the data was copied in an organized manner (ex. The columns all align properly, the data is organized into the same columns all the way across the new combined data set, etc.). Check for any inconsistencies and troubleshoot if needed.
10. Delete columns: Progress, Duration, Finished, RecordedDate, C2 (Consent), Q01 (age) – for SEM set, save a new file, and also delete all rows containing qualitative data, or data that will not be part of the final SEM analysis.
11. Rename Columns: codes given in codebook.
    a. If there are errors in the excel doc, this is a good time to fix those. When doing the final analysis of dissertation data, an error was found in columns AF-AK in which the actual intended label was not there. These were labeled with only question numbers, so AF-AK labeled as (question #18) columns were changed to CK_1a. . .CK_6a. A second error was discovered in rows AY-BC, these repeated labels associated to other columns, these were changed to reflect the label that was associated in the code book – BI_1a. . . B1_5a. An edit was made to the columns AF-AK, lower case letters were removed from the end of the labels as these were redundant (ex. CK_1a became CK_1), The code book can be used for reference if errors are found, the first column identifies each item's label.
12. Put all AT and all SN vectors together, add a column that multiplies a and b (see code book for naming convention). Aldo re-arranged columns so that all SEM indicators were together.
13. Open 'R studio', an 'R Script' console will be the default. From this console, install the R Markdown package using the following script in the console - install.packages("rmarkdown") – (then run the code)
14. Open R Markdown file – File > New File > R Markdown – and close the R Script file, there is no need to save this file as all code and output will remain in the R Markdown Notebook in html format.
    a. The R Markdown Notebook may have some pre-existing script, delete all script in the Notebook.
15. Import full data set into 'R studio' - File > Import Data Set > (select data to import)
    a. Do a visual check to ensure the data is clean and imported well
16. Start coding script, add a new chunk by clicking the *Insert Chunk* button on the toolbar or by pressing *Ctrl+Alt+I*.

R Studio Coding Script Written in R Markdown

```
---

title: "SustCloQuestAnalysis V02"

author: "Sarah Porwtway"

date started: "November 13, 2017"

output: html_document

---

#Libraries

###a. Install libraries and packages

```{r}

install.packages("lavaan")

install.packages("psych")

install.packages("semTools")

install.packages("sem")

install.packages("semPlot")

```

###b. Load libraries

```{r}

library(lavaan)

library (psych)

library(semTools)

library(sem)

library(semPlot)

```

#Import Data

```{r}

Diss_CleanData_SEMSetOnly_F17_v01 <- read.csv

("C:/Users/sarah/OneDrive/Documents/Dissertation/Analysis/Survey/SustainableClothingQuestionnaireAnalysis

v02/Diss_CleanData_SEMSetOnly_F17_v01.csv")
```

```
```

#View dataset

```{r}
View(Diss_CleanData_SEMSetOnly_F17_v01)
```

#Set categorical variables as a factor

```{r}
Diss_CleanData_SEMSetOnly_F17_v01$Group<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$Group)

Diss_CleanData_SEMSetOnly_F17_v01$Gender<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$Gender)

Diss_CleanData_SEMSetOnly_F17_v01$Continent<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$Continent)

Diss_CleanData_SEMSetOnly_F17_v01$Country<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$Country)

Diss_CleanData_SEMSetOnly_F17_v01$ShopFreq<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$ShopFreq)

Diss_CleanData_SEMSetOnly_F17_v01$OwnSustClo<-
as.factor(Diss_CleanData_SEMSetOnly_F17_v01$OwnSustClo)

Diss_CleanData_SEMSetOnly_F17_v01$FirstTime<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$FirstTime)

Diss_CleanData_SEMSetOnly_F17_v01$Visits<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$Visits)

Diss_CleanData_SEMSetOnly_F17_v01$PJChange<-as.factor(Diss_CleanData_SEMSetOnly_F17_v01$PJChange)
```

#Descriptive Statistics

##Means

###a. Combined Group Means

```{r}
summary(Diss_CleanData_SEMSetOnly_F17_v01)
```

###b. Group 1 and Group 2 Means Separated

```{r}
by(Diss_CleanData_SEMSetOnly_F17_v01, Diss_CleanData_SEMSetOnly_F17_v01$Group, summary)
``

##Standard Deviations for All Indicators

### a. Combined Group SD for All Indicators

```{r}
sd(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_1, na.rm = TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_2, na.rm = TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_3, na.rm = TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_4, na.rm = TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_5, na.rm = TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_1a, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_2a, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_3a, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_4a, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_5a, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_1b, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_2b, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_3b, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_4b, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_1ab, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_2ab, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_3ab, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$AT_4ab, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$PCE_1, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$PCE_2, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$PCE_3, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$PPR_1, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$PPR_2, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$PPR_3, na.rm=TRUE)
```

```
sd(Diss_CleanData_SEMSetOnly_F17_v01$PPR_4, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$PPR_5, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_1a, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_2a, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_3a, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_1b, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_2b, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_3b, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_1ab, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_2ab, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$SN_3ab, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$CK_1, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$CK_2, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$CK_3, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$CK_4, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$CK_5, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$CK_6, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$BC_1, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$BC_2, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$BC_3, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$BC_4, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$BC_5, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$BC_6, na.rm=TRUE)


sd(Diss_CleanData_SEMSetOnly_F17_v01$BI_1, na.rm=TRUE)
sd(Diss_CleanData_SEMSetOnly_F17_v01$BI_2, na.rm=TRUE)
```

sd(Diss_CleanData_SEMSetOnly_F17_v01$BI_3, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$BI_4, na.rm=TRUE)

sd(Diss_CleanData_SEMSetOnly_F17_v01$BI_5, na.rm=TRUE)

```

###b. Group 1 and Group 2 SD Separated for All Indicators
```{r}
by(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_1, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd,
na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_2, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd,
na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_3, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd,
na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_4, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd,
na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$GREEN_5, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd,
na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$AT_1a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_2a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_3a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_4a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$AT_1b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_2b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_3b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_4b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$AT_1ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_2ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_3ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$AT_4ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$PCE_1, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$PCE_2, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$PCE_3, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$PPR_1, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$PPR_2, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$PPR_3, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$PPR_4, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$PPR_5, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$SN_1a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$SN_2a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$SN_3a, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$SN_1b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$SN_2b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$SN_3b, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$SN_1ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$SN_2ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$SN_3ab, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$CK_1, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$CK_2, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$CK_3, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$CK_4, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$CK_5, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$CK_6, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

```r
by(Diss_CleanData_SEMSetOnly_F17_v01$BC_1, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BC_2, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BC_3, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BC_4, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BC_5, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BC_6, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)


by(Diss_CleanData_SEMSetOnly_F17_v01$BI_1, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BI_2, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BI_3, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)

by(Diss_CleanData_SEMSetOnly_F17_v01$BI_4, Diss_CleanData_SEMSetOnly_F17_v01$Group, sd, na.rm=T)
```
```

#Inferential Statistics

##T-Test (Reliability)

```{r}
t.test(GREEN_1~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(GREEN_2~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(GREEN_3~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(GREEN_4~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(GREEN_5~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)


t.test(AT_1a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_2a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_3a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_4a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)


t.test(AT_1b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_2b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_3b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_4b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)
```

t.test(AT_1ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_2ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_3ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(AT_4ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_1a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_2a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_3a~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_1b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_2b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_3b~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_1ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_2ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(SN_3ab~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PCE_1~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PCE_2~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PCE_3~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PPR_1~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PPR_2~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PPR_3~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PPR_4~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(PPR_5~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(CK_1~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(CK_2~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(CK_3~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(CK_4~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

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t.test(CK_5~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(CK_6~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BC_1~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BC_2~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BC_3~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BC_4~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BC_5~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BC_6~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BI_1~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BI_2~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BI_3~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)

t.test(BI_4~Group, data=Diss_CleanData_SEMSetOnly_F17_v01)
```

First EFA Combined Groups - SEM set only (no GREEN construct)
```{r}
EFA1_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_2ab",

"AT_3ab", "AT_4ab","PCE_1", "PCE_2", "PCE_3","PPR_1", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab",

"SN_2ab", "SN_3ab", "CK_1", "CK_2", "CK_3", "CK_4", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5",

"BC_6","BI_1", "BI_2", "BI_3", "BI_4")]

EFA_model<-factanal(na.omit(EFA1_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")

print(EFA_model, cutoff=.4)
```

Second EFA Combined Groups - SEM set only (no GREEN construct)

Removed CK_2 because of high crossloading (>0.40)
```{r}
EFA2_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_2ab",

"AT_3ab", "AT_4ab","PCE_1", "PCE_2", "PCE_3","PPR_1", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab",

"SN_2ab", "SN_3ab", "CK_1", "CK_3", "CK_4", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5",

"BC_6","BI_1", "BI_2", "BI_3", "BI_4")]

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```
EFA_model<-factanal(na.omit(EFA2_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")

print(EFA_model, cutoff=.4)
```

Third EFA Combined Groups - SEM set only (no GREEN construct)

Removed CK_2 because of high crossloading (>0.40), and PPR_1 because of low factor loading (0.00)

```{r}
EFA3_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_2ab", "AT_3ab", "AT_4ab","PCE_1", "PCE_2", "PCE_3", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab", "SN_2ab", "SN_3ab", "CK_1", "CK_3", "CK_4", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5", "BC_6","BI_1", "BI_2", "BI_3", "BI_4")]

EFA_model<-factanal(na.omit(EFA3_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")

print(EFA_model, cutoff=.4)
```

Fourth EFA Combined Groups - SEM set only (no GREEN construct)

Removed CK_2 because of high crossloading (>0.40), and PPR_1 because of low factor loading (0.00), and CK_4 because of low factor loading (0.00),

```{r}
EFA4_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_2ab", "AT_3ab", "AT_4ab","PCE_1", "PCE_2", "PCE_3", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab", "SN_2ab", "SN_3ab", "CK_1", "CK_3", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5", "BC_6","BI_1", "BI_2", "BI_3", "BI_4")]

EFA_model<-factanal(na.omit(EFA4_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")

print(EFA_model, cutoff=.4)
```

Fifth EFA Combined Groups - SEM set only (no GREEN construct)

Removed CK_2 because of high crossloading (>0.40), PPR_1 because of no factor loading (0.00), CK_4 because of no factor loading (0.00), AT_2ab because of no factor loading (0.00),

```{r}
```

EFA5_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_3ab", "AT_4ab","PCE_1", "PCE_2", "PCE_3", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab", "SN_2ab", "SN_3ab", "CK_1", "CK_3", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5", "BC_6","BI_1", "BI_2", "BI_3", "BI_4")]
EFA_model<-factanal(na.omit(EFA5_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")
print(EFA_model, cutoff=.4)
```

Sixth EFA Combined Groups - SEM set only (no GREEN construct)
Removed CK_2 because of high crossloading (>0.40), PPR_1 because of no factor loading (0.00), CK_4 because of no factor loading (0.00), AT_2ab because of no factor loading (0.00), and PCE_1 because of no factor loading (0.00)
```{r}
EFA6_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_3ab", "AT_4ab","PCE_1", "PCE_2", "PCE_3", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab", "SN_2ab", "SN_3ab", "CK_1", "CK_3", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5", "BC_6","BI_1", "BI_2", "BI_3", "BI_4")]
EFA_model<-factanal(na.omit(EFA6_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")
print(EFA_model, cutoff=.4)
```

Final Combined -Seventh EFA Combined Groups - SEM set only (no GREEN construct)
Removed CK_2 because of high crossloading (>0.40), PPR_1 because of no factor loading (0.00), CK_4 because of no factor loading (0.00), AT_2ab because of no factor loading (0.00), and PCE_1 because of no factor loading (0.00), and PPR_1 because of low factor loading (0.5) on another factor, CK_3 bause of loading on a different factor (0.501 on BI construct)


```{r}
EFA7_Diss_CleanData_SEMSetOnly_F17_v01<-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_3ab", "AT_4ab", "PCE_2", "PCE_3", "PPR_2", "PPR_3", "PPR_4", "PPR_5", "SN_1ab", "SN_2ab", "SN_3ab", "CK_1", "CK_5", "CK_6", "BC_1", "BC_2", "BC_3", "BC_4", "BC_5", "BC_6","BI_1", "BI_2", "BI_3", "BI_4")]
EFA_model<-factanal(na.omit(EFA7_Diss_CleanData_SEMSetOnly_F17_v01), factors=7, rotation="promax")
print(EFA_model, cutoff=.4)
```

EFA Separtated by Construct (deleted rotation option, and set to 1 factor)

```r
Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("GREEN_1", "GREEN_2",
"GREEN_3", "GREEN_4", "GREEN_5")]
EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)
print(EFA_model, cutoff=.4)


Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_2ab",
"AT_3ab", "AT_4ab")]
EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)
print(EFA_model, cutoff=.4)


Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("SN_1ab", "SN_2ab",
"SN_3ab")]
EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)
print(EFA_model, cutoff=.4)


Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("PCE_1", "PCE_2", "PCE_3")]
EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)
print(EFA_model, cutoff=.4)


Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("PPR_1", "PPR_2", "PPR_3",
"PPR_4", "PPR_5")]
EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)
print(EFA_model, cutoff=.4)


Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("CK_1", "CK_2", "CK_3",
"CK_4", "CK_5", "CK_6")]
EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)
print(EFA_model, cutoff=.4)
```

Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("BC_1", "BC_2", "BC_3",

"BC_4", "BC_5", "BC_6")]

EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)

print(EFA_model, cutoff=.4)

Diss_CleanData_SEMSetOnly_F17_v01 <-Diss_CleanData_SEMSetOnly_F17_v01[c("BI_1", "BI_2", "BI_3", "BI_4")]

EFA_model<-factanal(na.omit(Diss_CleanData_SEMSetOnly_F17_v01), factors=1)

print(EFA_model, cutoff=.4)

```

#Specify the Sustainable Clothing Questionnaire SEM Model (Lavaan Package)

#Confirmatory Factor Analysis

```{r}

SCQModel <-'

  CK =~ CK_1 + CK_5 + CK_6

  PCE =~ PCE_2 + PCE_3

  PPR =~ PPR_2 + PPR_3 + PPR_4 + PPR_5

  SN =~ SN_1ab + SN_2ab + SN_3ab

  AT =~ AT_1ab + AT_3ab + AT_4ab


  BC =~ BC_1 + BC_2 + BC_3 + BC_4 + BC_5 + BC_6

  BI =~ BI_1 + BI_2 + BI_3 + BI_4'


fitSCQModel<-lavaan::cfa(SCQModel, data = Diss_CleanData_SEMSetOnly_F17_v01)

summary (fitSCQModel, standardized = TRUE)

fitMeasures(fitSCQModel)

semPaths(fitSCQModel, "std", edge.color="black", edge.label.cex = .7)

```

#SEM

```{r}

#Latent variable definitions

SCQModel <-'

```
CK =~ CK_1 + CK_5 + CK_6

PCE =~ PCE_2 + PCE_3

PPR =~ PPR_2 + PPR_3 + PPR_4 + PPR_5

SN =~ SN_1ab + SN_2ab + SN_3ab

AT =~ AT_1ab + AT_3ab + AT_4ab

BC =~ BC_1 + BC_2 + BC_3 + BC_4 + BC_5 + BC_6

BI =~ BI_1 + BI_2 + BI_3 + BI_4

#Regressions
BI ~ SN + AT + BC

SN ~ CK + PCE + PPR

AT ~ CK + PCE + PPR

BC ~ CK + PCE + PPR'

fitSCQModel<-lavaan::sem(SCQModel, data = Diss_CleanData_SEMSetOnly_F17_v01)

summary (fitSCQModel, standardized = TRUE)

fitMeasures(fitSCQModel)

semPaths(fitSCQModel, "std", edge.color="black", edge.label.cex = .7)
```

#SEM by group
```{r}
#Latent variable definitions
SCQModel <-'
CK =~ CK_1 + CK_5 + CK_6

PCE =~ PCE_2 + PCE_3

PPR =~ PPR_2 + PPR_3 + PPR_4 + PPR_5

SN =~ SN_1ab + SN_2ab + SN_3ab

AT =~ AT_1ab + AT_3ab + AT_4ab

BC =~ BC_1 + BC_2 + BC_3 + BC_4 + BC_5 + BC_6

BI =~ BI_1 + BI_2 + BI_3 + BI_4

#Regressions
BI ~ SN + AT + BC
```

```
  SN ~ CK + PCE + PPR

  AT ~ CK + PCE + PPR

  BC ~ CK + PCE + PPR'
fitSCQModel<-lavaan::sem(SCQModel, data =Diss_CleanData_SEMSetOnly_F17_v01, group="Group")

summary (fitSCQModel, standardized = TRUE)

fitMeasures(fitSCQModel)

semPaths(fitSCQModel, "std", edge.color="black", edge.label.cex = .7)
```

#AVE and Cronbach Alpha


```{r}
SCQModel <-'
  CK =~ CK_1 + CK_5 + CK_6

  PCE =~ PCE_2 + PCE_3

  PPR =~ PPR_2 + PPR_3 + PPR_4 + PPR_5

  SN =~ SN_1ab + SN_2ab + SN_3ab

  AT =~ AT_1ab + AT_3ab + AT_4ab

  BC =~ BC_1 + BC_2 + BC_3 + BC_4 + BC_5 + BC_6

  BI =~ BI_1 + BI_2 + BI_3 + BI_4'
fit <- lavaan::cfa(SCQModel, data=Diss_CleanData_SEMSetOnly_F17_v01)

summary(fit, fit.measures=TRUE, standardized=TRUE)

semPaths(fit, "std")

reliability(fit) #This gives AVE and Cronbach's alpha
```

##GREEN Cronbach Alpha (using standard alpha)

###Combined Groups GREEN Cronbach Alpha

```{r}
alpha(Diss_CleanData_SEMSetOnly_F17_v01[c("GREEN_1", "GREEN_2", "GREEN_3", "GREEN_4", "GREEN_5")])
```

###Group 1 and 2 Separated Cronbach Alpha for Each Construct

```{r}
```

```
by(Diss_CleanData_SEMSetOnly_F17_v01[c("GREEN_1", "GREEN_2", "GREEN_3", "GREEN_4", "GREEN_5")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("AT_1ab", "AT_3ab", "AT_4ab")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("SN_1ab", "SN_2ab", "SN_3ab")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("PCE_2", "PCE_3")], Diss_CleanData_SEMSetOnly_F17_v01$Group,
alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("PPR_2", "PPR_3", "PPR_4", "PPR_5")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("CK_1", "CK_5", "CK_6")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("BC_1", "BC_2", "BC_3", "BC_4", "BC_5", "BC_6")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)


by(Diss_CleanData_SEMSetOnly_F17_v01[c("BI_1", "BI_2", "BI_3", "BI_4")],
Diss_CleanData_SEMSetOnly_F17_v01$Group, alpha)
```

APPENDIX F

Interview Participant Recruiting E-mail, Distributed Via the Cornell College of Human Ecology mail in February 2017

Hello, if you could please share the following call with your listservs, friends, etc. Your help is greatly appreciated!

Tell me about how you shop for clothing!

Case Study participants are needed between the ages of 22 and 39. Each participant who finishes 3 interviews over a six-month period will receive $100 (cash!). Each interview will last approximately 1 hour, and will be spaced approximately 3 months apart. During the three interviews I will ask you open-ended questions about how you shop for clothing and ask you to surf a website. Interviews will be conducted at Cornell University in the Human Ecology Building. No prior knowledge is required and all participants are appreciated. Please feel free to share this call for participants with your friends, family, and listservs!
Each participant who finishes 3 one-hour interviews over a six-month period will receive $100 (cash!).

Sign up for your first interview here:
http://doodle.com/poll/qehnafzuvubv2psq
OR
Email Sarah Portway: sgp63@cornell.edu for more information (or another time not listed in the poll!)

Follow Up Protocol

Option 1:

That's great! You can sign up for a time that I have pre-booked here: http://doodle.com/poll/qehnafzuvubv2psq
If those times don't work for you, you can throw out a few that do and I'll try to make a reservation for the room.
Thank you again for your participation!

Option 2:

Send meeting invitation via google calendar

Option 3:

It is a 3 interview process over 6 months. You need to be able to participate in all three interviews to receive the cash incentive, and I need three separate interviews to include your data in my study. If you are not available for all three interviews, I'm afraid it is not a good use of either of our time.

Thanks so much for your inquiry. I hope you are able to participate or know others who might!

Option 4:

HEB is just one big square, so if you are in the correct building, and just keep turning in the same direction, you can get around each floor in it's entirety that way. People get confused when they accidentally wander over into MVR. That place is a maze! We are just a square, tacked on to the maze through a hallway/commons area.

Admin link for Doodle Poll to schedule participants (do not share):

http://doodle.com/poll/qehnafzuvubv2psqf2w5tda9/admin

APPENDIX G

First Interview Online Informed Consent Form

Start of Block: Informed Consent

Introduction
You are being asked to participate in 3 interviews over a six month period (one every three months). Each interview will last one hour or less and will be video recorded.   I will also ask you to surf a website for 5 minutes. I will ask you open-ended questions about the decisions you make when you shop for clothing. After completing all three interviews, you will be compensated with $100USD. There are no risks or discomforts anticipated as a result of participating in this research. Participation in this research study is voluntary. You have the right to refuse participation, skip any questions, or withdraw at any time without penalty and with no effect on your relationship with the university, organizations, or researchers.

Follow up studies   I may contact you again to request your participation in a follow up study. As always, your participation will be voluntary and we will ask for your explicit consent to participate in any of the follow up studies.

Questions The main researcher conducting this study is Sarah Portway, a Ph.D. Candidate at Cornell University. Contact Sarah Portway at sgp63@cornell.edu if you have any questions or concerns. You may also contact the Institutional Review Board (IRB) for Human Participants at 607-255-6182 or access their website at http://www.irb.cornell.edu.

Q1 I am between the ages of 22 and 39.

○ Yes (1)

○ No (2)

Skip To: End of Survey If I am between the ages of 22 and 39. = No

Q2 I am, to the best of my knowledge, willing and able to participate in all three interviews on Cornell University Campus, spaced 3 months apart. (ex. Interviews held in Februrary 2017 will have in-person follow up interview dates in *both* May and August 2017).

○ Yes (1)

○ No (2)

Q3 I understand that I will receive any and all compensation ($100USD) at the termination of the study period. The study period terminated after participants have completed all three in-person interviews on Cornell University Campus, spaced 3 months apart.

○ Yes (1)

○ No (2)

Q4   I have read, understood, and printed a copy of, the above consent form and desire of my own free will to participate in this study.

○ Yes (1)

○ No (2)

✳

Q9 Please enter your name

_____

✳

Q10 Please enter your e-mail address

_____

End of Block: Informed Consent

Third Interview Online Consent Form with Demographic Items

C1 **Introduction**
You are being asked to participate in 3 interviews over a six-month period (one every three months). Each interview will last one hour or less and will be video recorded.   I will also ask you to surf a website for 5 minutes. I will ask you open-ended questions about the decisions you make when you shop for clothing. After completing all three interviews, you will be compensated with $100USD. There are no risks or discomforts anticipated as a result of participating in this research. Participation in this research study is voluntary. You have the right to refuse participation, skip any questions, or withdraw at any time without penalty and with no effect on your relationship with the university, organizations, or researchers.

Follow up studies
I may contact you again to request your participation in a follow up study. As always, your participation will be voluntary and we will ask for your explicit consent to participate in any of the follow up studies.

Questions
The main researcher conducting this study is Sarah Portway, a Ph.D. Candidate at Cornell University. Contact Sarah Portway at sgp63@cornell.edu if you have any questions or concerns. You may also contact the Institutional Review Board (IRB) for Human Participants at 607-255-6182 or access their website at http://www.irb.cornell.edu.

Q8 What is your age?

_____

Q9 With which gender do you most identify?

○ Male (1)

○ Female (4)

○ Other (5)

○ Prefer not to say (6)

Q10 What nation(s) are you a citizen of?

_____

Q11 In what city/town do you currently live?

_____

Q12 What is your occupation?

_____

Q1 I have already been interviewed for this study two times in the past. I understand that this is the third of three interviews.

○ Yes (1)

○ No (2)

Skip To: End of Survey If I have already been interviewed for this study two times in the past. I understand that this is t... = No

Q4 I have read, understood, and printed a copy of, the above consent form and desire of my own free will to participate in this study.

○ Yes (1)

○ No (2)

Skip To: End of Survey If I have read, understood, and printed a copy of, the above consent form and desire of my own free... = No

*

Q9 Please enter your name

_____

*

Q10 Please enter your e-mail address

_____

End of Block: Informed Consent

All Semi-Structured Interview Schedules

Interview 1: introduce stimulus (ProjectJUST website) for 5 minutes at mid-point (indicated)

Interview 2: introduce 5 minutes of stimulus at mid-point (indicated)

Interview 3: no stimulus

Before all interviews:

Send electronic consent form day before participation

Upon arrival in Human Ecology Building, Room T49

Arrive early to set up water and recording equipment

Using Cornell computer, set up meeting in Zoom recording software

    Sign in with Cornell SSO

    Check settings:

        Settings>Recording Location> Select a location to store recording

        Make sure to select option to record HD Video

        Use 'Chat 150' Microphone

    Select Start With Video> "Join by Computer"> Record (to begin recording)

    Set up "share screen" for ProjectJUST website

    Pause "share screen" (until the use the site for 5 mins 'stimulus')

    More>Hide video panel

    More>RECORD

    Select Stop Recording> "End Meeting" to end recording (Zoom will convert)

    Copy all files to folder on designated encrypted external hard drive with following

    naming convention: <dayMonth>_<Interview##>_<ParticipantName>

Using personal computer: open Qualtrics to check for electronic consent upon arrival; explain

what they will so (45-60 mins total, general interview, website for 5, interview about website)

Schedule Questions and Probes: Interview 1 of 3

1. Did you submit your informed consent form?

>>>>>>>>>>>>>RECORD!<<<<<<<<<<<<<<<<<

2. Is buying sustainable products important to you? (Code PPR and BI)
    a. How do you define 'sustainable products'?
    b. On a scale from 1-10, how important would you say it is?
    c. Why? Why not?
    d. What sustainability characteristics are most important to you when buying things?
        i. Can you rank them in order of importance?

3. Are there meaningful differences you think your purchases can make? (Code PCE)
    a. How do you define these differences?
    b. What kind of differences?
        i. Why? How?
    c. Why not?

4. Do you think it's important for others to know that you buy sustainable products? (code PPR)
    a. Explain your language choices, (ex. 'braggy', 'preachy')?

5. What characteristics are you looking for when you shop for clothing?

    a. Can you rank them in order of importance?

6. Do you do any research before you buy clothing?
    a. Where?
        i. What did you like or dislike about that [website, community, listserv, blog, store, teacher, etc.]?
    b. What type of information are you looking for?
    c. Do you do any research in other product categories?
    d. How do you know you can trust your research sources?
    e. What kind of characteristics can "sway" you to buy a piece of clothing?

7. Do you feel well informed about the clothing you buy?
    a. Why/why not?
    b. Do you desire to be more/less informed?
        i. How do you find that information?

8. How *would you* define sustainable clothing personally? (Code CK)
   a. How would you rank those characteristics in order of importance? (1 low -10 high)

9. Do you know where to find sustainable clothing? (Code BC)
   a. Where (be as specific as you can)?
   a. Is it convenient to find and buy? Why or why not?
   b. How do you decide if it is sustainable?

10. Do you have any sustainable clothing?

Mid point, introduce stimulus

<<<<Remind: Do not take survey, do not try to start a subscription on this visit, not a fake site.

1. What do you like about ProjectJUST? What don't you like?
   a. Did you want to spend more/less time? Why?

2. Do you think you would use it again?
   a. Why/Why not?
   b. What would they have to do to bring you back?
   c. Would you pay for it? Why/not?
      i. What *would* you pay for?

3. What parts of the website do you use?
   a. Why?
   b. What would keep you coming back?
   c. Do you think you will use anything you learned to help you shop for clothing?

4. Do you trust the site?
   a. Why? Why not?

5. Do you think ProjectJUST has changed the way you shop?
   a. *Why* do you think ProjectJUST has/has not changed the way you shop? (be as specific as possible)
   b. In what ways has ProjectJUST changed the way you shop (ie. what changes do you think you'll see or have seen in your behavior?)
   c. *How* do you think ProjectJUST *could* change the way you shop? What would they/you have to do?
   d. Did you learn something?

6. Would you share ProjectJUST with a friend?

     a. How would you share it? With whom?
     b. What would appeal/not appeal to people? Why?
     c. Do you think it would/could change the way *they* shop?
     d. Why?
     e. Hypothetical: Who would click on this on your FB (%)?
          i. How/why does this site speak to them?
     f. How could PJust reach the people who didn't click?

>>>>>>>> After interview, send thank-you e-mail with ProjectJUST research account link

Before Interview 2: Prepare each participant a folder. Have protocols printed ahead of time to make notes during the interview. Keep materials for each individual participant in their designated folder.

Upon arrival in Human Ecology Building, Room T49

1. Arrive early to set up water and recording equipment

2. Open ProjectJUST website and log in

3. Using Cornell computer, set up meeting in Zoom recording software

   Sign in with Cornell SSO

   Check settings:

        Settings>Recording Location> Select a location to store recording

        Make sure to select option to record HD Video

        Use 'Chat 150' Microphone; test this under settings > audio > computer audio

4. Select Start With Video> "Join by Computer"> Record (to begin recording)

5. Set up "share screen" for ProjectJUST website

   Pause "share screen" (until the use the site for 5 mins 'stimulus')

   More>Hide video panel

   More>RECORD

6.   To end interview recording: Select Stop Recording> "End Meeting" to end

recording (Zoom will convert). Copy all files to folder on designated encrypted external

hard drive with following naming convention:

<DayMonth>_<Interview##>_<ParticipantName>

Schedule Questions and Probes: Interview 2 of 3

>> I am looking for any changes since we spoke last, I'll ask lots of the same questions in the

same way. You know yourself, you probably remember some of your answers. I might not.

Refresh my memory a bit, but I'd like to focus on any changes since we last spoke

>> As always, if our conversations influence you in some way, or if it doesn't at all that's part of

the research.

>> Please respond honestly.

1. Did you submit your informed consent form?

    >>>>>>>>>>>>RECORD!<<<<<<<<<<<<<<<<

2. Is buying sustainable products important to you? (Code PPR and BI)
    a. On a scale from 1-10, how important would you say it is, if 10 means
        "sustainability is the most important factor when I shop", and 1 means
        "sustainability is an afterthought, if I even think about it at all"
    b. What characteristics tell you a product is sustainable?
    c. Have you noticed and changes to this definition since we last spoke?

3. Are there meaningful differences you think your purchases can make? (Code PCE)
    a. What kind differences?
    b. How does your money make these differences?
    c. Have you noticed and changes to this definition since we last spoke?

4. Do you think it's important for others to know that you buy sustainable products? (code
    PPR)
    a. Why? Why not?
    b. Tell me about your word choice (ex. 'brag', 'preach', etc.)
    c. Have you noticed and changes to this belief since we last spoke?
>>>> Now switching to talking about clothing specifically,

5. Have you bought any new clothing since we last spoke?
   a. Tell me about why you bought it.
   b. What brand?
   c. Where did you purchase this (ex. online, in store)?
   d. Was anything different this time when you shopped for clothing?

6. How frequently do you typically shop for clothing?

7. Do you enjoy shopping for clothing?
   a. What do you like/dislike about it?

8. Do you shop for your own clothing?

9. Do you do any research before you buy clothing?
   f. What kinds of research, what type of information are you looking for and where?
   g. Have you noticed any changes since we last spoke?

10. Do you feel well informed about the clothing you buy?
    a. Why/why not?
    b. Do you desire to be more/less informed?
       i. What information is missing that you would like to know?
    c. Has anything changed since the last time we spoke?

11. How long does a garment need to last for you to consider it 'durable'?

12. At what price does a piece of clothing become 'expensive' (break into product categories they purchase, ex. Jeans, t-shirts, day dress)? >>> may need some prompting ex. "Maybe you would still buy it, because you want to treat yourself, but tell me what feels expensive for you?"

13. What do you do with your clothing when you no longer want it?
    a. Has there been any changes to this since we last spoke?

14. How do you launder/clean your clothing?
    a. Have there been any changes to these habits since we first spoke?
>>> Let's narrow in and continue our discussion about *sustainable clothing*

15. How *would you* define sustainable clothing personally? (Code CK)
    a. Have you noticed any changes since we last spoke?

16. Do you know where to find sustainable clothing? (Code BC)
    a. Where (be as specific as you can, brands, websites, physical locations)?
    c. Have you noticed any changes since we last spoke?
>>>>>>Let's talk about the website I showed you last time, ProjectJUST.

17. Did you use ProjectJUST since we last spoke?
    a. How many times?
    b. Why/why not?
    c. What did you use it for, what parts of the site did you use?

18. Have you shared/told anyone about ProjectJUST?
    a. Why? Why not?
    b. How did you tell them?
    c. What, if anything, did they share with you about their experience?
    d. Do you think it changed the way they shop?

19. Do you think ProjectJUST has changed the way you shop?
    a. Describe the change you noticed.
    b. How do you think ProjectJUST could change the way you shop if they wanted to?

>>>>>>introduce stimulus, remind them: Do not take survey, do not try to start a subscription on

this visit, not a fake site>>>>>>

20. What parts of the website do you use?
    a. What was different this time?
    b. Do you think you will use anything you learned to help you shop for clothing?

21. If you had to describe ProjectJUST to a friend, what would you tell them?
    (use question to clarify that they understood the intended purpose of the website – ex. If
    they may think it is primarily an online shopping platform)

22. What do you like about ProjectJUST? What don't you like?
    a. Did you want to spend more/less time? Why?
    b. What could be better?

23. Do you think you would use it again?
    a. Why/Why not?
    b. What would they have to do to bring you back?

24. Do you trust the site as a source for information?
    a. Why? Why not?

25. How can ProjectJUST get their message to wider audience?

Schedule Questions and Probes: Interview 3 of 3

Before Interview 3: Find participant folder, print interview protocol to take notes during interview.

Upon arrival in Human Ecology Building, Room T49

1. Arrive early to set up water and recording equipment

2. Using Cornell computer, set up meeting in Zoom recording software

   Sign in with Cornell SSO

   Check settings:

   > Settings>Recording Location> Select a location to store recording

   > Make sure to select option to record HD Video

   > Use 'Chat 150' Microphone – Test functionality in 'settings'

   Select Start With Video> "Join by Computer"> Record (to begin recording)

   More>Hide video panel

   More>RECORD

3. To end interview:

   Select Stop Recording> "End Meeting" to end recording (Zoom will convert)

   Copy all files to folder on designated encrypted external hard drive with following naming convention: <dayMonth>_<Interview##>_<ParticipantName>

Using personal computer: open Qualtrics to check for electronic consent upon arrival; explain what they will so (45-60 mins total, general interview, website for 5, interview about website)

Schedule of Semi-Structured Questions and Probes: Interview 3 of 3

>> There will be some new questions this round, but I am still looking for any changes since we first spoke so I'll ask some questions again, in the same way. You know yourself, you probably

remember some of your answers. I might not. Refresh my memory a bit, but I'd like to focus on

any changes you've noticed.

>> Please respond honestly.

>>>>>>>>>>>>>RECORD!<<<<<<<<<<<<<<<<<

1. Thinking about all the products you buy in general, not just clothing, is buying
    sustainable products important to you? (Code PPR and BI)
    a. On a scale from 1-10, how important would you say it is?
    b. Explain you rating?
    c. Do you think there has been any changes since we first spoke?

2. What characteristics help you determine if a product is sustainable?
    a. Rank them?
    b. Have you noticed and changes to this definition/characteristics since we first
        spoke?

3. Do you believe in climate change?
    a. Do you believe your purchases can affect climate change in any way?
        i. How?
    b. Do you believe you clothing purchases can affect climate change in any way?
        i. Same way? Different?
    c. Do you believe your clothing purchases have any impact on labor rights issues?
    d. Why/tell me more?

4. Do you buy organic food?
    a. What % of the ingredients that you buy are organic?
    b. Why do you buy organic food?
    c. Do you think the clothing you buy has any effect on your health or wellbeing?
        i. What are the effect?
    d. Do you believe that wearing organic cotton instead of conventional cotton has any
        health effect?
>>>> Now switching to talking about clothing,

5. How do you keep up with fashion?
    a. (i.e. who are your 'influencers'?)
    b. Where do you find that information?

6. What characteristics are you looking for when you shop for clothing?
    a. Can you rank them in order of importance?
    b. Have you noticed any changes since we first spoke?
        i. What do you think caused these changes?

     c.   You said the price is important, tell me when an item of clothing becomes 'expensive' for you? (break it down by garment if needed, ex. Jeans cost between 80-100, t-shirt costs 35-45, etc.)

7. Have you bought any clothing since we first spoke?
     a.   Tell me about why you bought it.
     b.   Was anything different this time when you shopped for clothing?
     c.   Do you consider any of the clothing you purchased to be 'sustainable'?
     d.   Did you consider sustainability when you bought it?

8. Have you noticed any changes in your clothes buying behavior since we first spoke?
     a.   Frequency?
     b.   Personal style/taste?
     c.   Amount of information you look for?
     d.   Kinds of questions you ask?
     e.   Where you shop?
     f.   How you shop?
     g.   With whom you shop?
     h.   Where you look for fashion or buying advice?
     i.   Favorite brands?
     j.   Launder/cleaning?
     k.   How or when you get rid of clothes you no longer want?
     l.   Other?
     m.   Has there been any changes in any other buying or sustainability behaviors that you think might be relevant here?

9. Do you feel well informed about the clothing you buy?
     a.   Why/why not?
     b.   Do you desire to be more/less/just right informed?
          i.   How do you find that information?
     c.   What kind of information do you want? What is missing?
     d.   Has anything changed since the first time we spoke?

>>> Let's narrow in and continue our discussion about *sustainable clothing*

10. How *would you* define sustainable clothing personally? (Code CK)
     a.   Have you noticed any changes since we first spoke?
     b.   You mentioned 'durability', how long does a piece of clothing need to last for you to call it 'durable'?
     c.   You said "made with good materials" – what do you think are 'good' materials?
     d.   You said "fair and/or responsibly made" – what does 'fair/responsible' mean to you?
     e.   You said "environmentally friendly" – what do you think makes clothing environmentally friendly or unfriendly?

    f.   Do you believe that workers rights are part of this definition, or is that something different?

11. Do you know where to find sustainable clothing? (Code BC)
    a.   Where (be as specific as you can)?
    b.   Do you know of any stores that sell local/domestic clothing (made in USA, Ithaca)?
        i.   Do you think you could find it?
        ii.   Have you ever bought clothing from a local business?
    d.   Is it convenient to find and buy? Why or why not?
    e.   Do you think you could find sustainable clothing that met all your other clothes shopping criteria?
    f.   How do you decide if it is sustainable?
    g.   Have you noticed any changes since we first spoke?
>>>>>>Let's talk about the website I've shown you, ProjectJUST.

12. Did you ever use ProjectJUST outside of this room?
    a.   What compelled you to go back?
    b.   Where did you use it? (ex. mobile device in the mall, or at home?)
    c.   How many times?
    d.   Why/why not?
    e.   What did you use it for?
    f.   What parts of the site did you use?
    g.   Do you think you will ever use it again?
    h.   How could they get you to come back?

13. Have you told anyone about ProjectJUST?
    a.   How likely are you to refer ProjectJUST to a friend (scale from 1-10, 1 low 10 high)?
    b.   Do you think it changed the way they shop?/Did they share anything about their experience with you?

14. If you had to describe ProjectJUST to a friend, what would you tell them?

15. Do you think ProjectJUST has changed the way you shop?
    a.   *Why*?
    b.   In what ways?
    c.   *How* do you think ProjectJUST *could* change the way you shop? What would they/you have to do?
    d.   Do you think this interview process has changed the way you shop?
        i.   In what ways?
    e.   Do you think that ProjectJUST would have had the same impact without the interview?

16. What do you think was ProjectJUST's message/mission?
    a. How can ProjectJUST bring their message/mission to wider audience?

17. Have you seen/heard anything about sustainable, ethical, or environmentally friendly clothing anywhere else during the study period?
    a. What did you like/not like about that <source>?

>>>>>>>>>>>>>>>>>(ALLOW 5 MINUTES AT THE END)<<<<<<<<<<<<<<<<

After interview, give $100 cash in envelope, get them to take electronic consent, collect

demographics, and sign cash receipt.

APPENDIX J

Thank-You Letter and ProjectJUST.com Link Sent After First Interview to All

Participants

Subject: Thank you!

Hello again!

I just wanted to take a moment to thank you so much for your time in our first interview! I look forward to chatting with you again about how you shop for clothing in approximately three months. I'll send you a Doodle link so you may select a convenient time in approximately two months.

As another special perk for taking part in this research, I have arranged an all-access subscription to ProjectJUST for all participants! Without the subscription, use of ProjectJUST is limited to certain pages; this subscription gives you access to everything, unlimited! Of course, you are in no way obligated to look at the site again, but many participants were very eager to surf the site again on their own. This research subscription will de-activate after the research period (after our last interview). Here is your complimentary log-in details:

Link: https://www.projectjust.com
Username: studyparticipant
Password: cornell

See you in a few months! Have a wonderful day.

APPENDIX K

Code Book Sample Pages

(4 of 35 pages are shown)

Nodes\\{Attitudes and beliefs}

Name	Description	Sources	References
AT - corporations and governments have a responsibility to be sustainable	Participant feels that big companies and governments have an obligation to keep the environment clean, and/or to pay a fair salary to employees. Ex. 'policies',	5	7
AT - chemicals, pesticides, insecticides, GMO	Use to code passages where participant indicates what their attitude towards chemicals is (ex. 'I buy organic food becuase it is chemical free')	9	11
AT - clothing and health	Particpant's perception of how the clothing they wear impacts their health (physical or mental)	35	53
AT - durability expectation	How long a participant expects a 'durable' item of clothing to last. Usually expressed in years.	17	22
AT - Price is indicator of sustainability	Participant uses price as an indicator/proxy of garment worker's working conditions, or environmental standards in place by the company.. Ex. cheap price = sweatshop, high price = safe and ethical conditions for workers	16	23
AT - Price is sometimes indicator of quality or durability	beleives that products of higher quality are usually more expensive, OR you can discern something about the quality of the clothing by the price	17	24
AT - Trust of online shops, reviews, or online info sources	Use when participant indicates their trust for online shopping practices generally (note: this is NOT about PJ.com, this is about retailers). Also encompasses other online info sources, such as reviews	24	40
I am not sure that climate change is caused by human factors	participant is unconvinced that the actions of people have caused environmental proplems	1	1

Name	Description	Sources	References
I don't feel completely informed about some or all of aspects of the clothing that I buy	participant does not feel knowledgable about the clothing that they buy	45	83
Nowadays people are buying more sustainably, I see more products on the shelves	sustainable products are more prevalent, and I can find them in the places where I shop more readily these days	5	7
SN - modeling behavior vs. preaching or bragging	Participant describes the importance of demonstrating sustainable behaviors to others, OR/AND does not want to be too pushy or self-righteous, or seem like they are bragging about themselves	37	72
Some sustainability behaviors or purchases are easier to do than others	Mentions that they find some sustainability behaivors are easier to do--maybe there are lots of easy facilities, information, or convenience	10	13
Sustainable products might be less effective, less attractive, lower quality	has te attitude that products that bear sustainability labeling are usually inferior, less effective, lower power	3	3

Nodes\\{Changes (measured with TTM)}

Name	Description	Sources	References
Change - confounding factors	other factors that may have contributed to any changes notes by participants (ex. shopping more because they had free time over the summer, or changes to shopping behavior because they bought a house, had a baby, etc)	25	64
Change - I started buying organic food during the study period	Participant did not eat much organc food before the study period, but starting during i.t	1	1
Interview and PJ were equally impactful	When asked what study stimulus was more effective, they felt both were equal	3	3

Name	Description	Sources	References
Interview was more salient in changing my awareness or behaviors	response to question - what do you think affected you more, the interview or PJ?	18	24
Stage 1 - PRE-CONTEMPLATION (no action - 6mo)	pre-contemplation of the transtheoretical model of behavior change - awareness and CK growing in consumer - in other words, they are considering a sustainble clothing, but have no plans or intentions to buy within 6 months. Most participants are here in T1	26	62
Change - attitude towards second hand clo	Participant had had a change of attitude towards sustainable clothing, ex; they would not purchase it before the study, but now they are considering it. Another example: They used to shop second hand, but now they are trying ti buy more clothing second hand	3	5
Change - behavior - went to look up CK on PJ	Participant changed their shopping behavior by searching for brands on PJ.com that met their needs; this was also sometimes done after the purchase of an item, or when no particular purchase was in mind.	3	5
Change - I did not spend enough time with PJ for it to change my behavior or learn much	the time spent with the website was not enough time to change my behavior - in reference to the 5 minute 'stimulus' time they spent looking at PJ.com. felt that the website could change their behavior if they used it more, or that they didn't learn anything because they only had a few minutes	13	16
Change - interview or study changed awareness or concern about sust clo	going through the study process (interviews) changed the participant's awareness of sustainable clothing, This will be contrasted with other sources of change, and distinguishes between awareness, and behavior.	37	101
Change - interview or study changed awareness or concern about sustainable	i care more about sustainability when I consumer products that are not clothing since the beginning of the study period	8	22

Name	Description	Sources	References
consumption in general			
Change - PJ increased my awareness of this issue	using PJ increased their awareness of sustainable clothing (not to be confused with increased awareness caused by the interview itself, or the study more generally)	15	19
Change - PJ increased my CK	has more knowledge of clothing brands, supply chain and/or sustainability	32	57
Change - PJ is a new information source	participants feel that PJ is a place they can go for more information about clothing and/or sustainability	38	86
Change - study did not change behavior	participant claims that the study did not change their behaviors. this can apply to buying or information seeking. They may not be noting the change in this passage, but there might be other places where they contradict this	39	75
Change - sust clo - guilt or acknowledgement of contradiction in values and purchase behaviors	participant expresses guilt (implied or explicit) that they have not purchased or considered sustainable clothing in the past	32	69
Change - sust clo def - added clothing rentals	added the prospoect of rental clothing (such as Rent the Runway, Bag Borrow Steal) to conception of sustainable clothing pracitces	1	1
Change - sust clo def - added eco-friendly	added an environmentally friendly, preserving resources, reducing pollutants component to their definition of sustainable clothing	3	3

Research Assistant Adjudication Protocol

Carly Craver
Research Assistant

As research assistants for Sarah Portway, we are coding qualitative data of participants interviewed for her thesis work around consumer behavior towards sustainable fashion.

Before we started coding, we read *Coding Manual for Qualitative Research* to learn more about techniques that would be of value to us as we started to comb through the data.

In order to access the data set, we connected to the CISER network due to the size of the file. We downloaded NVivo Software in order to code the data and look at the data set in a more organized way.

Started off by reading through the data and creating a "Code Book" which sought to organize the research by topic. The coding process involves categorizing subjects' statements into nodes which ultimately saturates common themes that are found in the research.

Within the NVivo software, we were able to view the data set by Participant Interview, but also by individual code. Both Research Assistants worked through folders of nodes to ensure that each node was properly assigned.

Our efforts helping Sarah were to check her coding and highlight disagreements we had in reviewing her work. If we came across a code that we felt was misleading – or mis-categorized, we could "re-code" the specific Node and place it in a disagreement folder. In a shared spreadsheet, we would write out which node we disagreed with and why.

Every week we would come together to discuss the disagreements. Typically, most of the disagreements found were mistakes but sometimes they were disagreements on how something was interpreted. Together, we were able to discuss these disagreements and move forward with a clearer understanding of what something meant.

After discussion, Sarah would bring our disagreements into a new version of the document and re-share it. Both Research Assistants would then start on a new folder of nodes and review coding new participants.

We repeated this process throughout the duration of the semester until we had coded and reviewed each node and individual participant.

Nvivo group cluste	#	Age	Gender	Occupation	Reside	Citizenship	Was interview more impactful; Or were study and PJ equally impactful	# of times they went to PJ outside interview	Did PJ raise their awareness?	Was PJ a new source of info?	Did PJ increase their CK?	Did they express guilt about attidue-behavior
MAINTAINERS (Group 4)												
4	5	23	1	Grad	Ithaca	USA		1	1	1	1	1
4	15		2	Grad	Ithaca	USA		0	0	1	0	1
4	24	23	1	Grad	Geneva	USA	1	0	0	1	1	1
4	33	25	1	Circus Arts Instructo	Ithaca	USA	Equal	0	1	1	1	0
4	34	32	1	Grad	Ithaca	USA	1	1	1	1	1	1
4	35	33	1	Ph.D	Ithaca	India	Equal	0	0	1	0	0
GROUP TOTAL							NA	$n = 2$	3	6	4	4
% OF GROUP								33.33%	50.00%	100.00%	66.67%	66.67%
PREPARERS (Group 3)												
2	2	24	2	Grad	Ithaca	USA		0	0	1	0	1
2	8	32	1	Teacher	Ithaca	Korea	1	3	0	1	1	0
3	12	26	1	Grad	Ithaca	Sweden		0	1	1	1	0
3	14	31	1	Program Coordinato	Ithaca	USA		0	0	0	1	1
3	17	30	2	Grad	Ithaca	Canada	1	0	0	1	1	1
3	21	29	1	Grad	Ithaca	USA	1	0	0	1	0	1
3	22	26	1	Event Coordinator	Marathon	USA	1	0	0	1	0	0
3	25	25	1	Ph.D	Ithaca	USA		0	0	1	1	0
3	26	27	1	Grad	Ithaca	USA	1	0	1	1	1	1
4	32	30	1	Ph.D	Ithaca	Canada	1	3	0	1	1	1
GROUP TOTAL							NA	$n = 2$	2	9	7	6
% OF GROUP								20.00%	20.00%	90.00%	70.00%	60.00%
CONTEMPLATORS (Group 2)												
2	1	32	2	Grad	Ithaca	South Kor	1	2	1	1	1	1
2	6	26	1	Grad	Ithaca	India	1	0	0	1	1	0
2	7	23	1	Archivist	Ithaca	USA	1	0	0	1	1	0
1	9	22	1	Ph.D	Ithaca	USA		0	0	1	1	0
2	10	24	2	Laboatory Technicia	Ithaca	USA	1	3	1	1	0	1
3	13	39	1	Rowing Coach	Ithaca	USA		1	1	1	1	1
3	23	30	1	Researcher	Ithaca	USA	Equal	1	0	1	1	1
4	27	25	2	Accounts Rep	Ithaca	USA	1	2	1	1	1	1
3	28	29	1	Fundraising	Ithaca	USA	1	0	0	1	0	1
3	29	31	1	Grad	Ithaca	China		2	1	1	0	1
3	31	32	1	Grad	Ithaca	USA	1	0	1	1	0	1
GROUP TOTAL							NA	$n = 6$	6	11	7	8
% OF GROUP								54.55%	54.55%	100.00%	63.64%	72.73%
PRECONTEMPLATORS (Group 1)												
1	3	28	1	Grad	Ithaca	China		0	1	1	0	0
1	4	38	1	Assistant Registrar	Burdett	USA		0	0	1	1	0
3	11	29	2	Grad	Ithaca	Singapore		3	1	1	0	0
1	16	29	1	Grad	Ithaca	USA		0	1	1	0	1
1	18	24	2	Grad	Ithaca	USA		0	0	1	1	0
1	19	30	2	Ph.D	Ithaca	Hong Kong	1	0	0	1	0	1
1	20	24	2	Grad	Ithaca	USA		0	0	1	1	1
2	30	23	1	Admin Assistant	Newark V	USA	1	0	0	1	0	1
GROUP TOTAL							NA	$n = 1$	3	8	3	4
% OF GROUP								12.50%	37.50%	100.00%	37.50%	50.00%

Carries a water bottle?	buys second hand?	Never thought bout sust clo before or hard to	Selectively sustainable?	Did study raise their awareness?	Change - PJ is a new information source	PJ - trust or credibility	PJ - does NOT understand purpose of website or confused	would stop shopping at a brand that	meaningfull diff - supporting good brands and	people who buy local/organic food	sust clo def - what kind of material it is	Sust clo = reusable, reused, recycled, recyclable, second-	Sust clo = ethical, fairtrade, or good working condition
1	1	1	1	1	1	1	0	0	0	1	0	1	1
0	0	1	1	0	1	1	0	1	0	1	0	1	0
0	1	1	1	1	1	1	0	1	1	1	1	1	1
0	1	0	0	1	1	1	1	0	1	0	0	1	1
0	1	1	0	1	1	1	0	1	1	1	0	1	1
0	1	0	0	0	1	1	0	1	1	1	0	0	1
1	**5**	**4**	**3**	**4**	**6**	**6**	**1**	**4**	**4**	**5**	**1**	**5**	**5**
16.67%	83.33%	66.67%	50.00%	66.67%	100.00%	100.00%	16.67%	66.67%	66.67%	83.33%	16.67%	83.33%	83.33%
1	0	1	0	1	1	0	0	0	0	1	0	1	1
0	1	1	0	1	1	1	1	0	0	1	0	1	0
0	0	1	0	1	1	1	1	0	1	1	1	0	1
0	1	1	0	1	0	0	0	1	1	1	1	1	1
0	0	1	0	1	1	0	1	0	1	1	1	0	1
0	1	1	0	1	1	0	1	0	1	1	1	1	1
0	0	1	0	0	1	1	1	0	1	1	0	1	0
0	1	1	0	1	1	1	0	1	1	1	0	1	1
0	0	1	1	1	1	1	0	1	1	1	1	0	1
0	1	0	1	1	1	1	0	0	1	1	1	1	1
1	**5**	**9**	**2**	**9**	**9**	**6**	**5**	**3**	**8**	**10**	**6**	**7**	**8**
10.00%	50.00%	90.00%	20.00%	90.00%	90.00%	60.00%	50.00%	30.00%	80.00%	100.00%	60.00%	70.00%	80.00%
0	0	1	1	1	1	0	1	0	0	1	0	1	1
0	0	1	1	1	1	1	1	0	0	1	1	1	1
0	0	1	1	1	1	1	1	0	0	1	1	1	1
1	0	1	0	0	1	0	0	0	1	0	1	1	1
0	0	1	1	1	1	1	1	0	1	1	0	1	1
0	0	0	0	1	1	1	0	0	1	1	1	1	1
0	1	0	1	1	1	1	1	0	1	1	0	0	1
0	0	1	0	1	1	1	1	1	0	1	0	1	1
0	1	1	1	1	1	1	1	0	1	1	1	1	1
0	0	0	1	0	1	1	1	0	0	1	1	0	0
0	1	0	0	1	1	1	1	1	0	0	1	1	1
1	**3**	**7**	**7**	**9**	**11**	**9**	**9**	**2**	**5**	**9**	**7**	**9**	**10**
9.09%	27.27%	63.64%	63.64%	81.82%	100.00%	81.82%	81.82%	18.18%	45.45%	81.82%	63.64%	81.82%	90.91%
0	0	0	0	1	1	0	1	0	0	1	1	1	0
0	1	0	1	1	1	1	1	0	0	0	0	1	1
0	0	0	1	1	1	1	1	0	1	1	1	1	1
0	0	1	0	1	1	1	0	0	1	0	0	1	1
0	0	0	0	1	1	1	1	0	1	0	0	1	1
0	0	0	0	1	1	1	1	0	1	1	1	0	1
0	0	1	1	1	1	1	0	0	1	1	0	0	1
0	0	0	1	0	1	1	0	0	0	1	0	1	1
0	**1**	**2**	**4**	**7**	**8**	**7**	**5**	**0**	**5**	**5**	**3**	**6**	**7**
0.00%	12.50%	25.00%	50.00%	87.50%	100.00%	87.50%	62.50%	0.00%	62.50%	62.50%	37.50%	75.00%	87.50%

	# IN EACH GROUP	% OF POPN
Maintainers - 6	6	17.14%
Preparers - 10	10	28.57%
Contemplators - 11	11	31.43%
Pre-contemplators - 8	8	22.86%