

Analyzing Textile Consumption Data in Correlation to Income Demographics Data

Research Question

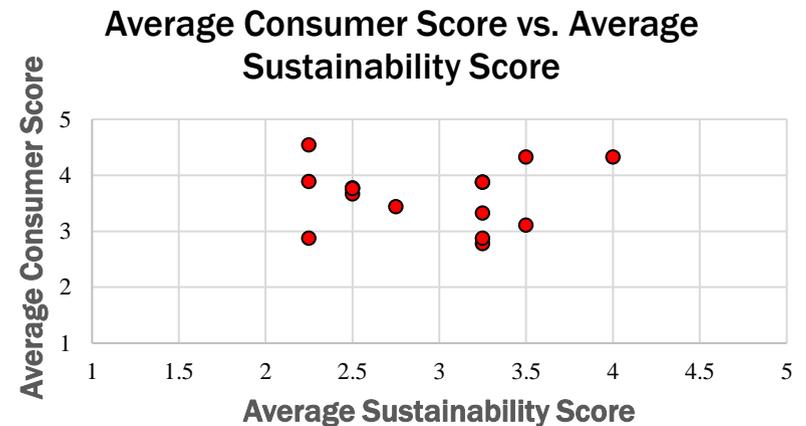
Research Questions

- How do sustainability beliefs affect consumption?
- How does household income affect consumption?

Variables

ID.a) Sustainability score
ID.b) Disposable income
D.a) Consumer score
D.b) Consumer score

Data Analysis



Methodology

Background information for survey was collected.

Survey was created.

Consent form and survey answers were collected from participants.

Consumer sustainability score and consumer score were calculated.

Data was put into a table to be analyzed.

Conclusions

The results of the experiment displayed a weak correlation between consumer scores and sustainability scores on average.

As sustainability scores increased, representing a more environmentally conscious consumer, the consumer score decreased representing a surveyor who represents sustainable ideals in their actual purchasing habits.

There was not a correlation between the household income and consumer scores of a survey. The consumer score averaged a 3 consistently across all income brackets.



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Globally 13 tons of textile waste is produced each year (“The Pretty Planter”). Textile waste is products such as footwear, towels, bedding, but the biggest contributor, is clothing.

In the past 20 years, the amount of clothing Americans throw away has doubled from 7 million to 12 million tons (WRAP).

Not only is the disposal of textile items, specifically clothing an issue but the production is responsible for 10% of the world's global greenhouse emissions and 20% of the world's water waste (Nelson).

Image from "I QUIT PLASTICS"



The Fashion Industry Waste in Comparison to other Leading Pollutant Industries.

Data from European Parliament
("The impact of textile
production and waste on the
environment (infographic)")

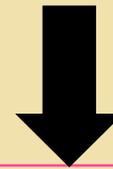
2,700 liters of water are
needed to produce one tee
shirt.

10% of global greenhouse
gas emissions are caused by
the clothing and footwear
production

0.5 million tons
of microfibers from washing
synthetics are released into the
ocean each year.



This is enough
drinking water for
one person for **2.5**
years



This is more than
all international
flights and
maritime shipping
combined



This is **35%** of
microplastics released
into the environment.

Garment factory workers |
Source: Courtesy



Both the production and disposal of textile waste harmfully effects the environment in major ways. This has only seen an uptick in the rise of "fast-fashion", a fast-paced chains of stores dropping collections 11-12 times a year (compared to 3-4), and outsourcing label to foreign factories. Often the workers are in poor conditions and receive bad pay. Fast fashion companies produce cheap clothes and sell them for cheaper, to the consumer cheaper is often more appealing but it comes at the cost of the environment (Fashionopolis, Thomas,Dana)

By adopting a more sustainable mindset and rejecting consumerist marketing, the negative environmental effects caused by the fashion industry can be lessened.

This means shopping for clothes that were made sustainably and buying clothes secondhand.

The amount of water it takes to make ONE t-shirt is equivalent to 2.5 years worth of a person's drinking water (Jordan)



Credit: Alamy

The Lifespan of a Garment

Data from Rinse.com

150 billion garments are produced each year, most from hazardous factories employing underpaid workers in Bangladesh, India, China, Vietnam, Ethiopia, Indonesia, Sri Lanka and the Philippines. 85% of these workers don't earn minimum wage, taking home 2-6 cents per piece.

This is about 20 items per person and equivalates 82 pounds of waste per American

72 million tons of textile waste entered the landfill annually as of 2018.

The recycling rate for clothing and footwear is only 13% (based on information from the American Textile Recycling Service)

Hypothesis

Hypothesis 1. Consumers whom reflect a greater sustainability score will then also express a lower consumer score. And those consumers that show a low sustainability score, will also express a high consumer score. As a sustainable mindset in a consumer makes for sustainable purchases.



Andrew Aitchison/In
Pictures via Getty Images

Hypothesis 2. Surveyors whom have less disposable income will reflect that in a lower consumer score. And those surveyors with more disposable income will have a correlating higher consumer score. This is because income demographics play a role in a person's consumption habits.

Research Questions



CBS News

Question 1: How do sustainability beliefs affect consumption?

Question 2: How does household income affect consumption?

Methods for Collecting Survey Results

1. Using “Microsoft Forms”, a survey was created that collected demographic data (age and gender) and had five Likert scales which then asked the participant to give their answer to topics around textile consumption, textile spending, and environmental effects attributed to the textile industry.

2. Participants were given a consent form with the information of the risks, benefits, and purpose associated with participating in the survey. Each participant was informed that the participation was voluntary, and they had the right to stop at any time in the form. The survey answers were completely anonymous.

4. Participants' results for each question were inputted into a table. The results were then averaged into a “consumer score” based on questions 2-5 pertaining to spending and consumption habits, and their “sustainability score” based on the Likert Scale statements for question 6.

3. Participants were asked to take an approximate two minute “Sustainability in Consumer Internet Survey”.

5. Information from the table was inputted into graphs, one graph compared participants sustainability scores (x-axis) to consumer scores (y-axis), and the second graph compared disposable income (x-axis) to consumer scores (y-axis).

6. Data was analyzed through the connection and comparison of consumer scores, sustainability scores, and disposable income which was used to prove or disprove out hypotheses.

Method (Images)

In the first five questions an average consumer score of 1 is the most sustainable score and 5 is the least sustainable.

On question 6 the least sustainable score is a 1 and the highest sustainable score is a 5.

1. Which best describes your yearly household income?

- Less than \$20,000
- \$20,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- Over \$100,000

5. On average, how much do you spend on clothing each month (aproximate)?

- A.\$0
- B. ≤\$25
- C. ≤\$50
- D. ≤\$75
- E. ≥\$100

6. Please fill out the following likert scale.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
6.a. I don't support "fast fashion"	<input type="radio"/>				
6.b. I am aware of the negative environmental effects caused by the textile industry.	<input type="radio"/>				
6.c. I believe that consumers should make an active effort to make more sustainable purchases.	<input type="radio"/>				
6.d. I consider the sustainability of clothing when I purchase.	<input type="radio"/>				

6.e. I only purchase clothes that I believe have been made sustainably.	<input type="radio"/>				
6.f. I believe everyone should purchase their clothing sustainability.	<input type="radio"/>				
6.g. The sustainability of my clothing does factor my purchase.	<input type="radio"/>				
6.h. A brand that markets themselves as "Sustainable" is more appealing to me.	<input type="radio"/>				
6..i. A product marketed as "Natural", "Organic", or "Sustainably Sourced" is more appealing to me.	<input type="radio"/>				

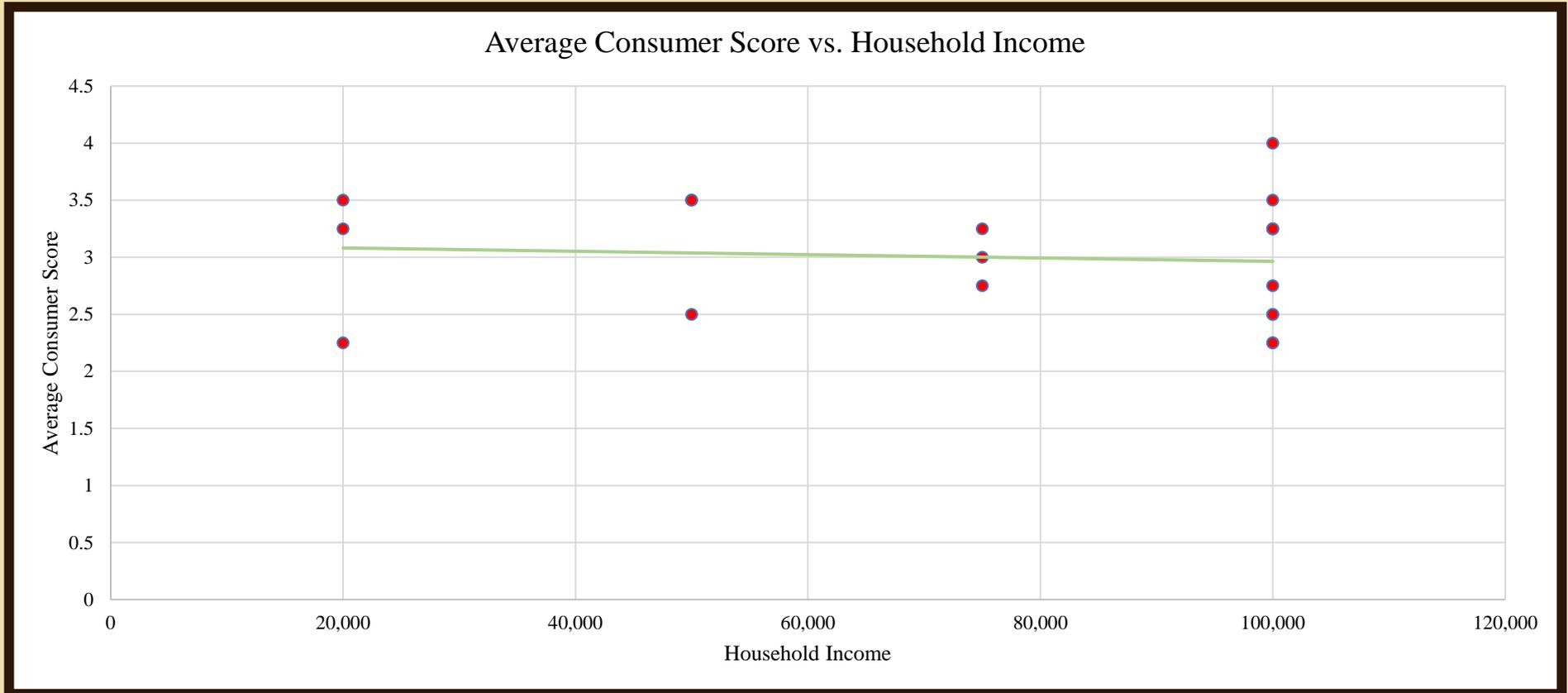
Average Consumer Score vs. Average Sustainability Score



Each dot represents one surveyor's place on the Average Consumerism vs. Average Sustainability Score graph. There is no seeming correlation between surveyor's consumer and sustainability scores. However, most survey takers average a 3 on the sustainability scale and a 3.5 on the consumerism scale.

A higher consumer score demonstrates the tendency to buy clothing in large quantities, frequently and bought new. Whereas a low consumer score represents less frequent, less quantity and thrifted or secondhand clothing sourcing. And on the sustainability scale a higher score indicates a high level of care and mindfulness as to how clothing is produced. A lower sustainability score represents a lack of caring for the way clothing is produced sourced and bought.

Household Income vs. Average Consumer Score



Each dot represents one surveyor's place on the Average Consumerism vs. Household income graph. There is a weak correlation between surveyor's household income and consumer score. On average, most surveyors score a 3 on the average consumption score, and majority of the surveyors make more than 100,00 in their household income.

A higher consumer score demonstrates the tendency to buy clothing in large quantities, frequently and bought new. Whereas a low consumer score represents less frequent, less quantity and thrifted or secondhand clothing sourcing.

Conclusions

The results of the research displayed a weak correlation between consumer scores and sustainability scores, as well as a weak correlation between household income and consumer scores, thus disproves our hypotheses.

Our research found that the sustainability score and consumer scores are at a neutral average in relation to one another. The results do not support our hypothesis that a higher sustainability score correlates to a lower consumer score.

For the household income vs consumer score, our research found that there is not a correlation between household income and consumer scores. The results do not support our hypothesis that people with a less disposable income will have a lower consumer score.

Significance of the Research

The textile industry is one of the highest polluting industries in the world. Using precious water resources, burning fuels in factories and exploiting workers. Most of used clothing ends up incinerated or in a landfill, both harmful to the environment.

Through responsible disposal, the negative environmental impact could decrease significantly, Responsible disposal includes, donating, reusing, and recycling.

More conscious consumer habits such as making an effort to buy longer lasting better quality clothes or buying clothes that were made sustainably and reducing the amount bought can also lower the environmental impact of the textile industry.

The research brings out these consumer trends in correlation to both income and sustainably practices. This data is significant to understanding the consumer mind and the reasoning behind purchases.

The research plays a key role in first analyzing the consumers' needs and habits before pushing for change in unsustainable purchasing.

Next Steps

Inform consumers about the consequences that unsustainable clothing practices have on the environment.

Avoid purchasing from fast-fashion clothing stores

Try to buy from sustainable and ethical clothing brands, buy clothes less often, and recycle and/or donate used clothing and textile.

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