ISSN: 2320-5407 Int. J. Adv. Res. 8(08), 55-84

Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

ISSN NO. 2320-5407

Article DOI:10.21474/IJAR01/11464
DOI URL: http://dx.doi.org/10.21474/IJAR01/11464

RESEARCH ARTICLE

SUSTAINABILITY IN THE APPAREL INDUSTRY

Aanika Chandhok[1] and Dr. Karen Kashmanian Oates[2]

1. Student, Daly College.
2. Professor, Biology and Biotechnology,Worcester Polytechnic Institute.

……………………………………………………………………………………………………....

Manuscript Info

……………………….

Manuscript History
Received: 05 June 2020
Final Accepted: 10 July 2020
Published: August 2020

Abstract

…………………………………………………………………

The apparel industry has one of the worst emissions and overall carbon footprint records of any sector. Apparel and footwear production currently accounts for 8.1 percent of global greenhouse gas emissions, or as much as the total climate impact of the entire European Union. The fashion industry is responsible for 20% of all water pollution worldwide. Under the scrutiny that these facts bring, many firms in the industry have resolved to adapt to a more sustainable model of production, with the commitment to lower their carbon footprint, reduce waste, and become more energy-efficient, with some adopting renewable energy as their primary source. The goals of this research project include the following: 1) to develop an understanding of sustainable practices in the apparel industry through research into three specific companies' practices; 2) to understand the motives behind creating a sustainable apparel business through conducting semi-structured interviews with apparel business owners and finally; 3) to survey two different age groups to determine how much more they would pay to purchase clothing made through sustainable practices. The results of the survey showed that a large majority of young people indicated a strong concern for the environmental impact of their buying choices, but a smaller number indicated that this concern actually factors into their buying habits. It may actually benefit apparel firms to be known for being in the sustainability business.

……………………………………………………………………………………………………....

Introduction:-

Executive Summary:

The pollution record of the fashion industry is second only to that of the oil industry. It generates 10% of global carbon emissions, is responsible for 20% of all water pollution worldwide, and uses 93 billion cubic meters of water, equivalent to the consumption needs of five million people. Fast fashion in particular increases the frequency of clothes purchasing and reduces the life cycle of each garment bought. This data is not lost on consumers: Research shows that 88% of consumers want brands to help them be more environmentally friendly. The growing concern over sustainability issues in the fashion industry has led many firms to adopt and prioritise sustainable methods.

Particularly among young people, but across age groups in general, a movement has emerged regarding climate change and sustainable practices. This explains the popularity of certain brands that openly advocate for lowering

Corresponding Author:- Aanika Chandhok
Address**:-** Student, Daly College.

climate and environmental impact. There are many businesses that are embracing the human and ecological challenges posed by the conventional business models in the fashion industry.

To get a better sense of these consumer attitudes among younger people (aged 16-21), a survey was conducted, trying to get an understanding of the priorities they demonstrated and how much they saw sustainability as a priority when it came to their clothing purchases. The survey was conducted through an online form, to which there were 82 respondents, 42 of them female and 40 male, all within the age group of 16 to 21. A semi-structured interview was also conducted with managers from a textiles firm in order to understand the incentives behind sustainability for them.

From the survey, there were some differences between respondents' self-reported concern over sustainability in their buying choices and the actual factorisation of that into their buying choices, as well as between the mark-up respondents' would be willing to pay for an essential sustainably-made product over a non-sustainably-made product, and that for a non-essential sustainably-made product over a non-sustainably-made product.

A large majority of respondents said that they think apparel companies' production should be more sustainable and another large majority stated that they hold a positive view of companies that they know are sustainable. This, in addition to the fact that almost all of the respondents said they would pay an additional amount for clothes made sustainably over those not made sustainably, would suggest that it may be a good strategy for firms to move toward producing more sustainably**.**

The apparel industry is now valued at over $1 trillion, accounts for about 2% of global GDP and employs more than 10% of workers globally. It is also responsible for 20% of all water pollution worldwide. In fact, it is the second largest polluter in the world, just after the oil industry, according to the United Nations Environment Program. And the environmental damage is increasing as the industry grows.If the fashion industry continues on its current path, it will produce 26% of the world's carbon footprint by 2050, as per the United Nations Framework Convention on Climate Change of 2018.

Environmental impact of the fashion industry:

According to estimates by the United States Environmental Protection Agency, 25.5 billion pounds of reusable textiles are thrown away each year, occupying 5% of all landfill space. The statistics on the industry's environmental impact are staggering.

According to the UNEP and the Ellen MacArthur Foundation, every year the fashion industry uses 93 billion cubic meters of water, which is enough to meet the consumption needs of five million people. Large quantity of fresh water are used for the dyeing and finishing process of clothes. As reference, it can take up to 200 tons of fresh water per ton of dyed fabric. In most of the countries in which garments are produced, untreated toxic wastewaters from textiles factories are dumped directly into the rivers. Meaning, water is both consumed in large quantities to produce clothes that are being discarded at an increasing pace, and is being polluted by waste from the manufacturing processes.

The global fashion industry also generates a lot of greenhouse gases due to the energy used during its production, manufacturing, and transportation of the millions garments purchased each year. In fact, it generates 10% of global carbon emissions. As recently reported by the United States Environmental Protection Agency, a family in the western world throws away an average of 30 kg of clothing each year of which only 15% is recycled or donated, and the rest goes directly to the landfill or is incinerated. Therefore, more and more textile waste is generated with time. Of the total fibre input used for clothing, 87 % is incinerated or disposed of in a landfill.

The textile industry also has an impact on our forests. Every year, thousands of hectares of endangered and ancient forests are cut down and replaced by plantations of trees used to make wood-based fabrics such as rayon, viscose, and modal. 70 million trees are cut down annually for textile production, and 5% of the global apparel industry uses forest-based fabrics.

Consumer interest in sustainability:

Despite the negative environmental and energy demands caused by textile manufacturing, with each passing season, consumers are pushed through the seasonal marketing of fashion into buying the latest items to stay on trend, causing the consumption of clothing to continue rising, even as consumers become increasingly aware of the climate impact of this consumption. This is largely due to the rise of ‘fast fashion,’ wherein cheap, disposable clothing is made indiscriminatelyand often without consideration for environmental and labour conditions.

Fast fashion also increases the frequency of clothes purchasing and reduces the life cycle of each garment bought. In 2000, 50 billion new garments were made; nearly 20 years later, that figure has doubled.On average, people bought 60% more garments in 2014 than they did in 2000, and they kept the clothes for an average time period that was 50% shorter. The waste generated from this consumption is also remarkable. The equivalent of one garbage truck full of clothes is burned or dumped in a landfill every second.

The environmental impact of the industry stems both from consumer culture as well as manufacturing processes and priorities. However, the impact of resource use and energy inefficiency is more wide-reaching and, as demonstrated by the examples of many firms, is possible to address successfully. The concern over sustainability issues in the fashion industry has led to the formation of a growing number of initiatives, in which many individual businesses are leaders and provide useful models that others firms with shared concern may emulate.

This research focuses on the processes that underly decision-making in the apparel industrywith regard to practicing sustainability. This goal is accomplished through three objectives, which are analyzing best practices regarding environmental impact reduction in the apparel industry, conducting interviews with people form within firms in the industry to gain insight into the decision-making processes in these businesses, and surveying consumers of two age groups to find out the extent to which sustainability is a priority for them.

Background:

Many firms have recognized that the fashion industry’s role in reducing its climate impact is essential, and have translated this recognition into action, which provides us with some examples of potential policies apparel-manufacturing firms may adopt to address this issue.

Introduction:

The fashion industry is valued at approximately $2.4 billion globally, employs 75 million people and is the world’s third-largest manufacturing sector after automobile and technology. Research shows that 88% of consumers want brands to help them be more environmentally friendly. Such research and climate reports and statistics highlighting the role of the fashion industry in contributing to negative environmental impact has caused some firms in the industry to take the lead on the issue of sustainability. The Sustainable Apparel Coalition, which has 250 members from the fashion industry, develops the Higgs Index, which measures environmental and social labor impacts across the value chains of the firms. With this data, the industry can improve sustainability performance, and achieve the environmental and social transparency consumers are demanding.

We look at three such firms, all of which are part of the Sustainable Apparel Coalition, that, to varying degrees, have prioritised sustainability in their productive processes.

Successful models for progress on environmental impact in the apparel industry:

Recognizing the urgency of meaningful action to reduce the climate impact and carbon footprint of their production process in both manufacturing and retail, and in some cases even advertising, many firms have prioritized sustainability in ways that are successful both in an economic and monetary sense, as well as in an environmental sense. This makes for their models to be effective and may provide strategies that could be extrapolated to other firms as well, allowing for effectual action on reducing climate impact while remaining viable from a business perspective. Three such examples are provided by the apparel industry firms Reformation and Eileen Fisher, who prioritize sustainability throughout their entire production, and the fast fashion brand Hennes & Mauritz A (H&M), which uses sustainable production methods in its ‘H&M Conscious’ line of apparel.

We look at the extent of prioritisation of sustainability, particular courses of action, and effectiveness of action undertaken by these three firms.

Reformation- prioritises sustainability- carbon neutral since 2015:

Reformation is an apparel company created in 2009 by a former model named Yael Aflalo. By 2015, the company’s Web site was drawing two hundred thousand monthly visitors and it had brought in more than twenty-five million dollars in revenue. Reformation now operates seventeen stores globally. It has raised thirty-seven million dollars from investors, and it recently took on the private-equity firm Permira Advisers as a majority stakeholder. It is also profitable, with projected sales of a hundred and fifty million dollars this year.

Reformation tracks the environmental footprint of each piece in its collection, from fibre production and dyeing to shipping and garment care. Each item from Reformation comes with a description and score of its environmental footprint to help customers understand the impact of their clothing. The pieces are made of upcycled and sustainable materials in fair wage environments. Reformation has been carbon neutral since 2015 and helps protect deforested areas to offset its manufacturing. Customers can also sell their old clothing to Reformation to earn credit for new pieces.

Reformation now operates seventeen stores globally, with two more, in Austin and on the Upper East Side, coming soon. It has raised thirty-seven million dollars from investors, and it recently took on the private-equity firm Permira Advisers as a majority stakeholder. It's also profitable, with projected sales of a hundred and fifty million dollars this year. Reformation tracks the environmental footprint of each piece in its collection, from fibre production and dyeing to shipping and garment care.

The fashion company uses Arcadia Power, a DC-based energy start-up, to source its energy supply. Arcadia's model is: opt into their billing system, and automatically customers can get 50 percent of their energy from wind and renewable sources. A 100% option is also available: all energy sourced for that office or household will come from renewable sources.

Eileen Fisher- prioritises wholesale sustainability:
Every aspect of Eileen Fisher's design and manufacturing process is built to be as sustainable and eco-friendly as possible, from the materials used to the ethical treatment of the workers who sew the pieces. The company avoids air shipping and uses creative processes to limit fabric waste. Eileen Fisher buys back used items to recycle into new garments or turn into art if the clothing can't be resold.

Eileen Fisher is valued at $400 million and has more than 60 stores across the US, Canada and the UK. Fisher personally owns 60% of the company that shares her name, while the remaining 40% is held by her 1,200 full- and part-time employees through an employee stock ownership plan (ESOP).

H&M- specific line of apparel prioritises sustainability:
H&M is moving away from its fast fashion roots with the Conscious collection, made of materials like organic cotton and recycled polyester. By using eco-friendly fabrics and more sustainable production methods, the company hopes to reduce its environmental footprint. Customers can also recycle unwanted garments at H&M stores and get a discount for a future purchase. As a whole, H&M has a goal to use only sustainably sourced materials by 2030.

Brands like H&M make clothes that are inexpensive and fashionable, rather than durable: As a result, it has made it easy for consumers to see them as disposable items rather than durable goods. Thanks to this mentality, the global fashion industry now generates 100billion items of clothing for 7 billion humans, which results in millions of tons of garments in landfills every year.

The company said in a statement that net sales in the financial year 2018/2019 increased by 11 percent and amounted to $24,138 million. For the financial year, gross profit increased to $12,699 million dollars, corresponding to a gross margin of 52.6 percent.

There are many reasons that underly the decision-making behind such objectives, which we look at in this next section.

Business incentives for prioritising sustainability:
According to the McKinsey Apparel Chief Purchasing Officer Survey of 2019, there was a five-fold increase in the number of sustainable fashion products launched over the two years to 2019, and 55% of companies sampled aimed to source at least half of their products with sustainable materials by 2025. According to Fashion Revolution, since 2016 there has been a 32% increase in the number of brands publishing their supplier lists, which is driven largely by consumer preferences. A recent poll from 10,000 customers across nine countries (Pulse of the Fashion Industry

2018, Global Fashion Agenda) indicates 89% of customers expect brands to report on sustainability. Younger consumer especially are more concerned about the impact of their purchasing decisions, which changes the incentives for a lot of brands that cater to this demographic of Millennial and Generation Z consumers.

Sustainable fashion has been growing rapidly in popularity among consumers, is starting to become a real driver of purchasing decisions, and is likely to be critical for competitive success in the near future. Technological innovation offers new solutions to sustainability problems and, at the same time, customer demand for sustainable sourcing is rising, according to McKinsey's 2019 Chief Purchasing Officer survey**.**

Therefore, there are many reasons for firms to concentrate efforts on reducing their environmental impact, one of which is public pressure. As the consequences of climate change become more widely understood, many consumers look to their own purchasing as a way to try to be more responsible about their carbon footprints, according to studies detailed in Business Insider.This creates incentives for businesses to be seen as leaders on these issues in order to bolster their public image, increase sales to an increasingly environmentally-conscious consumer base, and consequently increase revenue.

Changes in regulation and political action have also caused firms to operate differently. The UN Sustainable Development Goals adopted in 2015, are now the core framework guiding the implementation of sustainability strategies. The Fashion Pact adopted in the 2019 G7 Summit led to 32 major apparel companies agreeing to shared environmental-sustainability objectives. Such action reflect the changes permeating the domain within which apparel companies operate, causing them to take action on their carbon footprint, though some with more urgency than others. This has led to sustainability being seen widely as a competitive advantage in the industry.

There are many businesses that are embracing the human and ecological challenges posed by the older linear business and growth model and turning these into opportunities. With the recognition that consumers are increasingly interested in fashion that contributes positively to society and nature there is an encouraging surge in the number of companies that are taking an alternative approach. Fashion companies that have set science-based greenhouse gas emission reduction targets include DHL, Burberry, C&A, Gap, H&M Hennes & Mauritz, Kering, Marks and Spencer and Puma. The World Resources Institutehas published Guidance for the Apparel and Footwear Sector to set science-based targets.

Companies such as Reformation have started releasing their quarterly environmental impact and goals reports along with their earnings reports in order to "be accountable for more than just profits." Here, they detail all their action on sustainability, and what they hope to achieve in a specific timeline, in different areas such as "Chemical management," "Better materials," and "Social responsibility & accountability."

Consumer behaviour and preferences regarding sustainability:

A 2018 NPD survey found that 25% of consumers said they have purchased clothing that was described as "sustainable," "eco-friendly," "organic" or "ethical." Among 18-34 year olds, 30% responded similarly. As an indicator of growing public concern, internet searches for "sustainable fashion" tripled between 2016 and 2019. Consumers are increasingly prioritising sustainability in their fashion choices. Hits on the Instagram hashtag "sustainablefashion" quintupled between 2016 and 2019 in both the US and Europe, according to Sourcing Journal. That is an indicator that sustainable fashion is becoming part of a broader movement, driven, in part by the concern, activism, and rising spending power of Generation Z consumers. For younger consumers in particular, this seems to be a considerable priority, according to a study from the International Trademark Association conducted in November 2018.

In the face of increasingly grim statistics about climate change and the growing environmental impact of production, consumers look to their buying habits as a way of reducing their impacts on the environment. Supporting brands financially through their purchases then becomes a way of assessing which brands align with their social and environmental values, and which brands share their priorities. This explains the popularity of brands that openly advocate for lowering climate and environmental impact, and take meaningful action in their own production to that end, even in some cases as their prices are relatively higher than other brands that do not share such priorities.

Particularly among young people, but across age groups in general a movement has emerged regarding climate change and sustainable practices. The rising activism and calls to environmental accountability have effects in the fashion industry as well, and increasingly inform consumer decisions, a fact reflected in decisions by many apparel companies. Looking at precisely such decisions, we hope to extrapolate some best practices and understand the processes behind and consequences of the decisions made by firms to increase their focus on sustainability.

Methodology:-

Three objectives set forth for this research and how we set about achieving them will be discussed in this section. The methods used and the approaches taken are described in detail.

The first objective wasto secure a state of the apparel industry businesses related to sustainability. In order to gain some insight into the structure of theapparelindustry and its relation to the environment, we looked at the available information and condensed a background into the current structures and incentives of the industry at large, as well as individual firms, particularly looking at the mandate of three specific firms that are taking positive action on sustainability through a variety of ways and to varying degrees of efficacy, which we have detailed in the previous chapter.

Conducting a survey of young adult attitudes regarding sustainability in fashion and their consumption:

Based on the available information on sustainability in the fashion industry and actions firms have taken, a survey into the attitudes and opinions of young people (aged 16-21) was conducted to get an understand of the priorities they demonstrated and how much they saw sustainability as a priority when it came to their clothes purchases. At the core of the survey is how much more would they be willing to pay for a product that they know to have been made sustainably as compared with one that was not.

The survey was created to identify trends with age, as from ages 16 to 21 there is a substantial change in independence, both personal and, to some degree, financial. The survey was developed to identify if the older side of this age cohort would want to spend less money prioritising sustainability in their purchases because of this relative financial independence.

The questions in the survey were the following:

1. Please indicate your age in years.
2. What gender do you identify with?
3. What is the highest level of educational attainment for either of your parents?
4. How much do you personally care about sustainability?
5. How much do activities such as environmental justice, recycling, and sustainability and environmental education factor into your buying choices?
6. How much do activities such as environmental justice, recycling, and sustainability and environmental education factor into your families' buying choices?
7. The following is a scenario I would like you to think about. You find yourself in the winter without a viable jacket to wear and you know you need one. Given the choice between two reasonably identical jackets, how much more (in percentages) would you be willing to pay for one made by sustainable methods in a carbon neutral facility?
8. I would now like you to think about this scenario: you see some new shoes from two different brands, which you know you don't need but decide to indulge yourself. How much more (in percentages) would you be willing to pay for one made by sustainable methods in a carbon neutral facility?
9. Do you have a positive view of fashion companies who take action on sustainability and reducing their carbon footprint?
10. Do you have a negative view of fashion companies who have a bad track-record on sustainability and carbon emissions?
11. Do you believe apparel companies are doing enough to minimise their impact on the environment?
12. Do you think governments and international organizations are doing enough to regulate firms on their climate and environmental impact?

Multiple platforms to conduct the survey were explored. These platforms included, SoGoSurvey, Google Forms, SurveyMonkey and Typeform. Each survey platform is available free on the internet and has templates in which the survey questions could be included. Google Forms was ultimately selected to support the survey due to its ease of operation and analytical capacity as well as ease of dissemination.

Survey respondents were notified at the outset that their results would remain anonymous, to increase the reliability of responses as much as possible. An "I don't know" answer option was also included in certain questions in order to reduce the chance that respondents would give uninformed opinions if they didn't know enough about the topicin question.

Semi-structured interviews with atextileindustryfirm:
To try to understand the reasoning and motivations behind apparel-industry firms' action on trying to adopt more sustainable models of production, semi-structured interviews were conducted with managers from a textile firm in the industry. Semi-structured interviews were conducted so that we could ask the questions that were relevant to our research, while at the same time remaining open to the responses we would get and the possibility that the answers may lead us in a different direction than initially anticipated.

The following are the standard questions used in the semi-structured interview:
1. What were the reasons behind your move toward sustainability?
2. How much are prices affected by the firm's choice to pursue sustainable sources?
3. How much has price been a factor in your decision-making?
4. Do you see a broader trend toward sustainability influencing your consumers?
5. What action (if any) is your firm taking to move further into using sustainable practices?
6. Do you find that your environmental and economic concerns are often at odds with each other?
7. Do you have any particular targets you try to meet with your policies?
8. Are there firms in the industry that you consider to be leaders on sustainability?

Creating an infographic:
The infographic was created in order to communicate the core information of the research in a visual way, order to deliver it through a more accessible and interesting medium. The target audience for the infographic would be any consumer who could be persuaded by the data and visuals in the infographic to rethink their consumption habits and trying to be more sustainable in their purchasing. It was also made to impress upon the person the large-scale impact of the fashion industry on the environment, and therefore of their buying choices.

The medium used to create the actual infographic was Venngage. The sources for some of the data were from the survey conducted for this research, though some statistics were from various climate reports already referenced in this paper.

Results:-
The analysis of survey data collected over 9 days was completed using Microsoft Excel and Google Spreadsheets. The original data received from the survey can be found in Appendix 1. All the chartsincluding data disaggregated by gender and age can be found in Appendix 2

Survey results:
We surveyed a total of 82 young adults (aged 16-21) on their views regarding sustainability in the fashion industry, 40 self-identified males, and 42 females. The questions were about how they sawthe issue and how much they cared about it.

The majority (56.1%) of respondents said the highest educational attainment for their parents was a graduate degree, and none said their parents had no formal education.

To the question "On a scale of 1-5 (1 being the lowest and 5 the highest), how much do you personally care about sustainability?" the majority (67.1%) of respondents gave the answer 4 and none indicated the lowest rank, 1.However, when asked the next question, "On a scale of 1-5 (one being the lowest and 5 the highest), how much would you say activities such as environmental justice, recycling, and sustainability and environmental education factor into your buying choices?" a majority of respondents (56.1%) gave the answer 3.

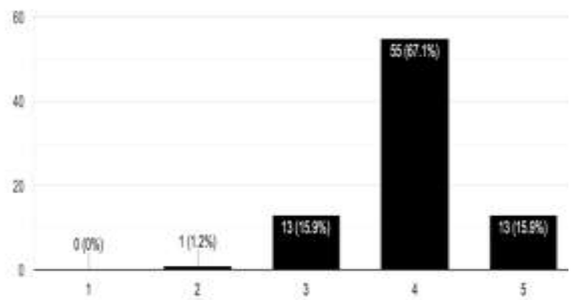


Chart 1: Responses to question 4

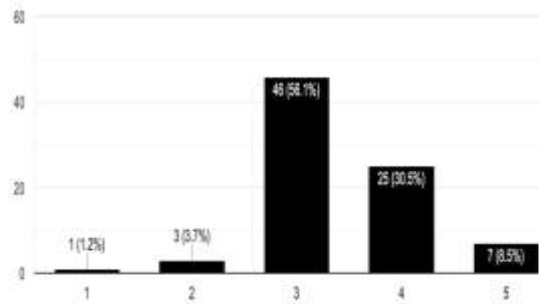


Chart 2: Responses to question 5

82.5% of male respondents gave the answer 4 (the second-highest rating) to the former question, while only 54.8% of females did, and 7.5% of males gave the answer 5, while 23.8% of females did. To the latter question on personal choices, the majority-response answer for both females and maleswas 3, with 62.5% of male respondents choosing this option, and 54.8% of females.

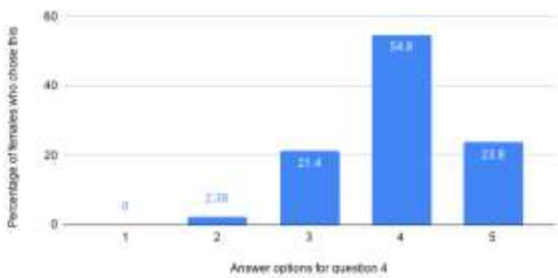


Chart 3: Responses to question 4 from females

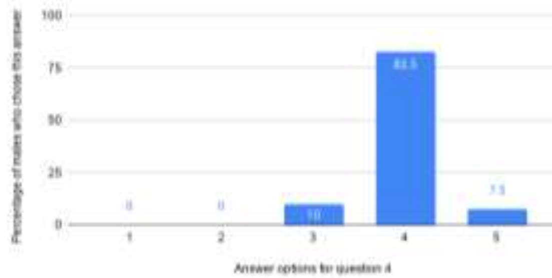


Chart 4: Responses to question 4 from males

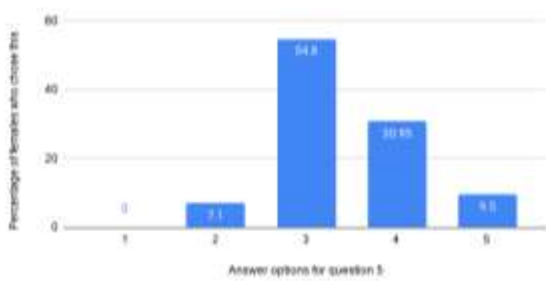


Chart 5: Responses to question 5 from females

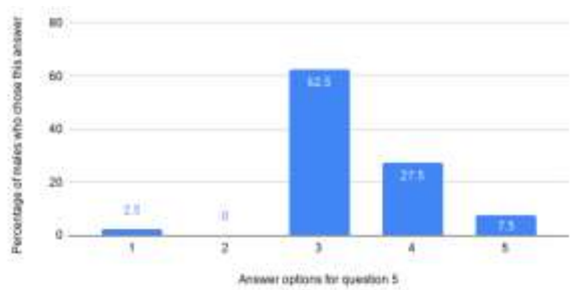


Chart 6: Responses to question 5 from males

Among the youngest respondents, 16 year olds, a large majority, 91.7%, gave the answer “4” (the second-highest rating) to the former question, and 76%, gave the answer “3” to the latter question concerning personal choices. Among the oldest respondents, 21 year olds, a similarly large majority of 85.7% gave the answer “4” to the former question, while a majority of 57.1% still gave the answer “4” and only 42.9% gave the answer “3.”

When asked the question, “The following is a scenario I would like you to think about: You find yourself in the winter without a viable jacket to wear and you know you need one. Given the choice between two reasonably identical jackets, how much more (in percentages) would you be willing to pay for one made by sustainable methods in a carbon neutral facility?” the plurality (34.1%) of respondents said they would pay 15% more. When asked a question identical in all ways but one, the item for purchase being non-essential rather than essential, “I would now like you to think about this scenario: You see some new shoes from two different brands, which you know you don’t need but decide to indulge yourself. How much more (in percentages) would you be willing to pay for one made by sustainable methods in a carbon neutral facility?" the plurality (28%) of respondents now said they would pay 10% more.

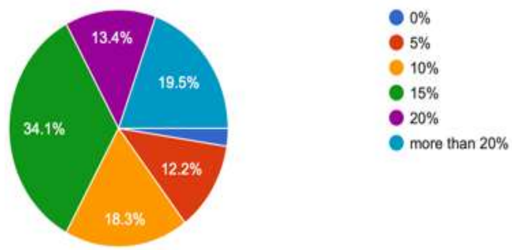


Chart 7:- Responses to question 7.

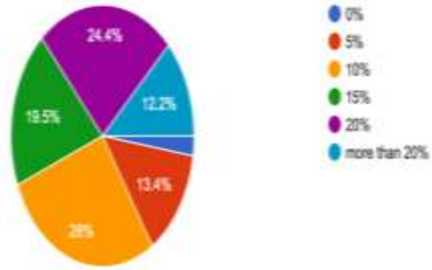


Chart 8:- Responses to question 8.

To the former question, the plurality (42.5%) of males said they would pay 15% more, while the plurality (28.6%) of females said they would pay more than 20% more for an essential jacket.

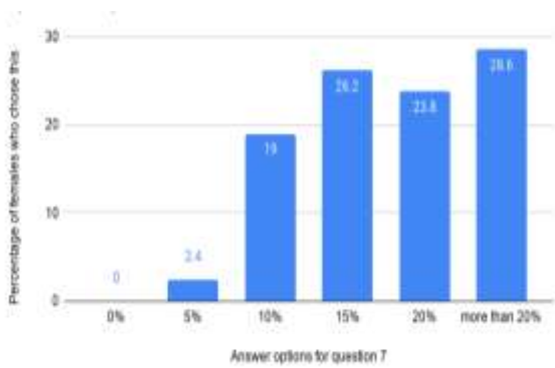


Chart 9:- Responses to question 7 from females.

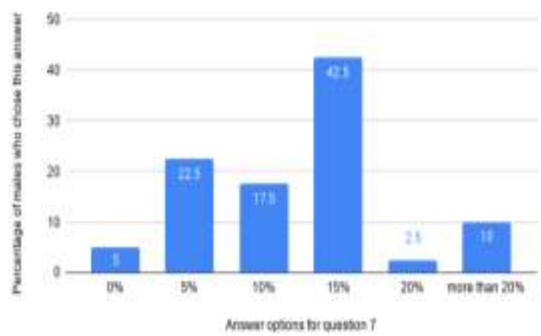


Chart 10:- Responses to question 7 from males.

Among 16 year olds a plurality of 33.3% said they would pay 5% more for an essential jacket and a similar plurality of 37.5% still said they would pay 5% more for a nonessential pair of shoes. Among 21 year olds, the majority (71.4%) of respondents said they would pay 15% more for the jacket, while a smaller majority (57.1%) said they would pay 10% more for the pair of shoes.

To the next question, "Do you have a positive view of fashion companies who take action on sustainability and reducing their carbon footprint?" the majority (75.6%) of respondents answered "yes," 23.2% said "I don't know," and only 1 person said "no." A majority of respondents of almost every age (58.3% of 16 year olds, 92.6% of 17 year olds, 75% of 18 year olds, 50% of 19 year olds, 75% of 20 year olds, and 71.4% of 21 year olds) answered "yes" when asked this question.

However, when asked "Do you have a negative view of fashion companies who have a bad track-record on sustainability and carbon emissions?" only 45.1% of respondents answered "yes," 29.3% answered "I don't know," and 25.6% said "no." Though, asked this question, approximately 16% of males answered "yes," compared to approximately 21% of females; 14% of males answered "no," compared to approximately 7% of females; and 10% of males answered "I don't know," compared to nearly 15% of females. The distribution of responses for this question was more even among males than among females, and more varied than the previous question among different ages (100% of 19 year olds answered "yes" but only 14.3% of 21 year olds answered "yes").

To this same question, 100% of responders whose parents held two-year associate's degrees responded "yes," while only 10% of those whose parents held a high school diploma, 45% of those whose parents held a four-year bachelor's degree, and 47.8% of those whose parents held a graduate degree answered similarly.

When asked the question “Do you believe apparel companies should be doing more to minimise their impact on the environment?” 90.2% responded “yes, they should be doing more.” Then, asked the next question, “Do you think governments and international organisations are doing enough to regulate firms on their climate and environmental impact?” only 72% responded “no, they should be doing more.”

To the question “Do you believe apparel companies should be doing more to minimise their impact on the environment?” 90% of those whose parents had a high school diploma, 100% of those whose parents had a two-year associate’s degree, 80% of those whose parents had a four-year bachelor’s degree, and 93.5% of those whose parents had a graduate degree responded “yes.” To the next question “Do you think governments and international organisations are doing enough to regulate firms on their climate and environmental impact?” 80% of those whose parents held a high school diploma responded “I don’t know,” 83.3% of those whose parents held a two-year associate’s degree and 80% of those whose parents held a four-year bachelor’s degree answered “no,” and 80.5% of those with a graduate degree responded “yes.”

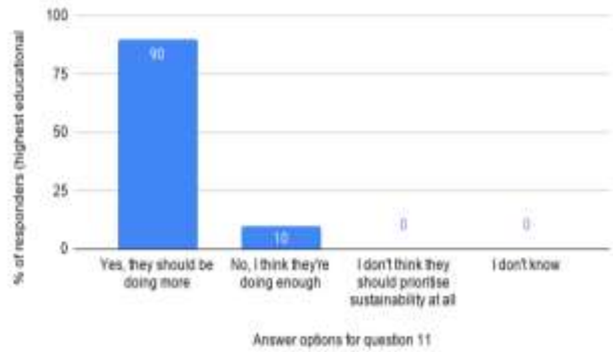


Chart 11:- Responses to question 11 from respondents whose parents held a high school diploma.

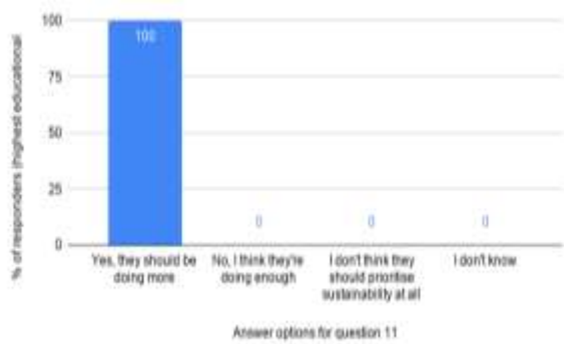


Chart 12:- Responses to question 11 from respondents whose parents held a two-year associate’s degree.

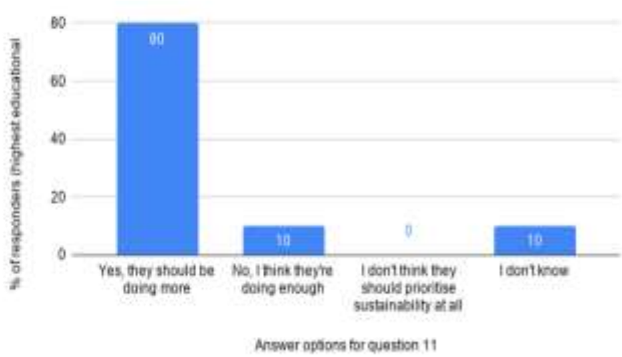


Chart 13:- Responses to question 11 from respondents whose parents held a four-year bachelor’s degree.

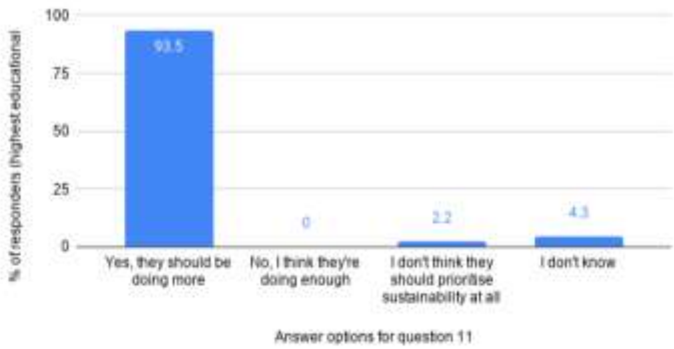


Chart 14:- Responses to question 11 from respondents whose parents held a graduate degree.

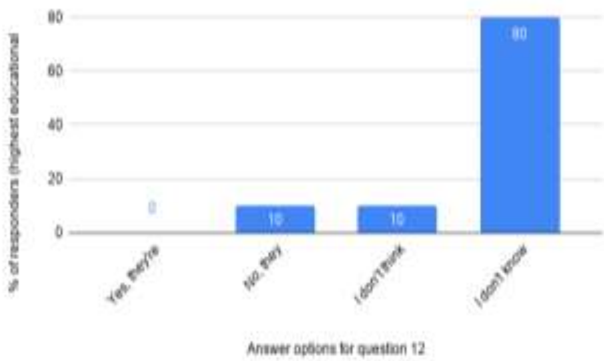


Chart 15:- Responses to question 12 from respondents whose parents held a high school diploma.

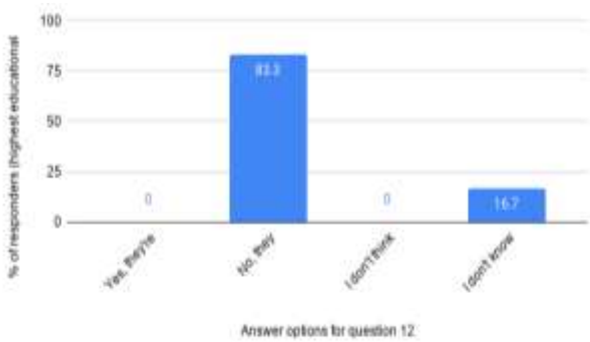


Chart 16:- Responses to question 12 from respondents whose parents held a two-year associate's degree.

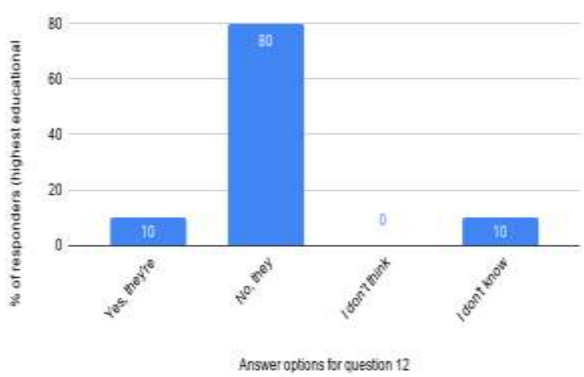


Chart 17:- Responses to question 12 from respondents whose parents held a four-year bachelor's degree.

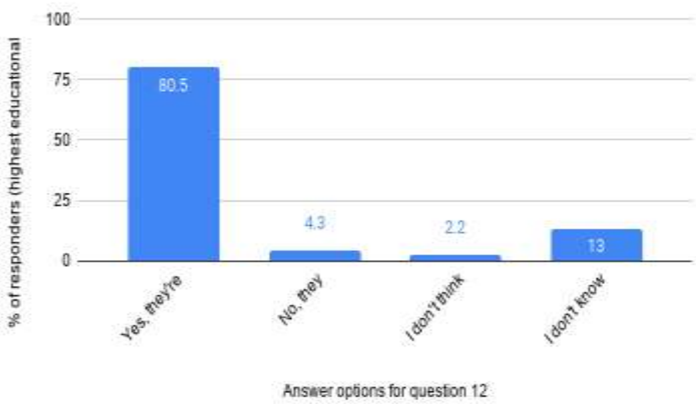


Chart 18:- Responses to question 12 from respondents whose parents held a graduate degree.

Interview results:
The results of the semi-structured interview are summarised below, and the interview notes can be found in Appendix 1.

The first interview was conducted with the head of commercial supply-chain at Welspun Textiles, which is the Indian division of the Welspun Group, operating in 50 countries with 26000 employees. The following is a summary of the information learned through the interview:

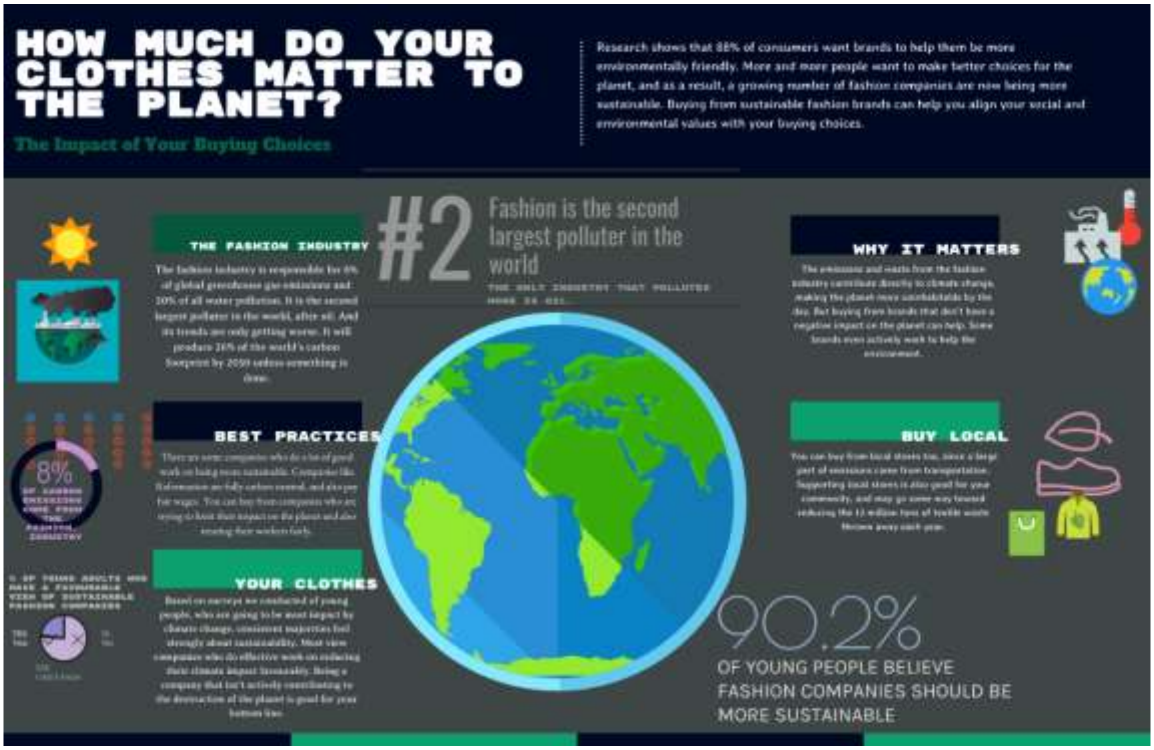
As of 2019, the company's sales totalled 6500 crore Indian Rupees (roughly $1 billion). 97% of its output comprised of exported products, the other 3% sold domestically.

The firm operates a zero-discharge facility in the Kutch district in the state of Gujarat, where it also has a self-generated water treatment plant. The plant collects effluent discharge form households and treats it for use in production, thereby not using the river water usually available for production use. It also converts its material waste into products, by providing it to the local residents in an area known for its traditional handicrafts. Plastic materials such as polyesters are also recycled for further use. In terms of energy use, the firm has also fitted solar panels on its plants to try to reduce its conventional energy input. 3-5% of the firm's total energy inputs come from the solar panels.

The requirement for the firm in is 2% investment in Corporate Social Responsibility (CSR), although the executives feel a responsibility to contribute more, resulting in their sustainability efforts. Their recycling of plastic waste causes their costs to rise by 10-15%. The treatment of effluent for water in production costs a reported 150 crore Indian rupees (approximately $20 million), and leaves about 25 lakh (2.5 million) litres of water for use by local farmers because of the river water foregone by the firm.

The initial push for sustainable methods was provided by the furniture retail company IKEA, of which Welspun is a supplier. IKEA began requiring its suppliers to use 'Better Cotton' in its production, which is cotton grown more sustainably and with better standards, without fertilisers, for example. The requirement then caught on with other retailers who also began putting into place such requirements.

Infographic:
As a result of the research conducted, and especially through the results of the survey of young people's attitudes, the following infographic was produced to be used to inform people about the role of the fashion industry in climate change and its environmental impact, but also to persuade them toward making more sustainable choices. It includes information about the apparel industry's record on emissions and pollution, data from the survey about young consumers' opinions on the industry's role, ways in which certain fashion firms are being more responsible, and how consumers themselves can make more informed and sustainable choices, thereby reducing their own carbon footprint. The data is provided in a visual format in order to make it more accessible as a poster in a store, for example.



Discussion:-

Based on the results of the survey, it seems that the respondents cared more about sustainability, the issue itself, than they thought about how to reflect that in their buying habits.However, a large majority (90.2%) of respondents also indicated that they would like for apparel companies to take more steps toward being sustainable and another large majority stated that they hold a positive view of companies that they know to be sustainable in their production methods. This, in addition to the fact that almost none of the respondents said they would pay no additional amount for clothes made sustainably over those not made sustainably, whether an essential clothing item or a non-essential clothing item (though there were differences in the composition of responses to the two categories), would suggest that it may be a good strategy for firms to move toward producing more sustainability. Other than the obvious benefits of avoiding environmental and climate damage, it may prove to be a good marketing tool for the brand, especially if it is one that caters to a younger consumer base.

Having a clear message about the firm’s prioritisation, to any extent, of becoming more sustainable may be beneficial for the firm’s brand, such as that of Reformation, which is widely known for its carbon-neutrality. Reformation, if somewhat of an extreme in terms of its commitment toward minimising its climate impact, may be a good example of how an apparel company can gain from its sustainable status. The reason for this is reflected in the survey data, which does show a preference among younger consumers for brands such as this one.

As a marketing strategy, it could also do firms well to make known their work in this regard, since respondents in the survey showed a willingness to pay more for clothing brands they know to have been made sustainably. Therefore, firms may be able to justify an additional costs incurred, and reflected in their prices, in the process of moving toward lowering emissions, for example, by making it known to buyers that their product was made more sustainably.

Female respondents demonstrated more of a willingness to pay a higher price for sustainably made clothing than did males, whether essential or non-essential. This may mean that there is more of an advantage to firms that make apparel targeted toward females (young females, in particular) in being more sustainable than for those targeting males. However, the data before gender-disaggregation showed that respondents in general would pay more for sustainably made apparel; however, females showed a willingness to pay higher percentages in additional price (more than 15%) whereas males tended to show a willingness to pay comparatively smaller additional percentages

(10% and 15%). This could mean that marketing sustainable clothing toward females may be a good strategy for firms.

Certain brands that also have specific collections of clothing made sustainably rather than firm-wide sustainability could also do well to market those collections more, especially if they're targeted at younger consumers, who may be more inclined toward the message. In advertising such collections, it may also be a good idea for firms to highlight the fact that the buyer can be more sustainable in their choices by buying from that particular collection or brand, since the survey results showed that more respondents cared about the issue than were actually able to reflect that in their buying choices. In that way, allowing consumers to see themselves being more environmentally responsible and lowering their carbon footprint may help both the firm and the planet.

For consumers, it may make sense to look for the brands or collections of apparel that reflect their personal preferences for how their products are made, since their demonstrated preferences may be influential in shaping what priorities the firms assign in their production. The incentives around sustainability are already evolving for firms, however, consumers thinking through and altering their spending patterns can only further progress in the industry.

It may also be a good idea to buy clothing locally if that was an option, since it would lower the emissions caused by the purchase and would have the added benefit of supporting local business. Supporting brands that do good work on sustainability would also be a good idea, since there are already some firms who take responsibilities such as committing to being carbon-neutral or paying fair wages to all their employees, to some even attaching environmental footprint information on clothing in order to allow the consumer to be aware of the impact of their purchases. Buying from such brands may help align consumers' purchasing with their values, and using them as a signal to the industry for how they would like to see progress occur.

The final recommendations based on all the research conducted would be:

1. Create lines of clothing manufactured sustainably and highlight the sustainability of the apparel explicitly
2. Detail the methods in the production process where sustainability was prioritised in the marketing of the apparel
3. Market lines of clothing aimed at female consumers as made with sustainability at the forefront of production and with the aim of minimising the firm's as well as the consumers' carbon footprints
4. Highlight apparel targeted at young consumers as being a way for the consumer to be more environmentally responsible
5. Advertise collections of clothing in the brand that was made sustainably to young consumers, specifically to female consumers

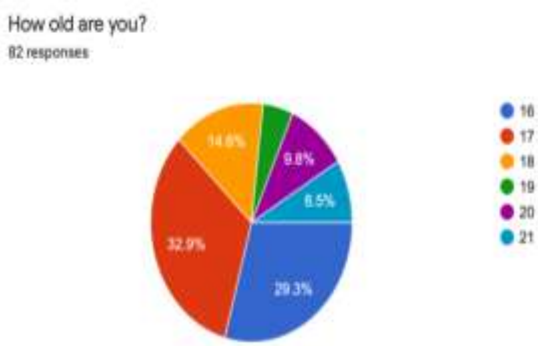
References:-

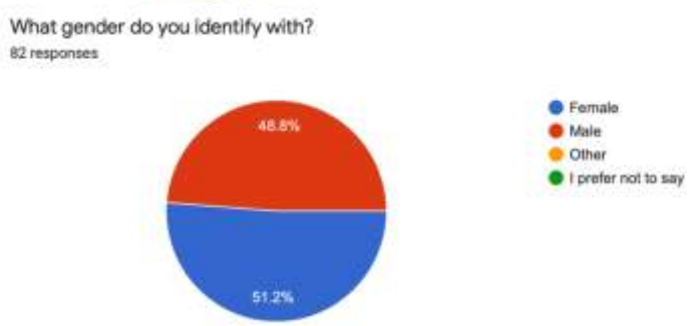
1. Abu, Fedora. (2019) "Generation Z & The Fast Fashion Paradox," Refinery 29 British Fashion Council study. (2019) C&A Foundation Study. (2019)
2. Chhabra, Esha. (2019) "Why This LA Fashion Brand Went Carbon Neutral And Wants Customers To As Well," Forbes Chua, Jasim Malik. (2018) "The environment and economy are paying the price for fast fashion — but there's hope," Vox "How much Do Our Wardrobes Cost to the Environment" (2019) The World Bank McKinsey 2019 Chief Purchasing Officer survey. (2019) McKinsey Survey. (2011)
3. Morgan, Blake. (2020) "11 Fashion Companies Leading The Way In Sustainability," Forbes NPD Future of Fashion Survey. (2018)
4. Peretz, Marissa. (2017) "5 Companies Who Succeed By Prioritising Sustainability Over Profits," Forbes "Putting the brakes on fast fashion" (2018) UN Environment Ro, Christine. (2020) "Can fashion ever be sustainable?" BBC Rosmarin, Remi. (2020) "Sustainability sells: Why consumers and clothing brands alike are turning to sustainability as a guiding light," Business Insider
5. Rugolo, Maria. (2018) " Weaving Sustainable Messaging in Fashion," NPD Samaha, Barry. (2018) "How Eileen Fisher's DesignWork Initiative is Effectively Strengthening Sustainability in Fashion," Forbes Sustainability at Reformation 2019-2023 Framework The World Bank. (2019)
6. Todd, Samantha. (2020) "Who Are The 100 Most Sustainable Companies Of 2020?" Forbes Tolentino, Jia. (2019) "Virtue and Vanity at Reformation," The New Yorker United Nations Environmental Programme. (2019) United Nations Framework Convention on Climate Change. (2018)
7. United States Environmental Protection Agency. (2017) Wilson, Nigel. (2019) "ESG Notebook: How Companies Are Getting To Profitable Sustainability," Forbes.

Appendix I:
All responses to the survey:

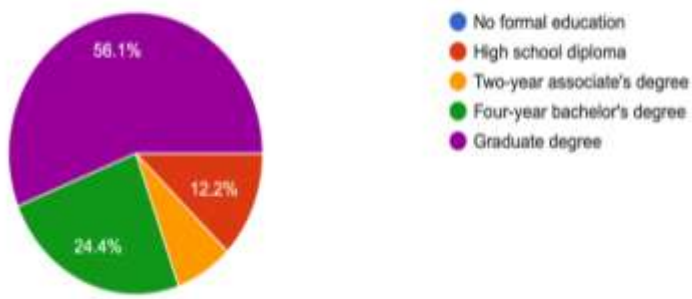
Timestamp	How old are you?	What gender do you ident	3.What is the highest leve	On a scale of 1-5 (one be	5.On a scale of 1-5 (one b	7.The following is a scena	8.I would now like you to t	9.Do you have a positive	10.Do you have a negativ	11. Do you believe appare	12. Do you think governments and international organisations are doing enough to regulate firms on their climate and environmental impact?
6/2/2020 23:34:25	17	Female	Two-year associate's deg	5	4	20%	10%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 11:21:57	16	Female	Two-year associate's deg	4	4	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 11:22:50	17	Female	Graduate degree	4	3	more than 20%	20%	Yes	No	Yes, they should be doing	No, they should be doing more
6/4/2020 11:26:27	17	Female	Four-year bachelor's degr	5	5	20%	more than 20%	Yes	No	Yes, they should be doing	No, they should be doing more
6/4/2020 11:27:21	17	Female	Four-year bachelor's degr	4	2	10%	10%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 11:40:03	16	Female	Graduate degree	4	4	20%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 11:49:12	16	Female	Graduate degree	4	4	15%	5%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 11:56:53	16	Female	Four-year bachelor's degr	4	3	20%	20%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 11:59:11	17	Female	Two-year associate's deg	5	4	15%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:05:47	16	Female	High school diploma	4	3	more than 20%	20%	Yes	I don't know	Yes, they should be doing	I don't know
6/4/2020 12:22:36	17	Female	Graduate degree	3	3	more than 20%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:27:17	17	Female	Two-year associate's deg	5	4	15%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:50:32	17	Female	Graduate degree	4	3	15%	0%	I don't know	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:51:47	17	Female	Four-year bachelor's degr	5	5	20%	more than 20%	Yes	No	Yes, they should be doing	No, they should be doing more
6/4/2020 13:01:39	17	Female	Four-year bachelor's degr	3	2	10%	5%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 13:02:35	16	Female	Graduate degree	4	3	15%	15%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 13:42:30	17	Female	Graduate degree	4	3	15%	15%	Yes	I don't know	Yes, they should be doing	I don't think governments and international organisations should be involved in the fashion industry
6/4/2020 13:47:07	17	Female	Four-year bachelor's degr	3	3	5%	5%	I don't know	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 14:01:15	17	Female	Graduate degree	4	3	15%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 14:29:07	17	Female	Graduate degree	5	4	10%	10%	Yes	No	Yes, they should be doing	No, they should be doing more
6/4/2020 15:39:12	16	Female	Two-year associate's deg	4	4	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 15:46:37	16	Female	Graduate degree	4	4	20%	15%	Yes	Yes	I don't know	No, they should be doing more
6/4/2020 16:40:27	16	Female	High school diploma	4	3	more than 20%	20%	Yes	I don't know	Yes, they should be doing	I don't know
6/5/2020 12:40:15	17	Female	Four-year bachelor's degr	3	4	20%	20%	Yes	I don't know	Yes, they should be doing	I don't know
6/5/2020 23:19:52	19	Female	Four-year bachelor's degr	2	2	20%	15%	I don't know	Yes	Yes, they should be doing	No, they should be doing more
6/6/2020 13:03:15	20	Female	Four-year bachelor's degr	3	3	10%	10%	I don't know	Yes	No, I think they're doing e	Yes, they're doing enough
6/6/2020 13:20:47	20	Female	Four-year bachelor's degr	3	3	10%	10%	I don't know	Yes	No, I think they're doing e	Yes, they're doing enough
6/7/2020 0:57:07	16	Female	High school diploma	4	3	more than 20%	20%	Yes	I don't know	Yes, they should be doing	I don't know
6/7/2020 16:27:20	16	Female	High school diploma	4	3	more than 20%	20%	Yes	I don't know	Yes, they should be doing	I don't know
6/7/2020 18:01:21	16	Female	High school diploma	4	3	more than 20%	20%	Yes	I don't know	Yes, they should be doing	I don't know
6/8/2020 20:20:50	19	Female	Graduate degree	4	3	more than 20%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 20:25:03	18	Female	Graduate degree	3	4	more than 20%	more than 20%	I don't know	I don't know	Yes, they should be doing	I don't know
6/8/2020 20:30:01	17	Female	Graduate degree	4	3	more than 20%	more than 20%	Yes	No	Yes, they should be doing	No, they should be doing more
6/8/2020 20:35:45	17	Female	Two-year associate's deg	4	3	more than 20%	20%	Yes	Yes	Yes, they should be doing	I don't know
6/8/2020 20:45:20	17	Female	Graduate degree	3	3	10%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 20:45:32	18	Female	Graduate degree	5	4	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 20:56:03	18	Female	Graduate degree	3	3	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 21:04:41	18	Female	Four-year bachelor's degr	4	3	10%	10%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/8/2020 21:11:53	17	Female	Graduate degree	5	4	20%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 21:25:36	18	Female	High school diploma	5	5	more than 20%	more than 20%	Yes	No	No, I think they're doing e	No, they should be doing more
6/8/2020 22:04:30	18	Female	Four-year bachelor's degr	4	3	10%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 23:11:04	17	Female	Four-year bachelor's degr	5	5	20%	more than 20%	Yes	No	Yes, they should be doing	No, they should be doing more
6/4/2020 11:20:28	17	Male	Graduate degree	4	4	10%	10%	Yes	No	I don't know	No, they should be doing more
6/4/2020 11:47:11	17	Male	Graduate degree	4	4	more than 20%	more than 20%	Yes	Yes	Yes, they should be doing	Yes, they're doing enough
6/4/2020 12:00:12	17	Male	Graduate degree	4	4	15%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:11:28	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/4/2020 12:13:02	19	Male	Graduate degree	4	3	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:18:07	16	Male	Four-year bachelor's degr	4	3	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/4/2020 12:22:04	16	Male	Graduate degree	4	3	15%	10%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 12:22:28	17	Male	Graduate degree	4	4	15%	20%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 12:51:31	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/4/2020 14:37:28	16	Male	Graduate degree	3	3	10%	10%	I don't know	I don't know	Yes, they should be doing	I don't know
6/4/2020 15:13:53	16	Male	Graduate degree	4	3	20%	10%	I don't know	I don't know	Yes, they should be doing	No, they should be doing more
6/4/2020 15:15:22	17	Male	Four-year bachelor's degr	3	3	15%	15%	Yes	No	I don't know	I don't know
6/4/2020 21:35:00	16	Male	Graduate degree	3	4	10%	10%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/5/2020 12:46:55	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/5/2020 23:12:38	20	Male	Four-year bachelor's degr	4	3	more than 20%	10%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/5/2020 23:51:45	21	Male	Graduate degree	5	3	10%	10%	Yes	No	Yes, they should be doing	Yes, they're doing enough
6/6/2020 0:42:08	18	Male	Graduate degree	5	5	more than 20%	more than 20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/6/2020 0:43:55	18	Male	Four-year bachelor's degr	4	5	15%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/6/2020 1:17:07	20	Male	Graduate degree	4	3	15%	10%	Yes	Yes	Yes, they should be doing	I don't know
6/6/2020 1:34:07	21	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/6/2020 2:20:38	21	Male	High school diploma	4	4	15%	10%	Yes	I don't know	Yes, they should be doing	I don't know
6/6/2020 4:04:22	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/6/2020 4:55:09	21	Male	High school diploma	4	4	15%	10%	Yes	I don't know	Yes, they should be doing	I don't know
6/6/2020 9:38:32	21	Male	High school diploma	4	4	15%	20%	Yes	Yes	Yes, they should be doing	I don't think governments and international organisations should be involved in the fashion industry
6/6/2020 10:55:42	20	Male	Graduate degree	5	3	0%	more than 20%	Yes	No	Yes, they should be doing	I don't know
6/6/2020 14:50:36	21	Male	Graduate degree	4	3	15%	15%	I don't know	I don't know	I don't think they should p	No, they should be doing more
6/6/2020 21:45:54	20	Male	Four-year bachelor's degr	4	3	10%	10%	Yes	Yes	I don't know	No, they should be doing more
6/7/2020 0:34:38	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/7/2020 12:41:58	21	Male	High school diploma	4	4	15%	10%	Yes	I don't know	Yes, they should be doing	I don't know
6/7/2020 14:20:51	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/8/2020 14:41:02	20	Male	Graduate degree	4	3	15%	10%	Yes	Yes	Yes, they should be doing	I don't know
6/8/2020 14:46:08	18	Male	Four-year bachelor's degr	4	5	15%	20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 20:21:06	18	Male	Graduate degree	4	4	15%	15%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 20:30:00	17	Male	Graduate degree	4	4	10%	10%	Yes	I don't know	Yes, they should be doing	No, they should be doing more
6/8/2020 20:31:42	18	Male	Graduate degree	3	1	0%	0%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/8/2020 20:35:45	19	Male	Graduate degree	4	3	5%	10%	No	Yes	Yes, they should be doing	No, they should be doing more
6/8/2020 20:57:14	18	Male	Graduate degree	4	3	10%	10%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/8/2020 21:12:49	17	Male	Four-year bachelor's degr	4	4	more than 20%	more than 20%	Yes	Yes	Yes, they should be doing	No, they should be doing more
6/10/2020 12:06:54	20	Male	Graduate degree	4	3	15%	10%	Yes	Yes	Yes, they should be doing	I don't know
6/10/2020 14:13:27	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more
6/11/2020 13:54:02	16	Male	Graduate degree	4	3	5%	5%	I don't know	No	Yes, they should be doing	No, they should be doing more

Graphs of responses to each question:

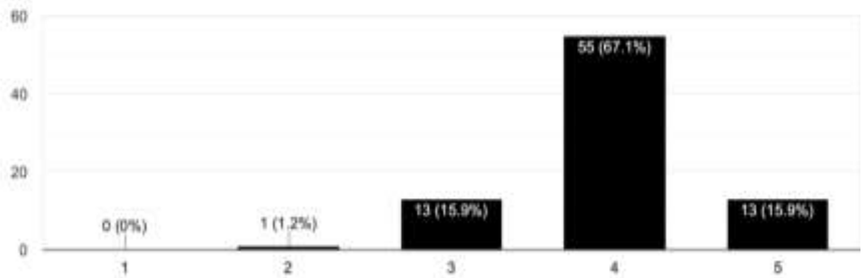




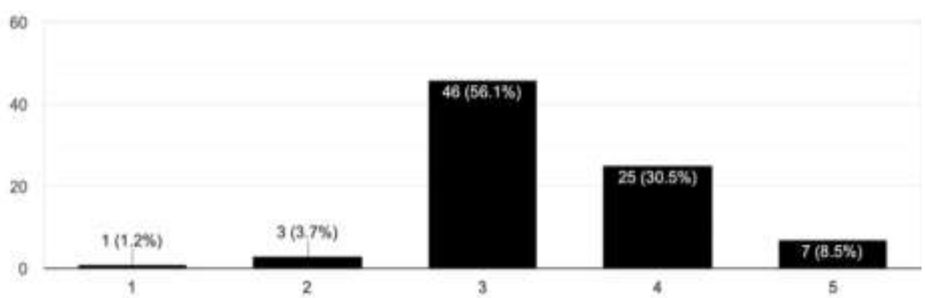
3. What is the highest level of educational attainment for either of your parents?
82 responses



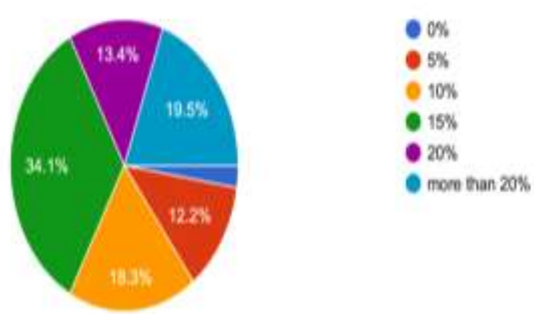
On a scale of 1-5 (one being the lowest and 5 the highest), how much do you personally care about sustainability?
82 responses



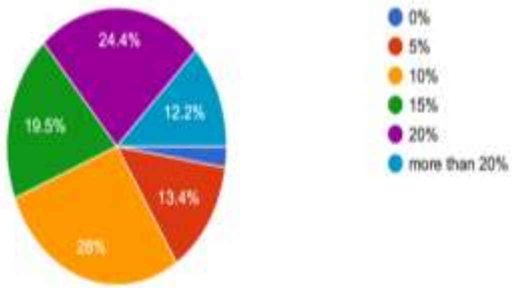
5. On a scale of 1-5 (one being the lowest and 5 the highest), how much would you say activities such as environmental justice, recycling, and sust...mental education factor into your buying choices?
82 responses



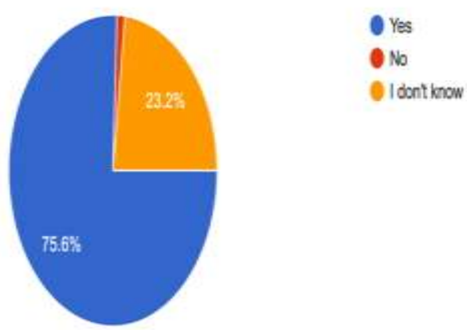
7. The following is a scenario I would like you to think about: You find yourself in the winter without a viable jacket to wear and you know you need one. ...stainable methods in a carbon neutral facility?
82 responses



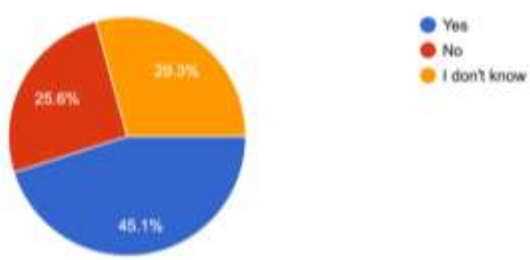
8. I would now like you to think about this scenario: You see some new shoes from two different brands, which you know you don't need but decide to...tainable methods in a carbon neutral facility?
82 responses



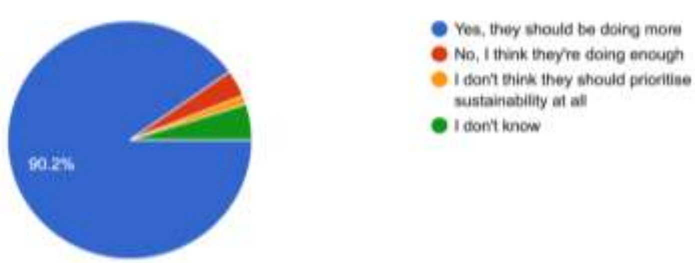
9. Do you have a positive view of fashion companies who take action on sustainability and reducing their carbon footprint?
82 responses

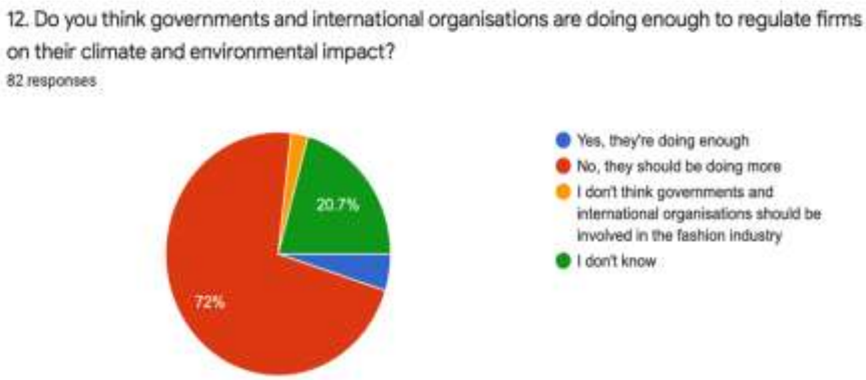


10. Do you have a negative view of fashion companies who have a bad track-record on sustainability and carbon emissions?
82 responses



11. Do you believe apparel companies should be doing more to minimise their impact on the environment?
82 responses





Interview notes:
The interview was conducted with Anil Channa, the head of commercial supply-chain at Welspun Textiles. This is a rough transcript of the interview.

Question: What action (if any) is your firm taking to move further into using sustainable practices?
Anil Channa [AC]: We operate a plant in the Katch district, which is a zero-discharge facility. We employ about 25000 people there. It is also a self-generating treatment plant, so we collect effluent from households in the area and treat it for our use at the plant, which frees up the river water that we would otherwise use for local people.

We also use our waste materials to be converted into textiles by local people, since the area is known for its textiles. Our plastic waste is recycled for further use.

In terms of energy, we have fit solar panels onto our plants, so 3-5% of total energy inputs come from there.

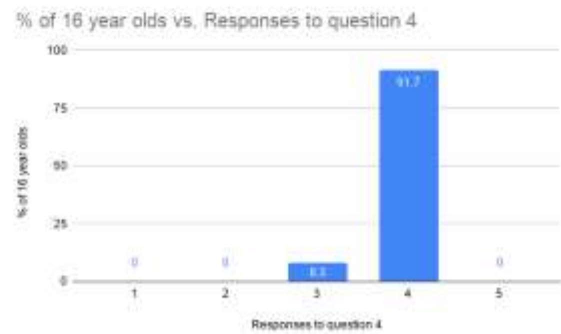
Question: What were the reasons behind your move toward sustainability?
[AC]: Aside from the Corporate Social Responsibility program that is mandated for all firms, our executives, and particularly our Chairman, felt a responsibility to give back to society, so that was largely our motivation.

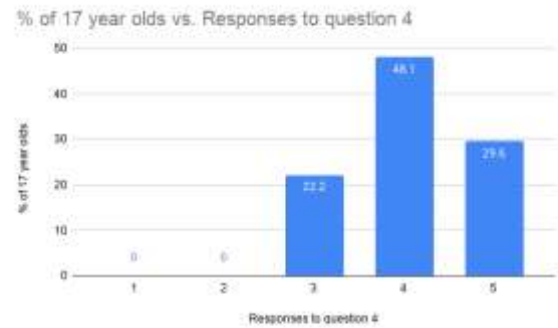
Question:How much are prices affected by the firm's choice to pursue sustainable sources?
[AC]: There was definitely an increase in cost: about 10-15% because of this work. The water effluent treatment came at a cost of about 150 crore Rupees (approximately $20 million).

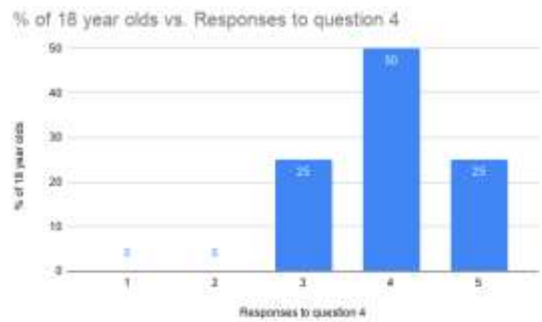
Question: Do you see a broader trend toward sustainability influencing your consumers?
[AC]: Definitely, since our initial push for sustainability came from one of our buyers, IKEA, who began requiring that all their suppliers use Better Cotton. Since that time, many other firms have also begun requiring this and many retailers insist on materials such as cotton made in a more sustainable way.

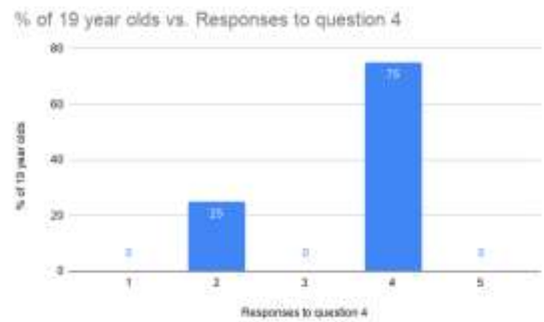
Question:How much has price been a factor in your decision-making?
[AC]: Costs are definitely affected when we do more work on sustainability, but because our leadership felt the need to do this work, it was more of an ethical decision, so price was not a. big factor.

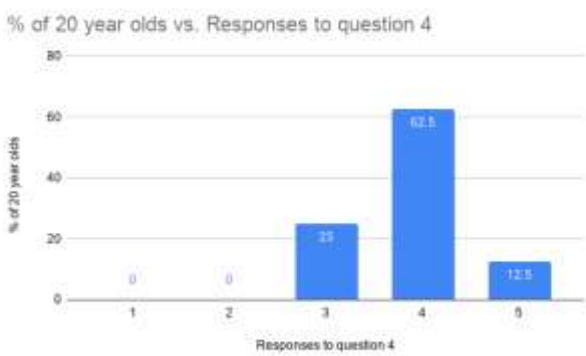
Appendix II:
Charts of data disaggregated by age:
Question 4:

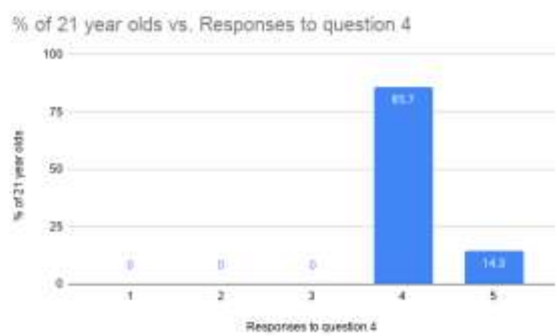

% of 16 year olds vs. Responses to question 4
% of 16 year olds
Responses to question 4
0
0
8.3
91.7
0


% of 17 year olds vs. Responses to question 4
% of 17 year olds
Responses to question 4
0
0
22.2
48.1
29.6

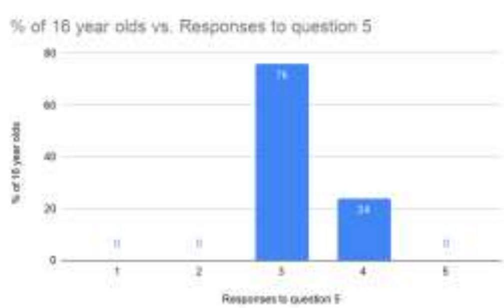

% of 18 year olds vs. Responses to question 4
% of 18 year olds
Responses to question 4
0
0
25
50
25

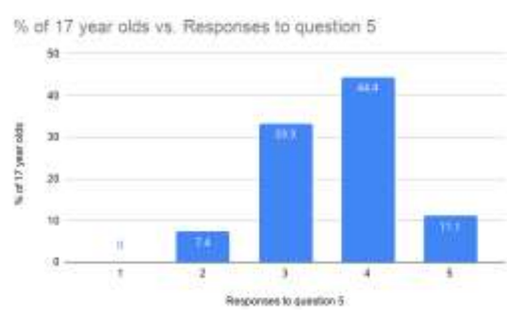

% of 19 year olds vs. Responses to question 4
% of 19 year olds
Responses to question 4
0
25
0
75
0

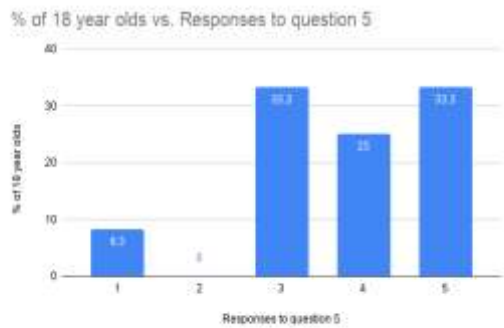

% of 20 year olds vs. Responses to question 4
% of 20 year olds
Responses to question 4
0
0
25
62.5
12.5

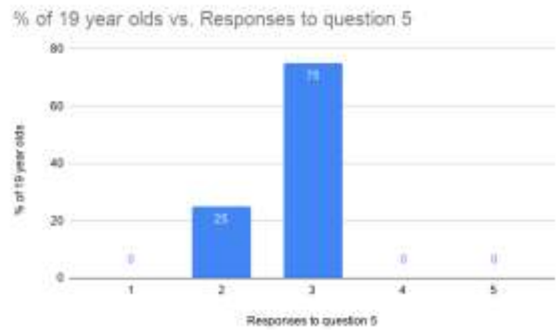

% of 21 year olds vs. Responses to question 4
% of 21 year olds
Responses to question 4
0
0
0
85.7
14.3

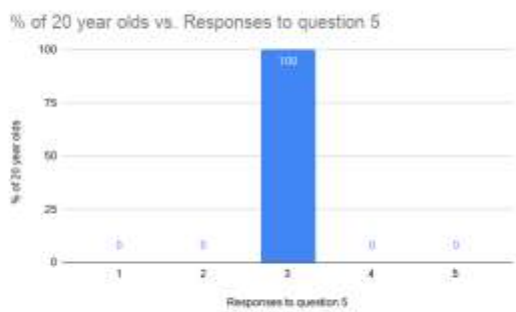
Question 5:

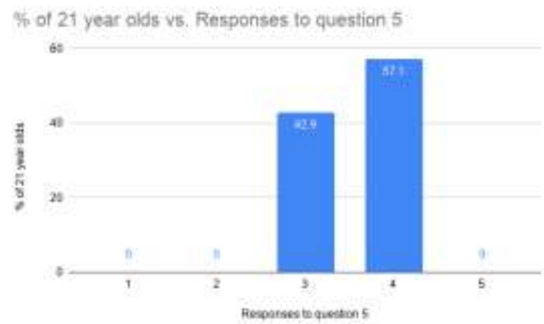

% of 16 year olds vs. Responses to question 5
% of 16 year olds
Responses to question 5
0
0
76
24
0


% of 17 year olds vs. Responses to question 5
% of 17 year olds
Responses to question 5
0
7.4
33.3
44.4
11.1

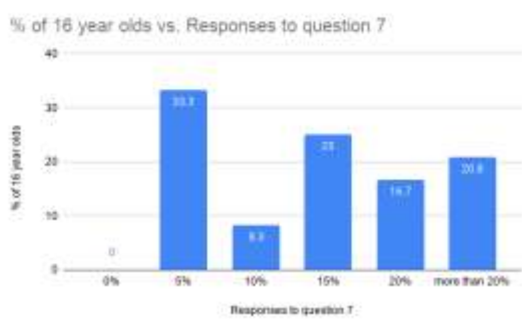

% of 18 year olds vs. Responses to question 5
% of 18 year olds
Responses to question 5
8.3
0
33.3
25
33.3

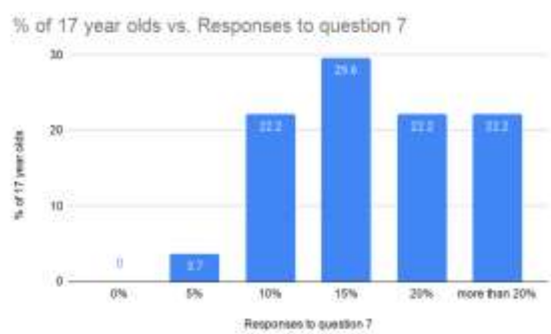

% of 19 year olds vs. Responses to question 5
% of 19 year olds
Responses to question 5
0
25
75
0
0

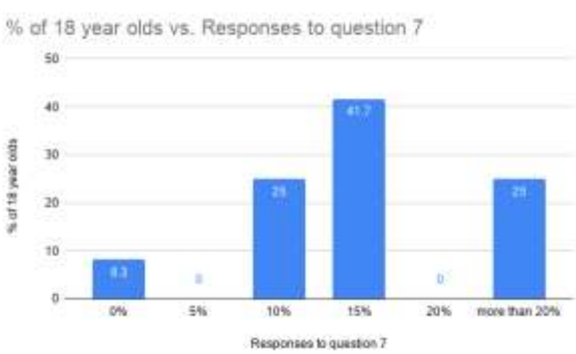

% of 20 year olds vs. Responses to question 5
% of 20 year olds
Responses to question 5
0
0
100
0
0

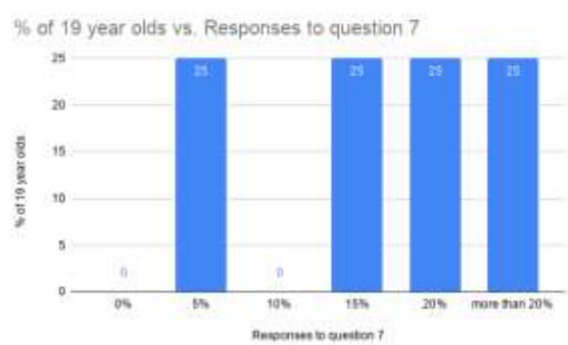

% of 21 year olds vs. Responses to question 5
% of 21 year olds
Responses to question 5
0
0
42.9
57.1
0

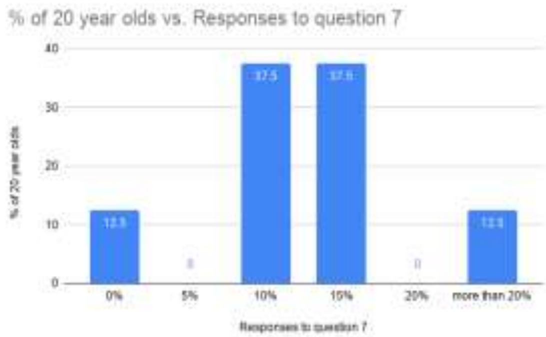
Question 7:

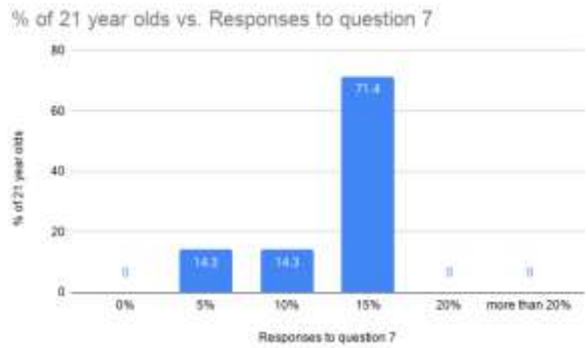

% of 16 year olds vs. Responses to question 7
% of 16 year olds
Responses to question 7
0
33.3
8.3
25
16.7
20.8


% of 17 year olds vs. Responses to question 7
% of 17 year olds
Responses to question 7
0
3.7
22.2
29.6
22.2
22.2

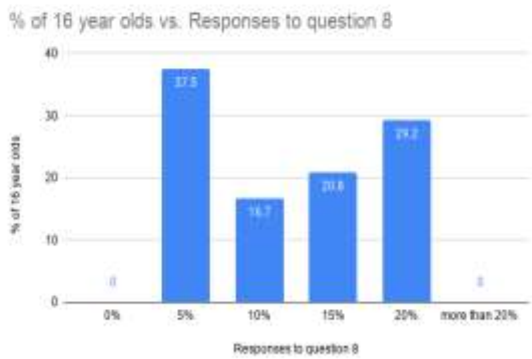

% of 18 year olds vs. Responses to question 7
% of 18 year olds
Responses to question 7
8.3
0
25
41.7
0
25

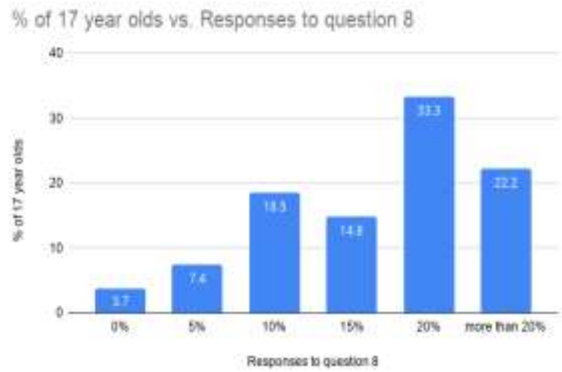

% of 19 year olds vs. Responses to question 7
% of 19 year olds
Responses to question 7
0
25
0
25
25
25

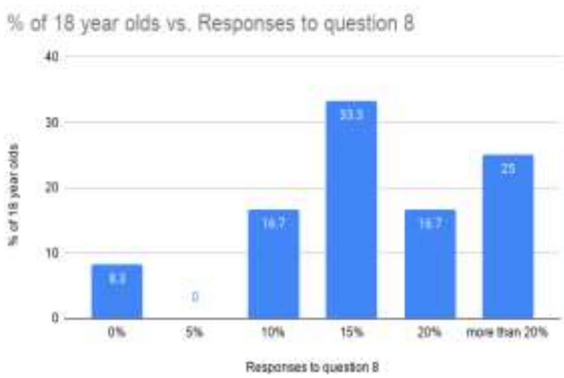

% of 20 year olds vs. Responses to question 7
% of 20 year olds
12.5
0
37.5
37.5
0
12.5
0%
5%
10%
15%
20%
more than 20%
Responses to question 7

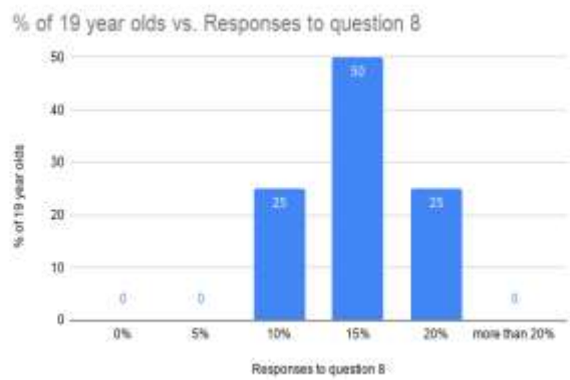

% of 21 year olds vs. Responses to question 7
% of 21 year olds
0
14.3
14.3
71.4
0
0
0%
5%
10%
15%
20%
more than 20%
Responses to question 7

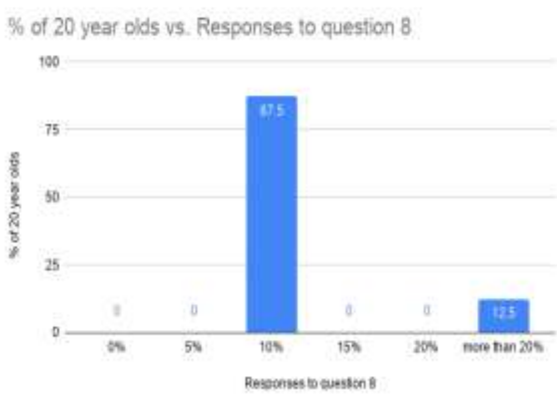
Question 8:

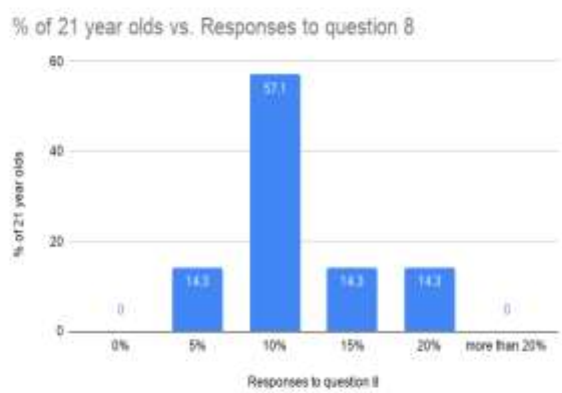

% of 16 year olds vs. Responses to question 8
% of 16 year olds
0
37.5
16.7
20.8
29.2
0
0%
5%
10%
15%
20%
more than 20%
Responses to question 8


% of 17 year olds vs. Responses to question 8
% of 17 year olds
3.7
7.4
18.5
14.8
33.3
22.2
0%
5%
10%
15%
20%
more than 20%
Responses to question 8

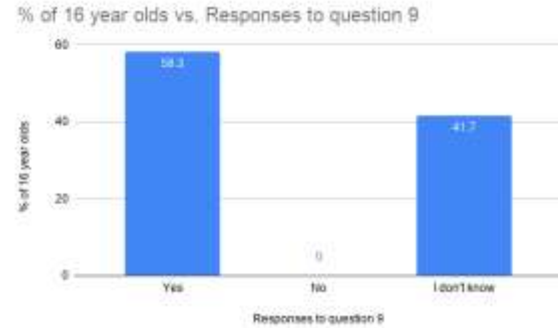

% of 18 year olds vs. Responses to question 8
% of 18 year olds
8.3
0
16.7
33.3
16.7
25
0%
5%
10%
15%
20%
more than 20%
Responses to question 8

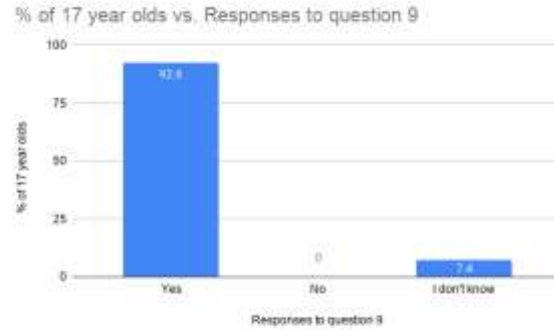

% of 19 year olds vs. Responses to question 8
% of 19 year olds
0
0
25
50
25
0
0%
5%
10%
15%
20%
more than 20%
Responses to question 8

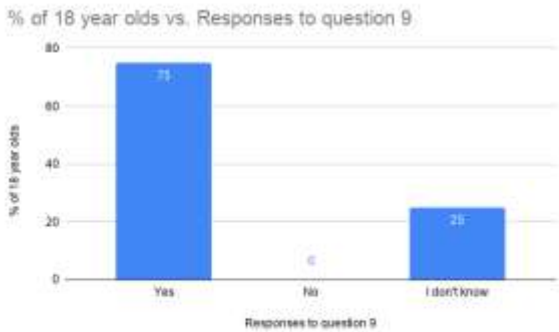

% of 20 year olds vs. Responses to question 8
% of 20 year olds
0
0
87.5
0
0
12.5
0%
5%
10%
15%
20%
more than 20%
Responses to question 8

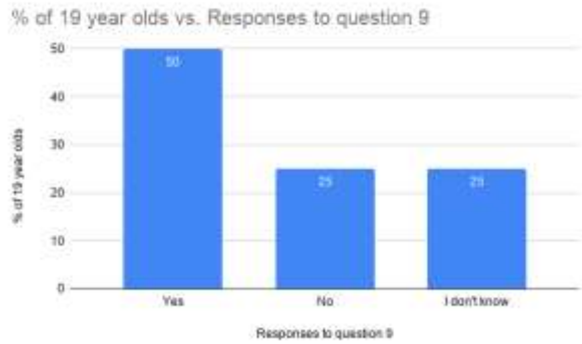

% of 21 year olds vs. Responses to question 8
% of 21 year olds
0
14.3
57.1
14.3
14.3
0
0%
5%
10%
15%
20%
more than 20%
Responses to question 8

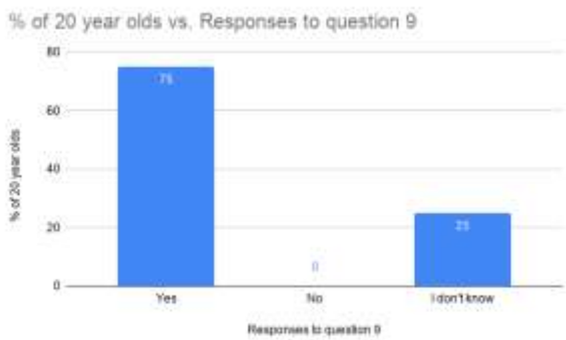
Question 9:

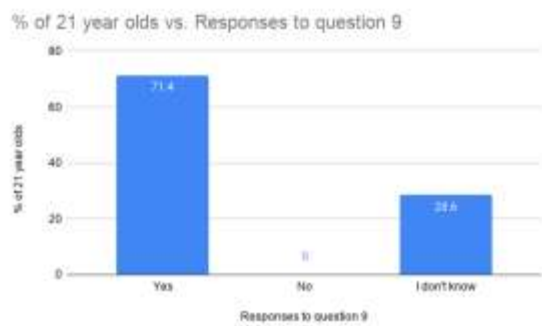




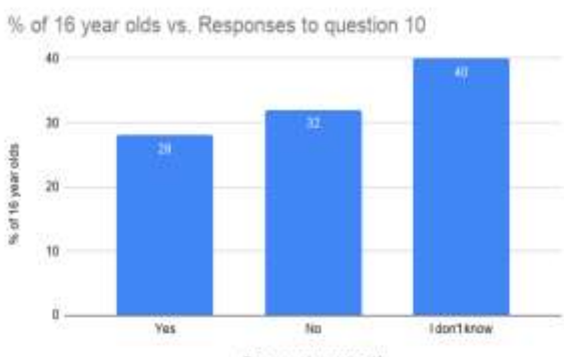


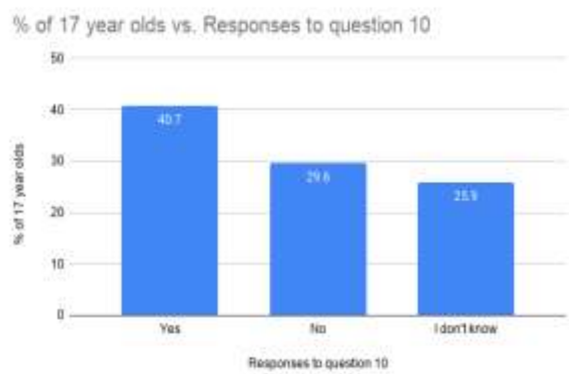


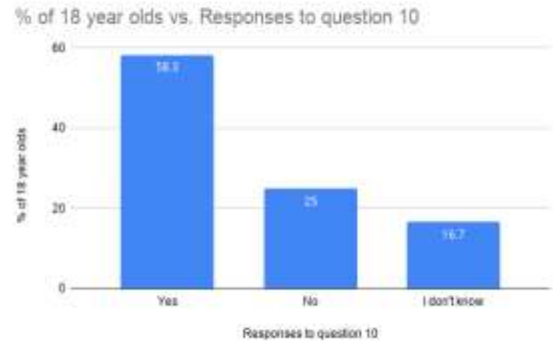


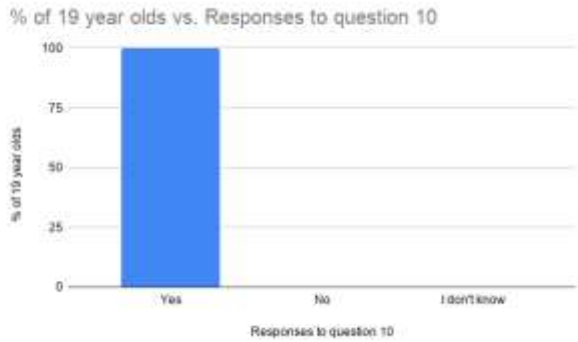


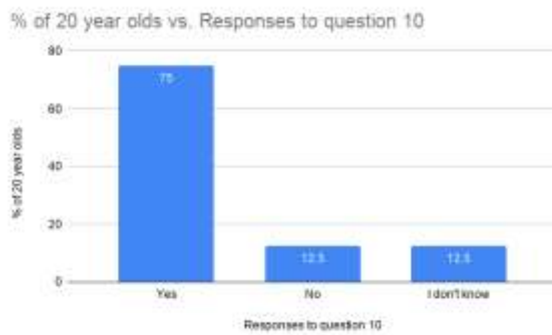
Question 10:

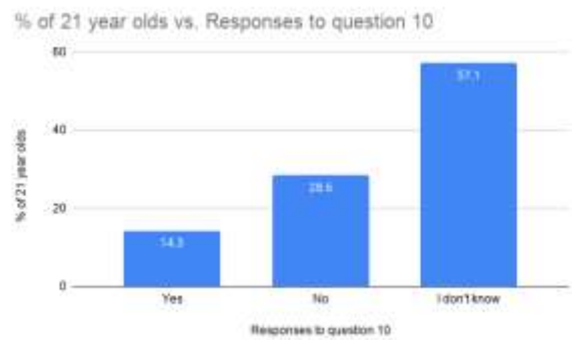




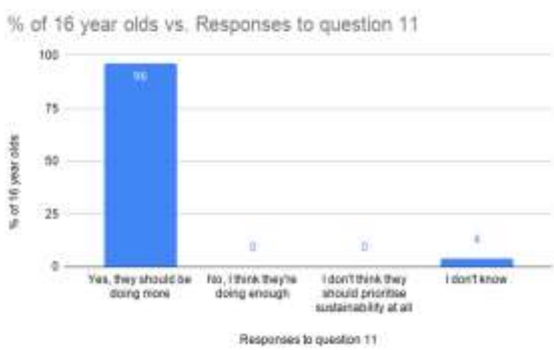

% of 18 year olds vs. Responses to question 10
% of 18 year olds
58.3
25
16.7
Yes
No
I don't know
Responses to question 10

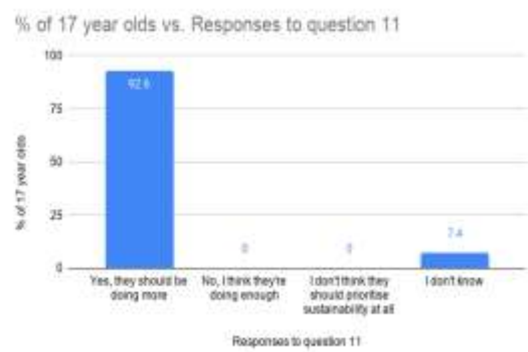

% of 19 year olds vs. Responses to question 10
% of 19 year olds
Yes
No
I don't know
Responses to question 10

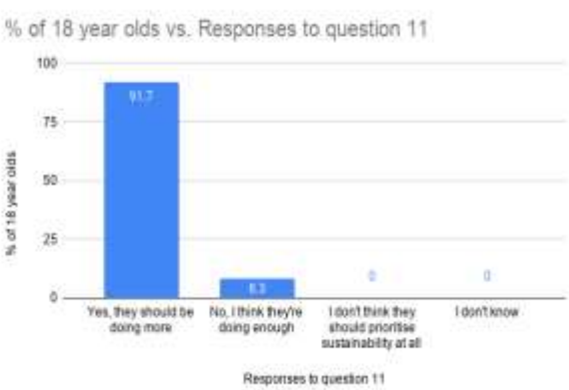

% of 20 year olds vs. Responses to question 10
% of 20 year olds
75
12.5
12.5
Yes
No
I don't know
Responses to question 10

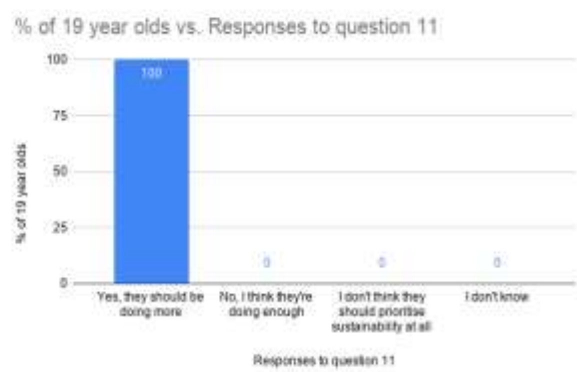

% of 21 year olds vs. Responses to question 10
% of 21 year olds
14.3
28.6
57.1
Yes
No
I don't know
Responses to question 10

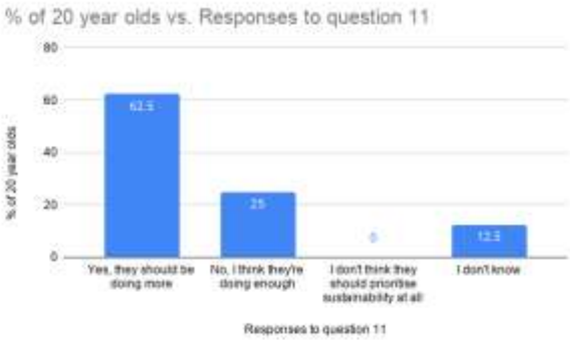
Question 11:

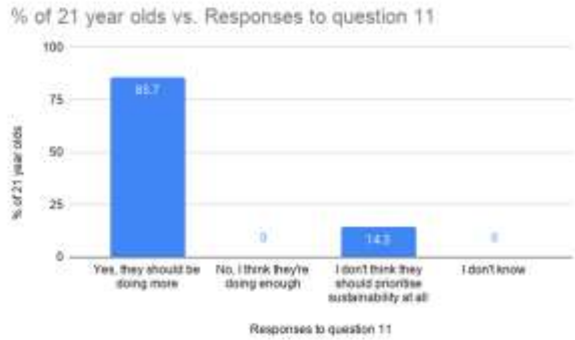

% of 16 year olds vs. Responses to question 11
% of 16 year olds
96
0
0
4
Yes, they should be doing more
No, I think they're doing enough
I don't think they should prioritise sustainability at all
I don't know
Responses to question 11


% of 17 year olds vs. Responses to question 11
% of 17 year olds
92.6
0
0
7.4
Yes, they should be doing more
No, I think they're doing enough
I don't think they should prioritise sustainability at all
I don't know
Responses to question 11

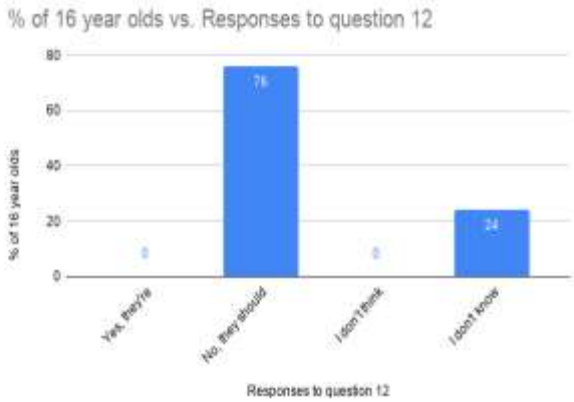

% of 18 year olds vs. Responses to question 11
% of 18 year olds
91.7
8.3
0
0
Yes, they should be doing more
No, I think they're doing enough
I don't think they should prioritise sustainability at all
I don't know
Responses to question 11

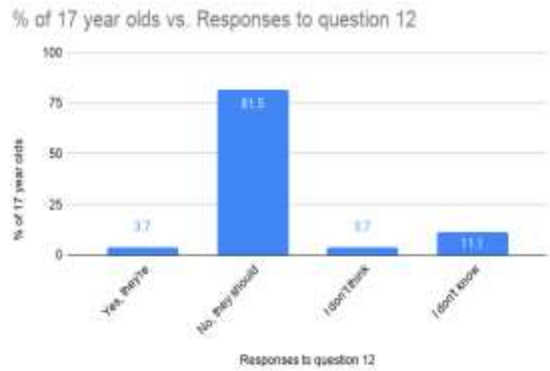

% of 19 year olds vs. Responses to question 11
% of 19 year olds
100
0
0
0
Yes, they should be doing more
No, I think they're doing enough
I don't think they should prioritise sustainability at all
I don't know
Responses to question 11

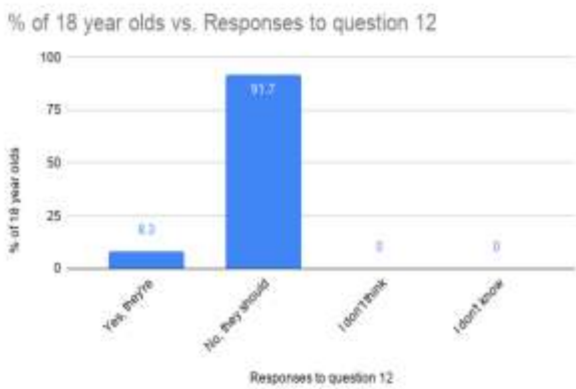

% of 20 year olds vs. Responses to question 11
% of 20 year olds
62.5
25
0
12.5
Yes, they should be doing more
No, I think they're doing enough
I don't think they should prioritise sustainability at all
I don't know
Responses to question 11

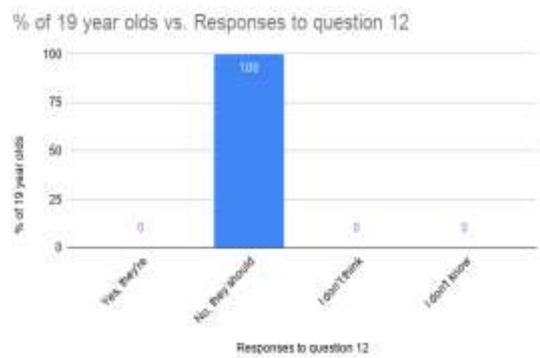

% of 21 year olds vs. Responses to question 11
% of 21 year olds
85.7
0
14.3
0
Yes, they should be doing more
No, I think they're doing enough
I don't think they should prioritise sustainability at all
I don't know
Responses to question 11

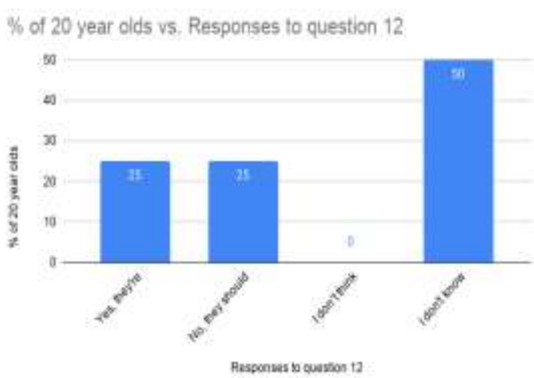
Question 12:

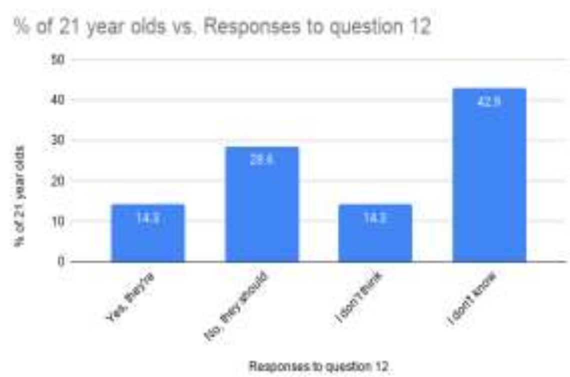

% of 16 year olds vs. Responses to question 12
% of 16 year olds
0
76
0
24
Yes, they're
No, they should
I don't think
I don't know
Responses to question 12


% of 17 year olds vs. Responses to question 12
% of 17 year olds
3.7
81.5
3.7
11.1
Yes, they're
No, they should
I don't think
I don't know
Responses to question 12


% of 18 year olds vs. Responses to question 12
% of 18 year olds
8.3
91.7
0
0
Yes, they're
No, they should
I don't think
I don't know
Responses to question 12


% of 19 year olds vs. Responses to question 12
% of 19 year olds
0
100
0
0
Yes, they're
No, they should
I don't think
I don't know
Responses to question 12

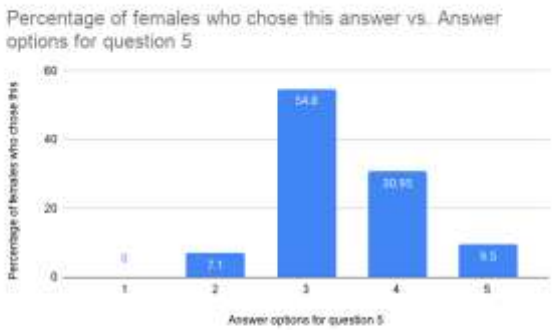

% of 20 year olds vs. Responses to question 12
% of 20 year olds
25
25
0
50
Yes, they're
No, they should
I don't think
I don't know
Responses to question 12

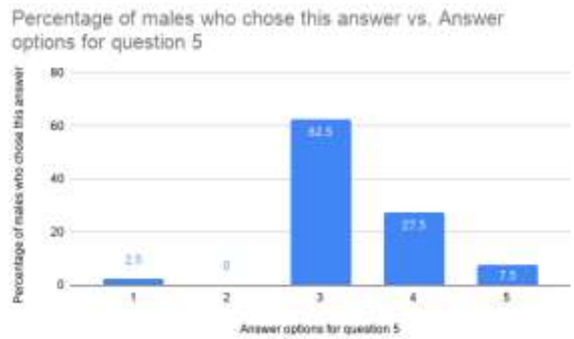

% of 21 year olds vs. Responses to question 12
% of 21 year olds
14.3
28.6
14.3
42.9
Yes, they're
No, they should
I don't think
I don't know
Responses to question 12

Charts of data disaggregated by gender:

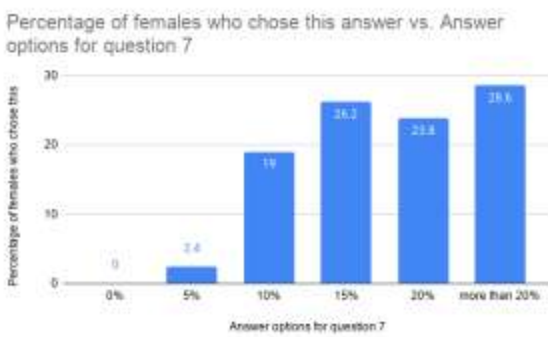
Question 4:

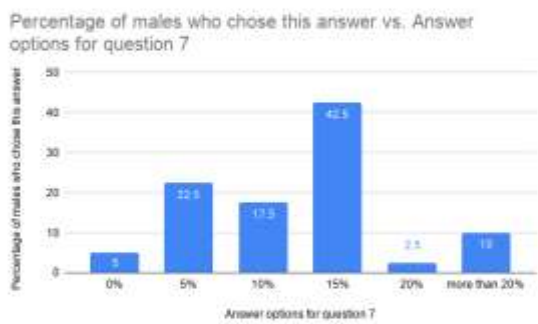
Question 5:



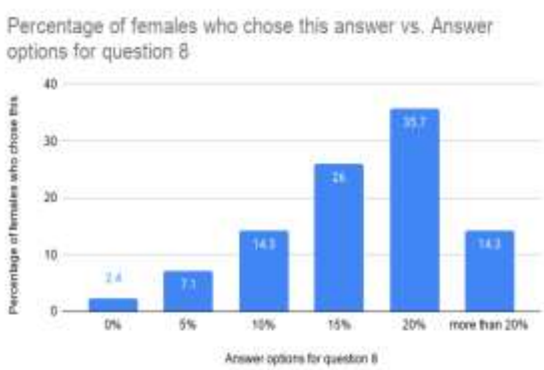


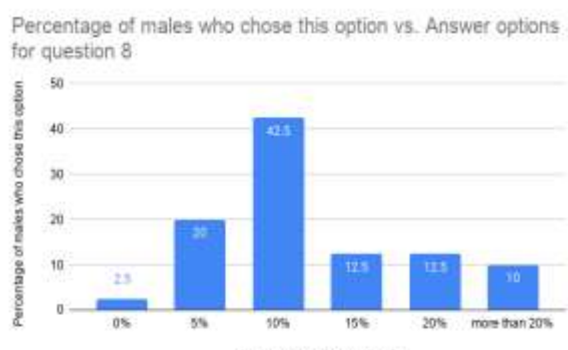
Question 7:



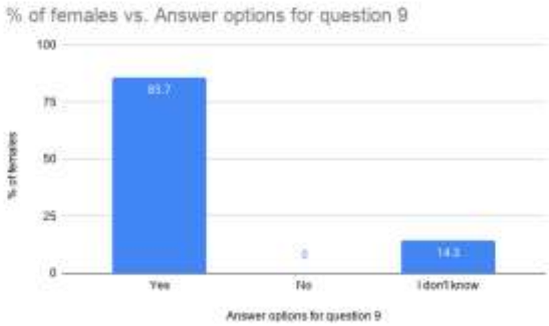


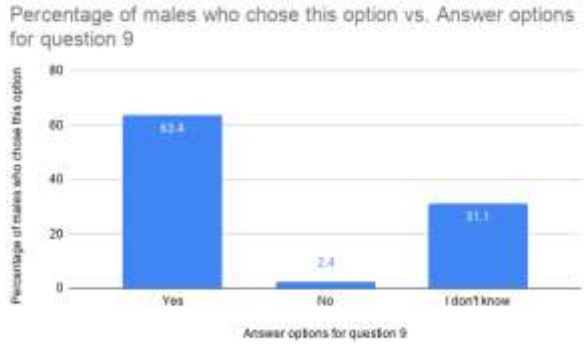
Question 8:



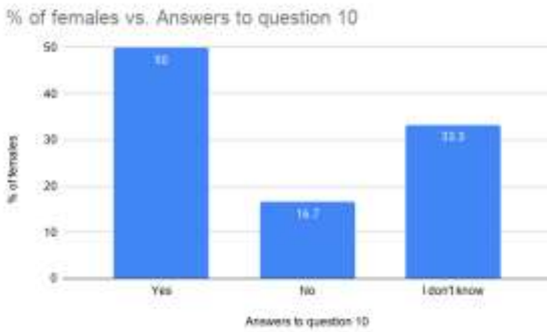


Question 9:

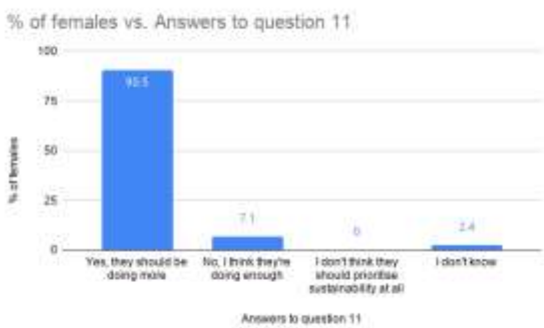


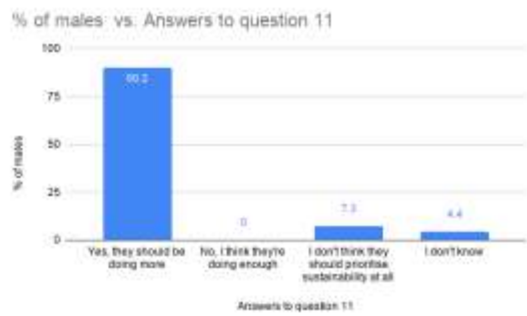


Question 10:

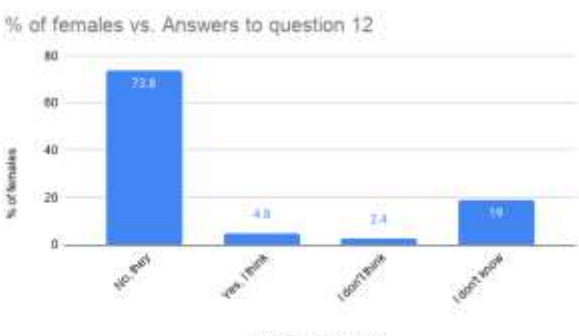


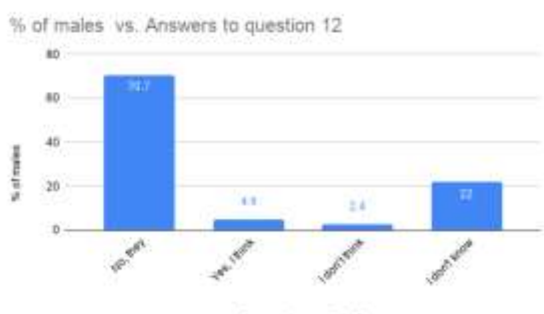
Question 11:



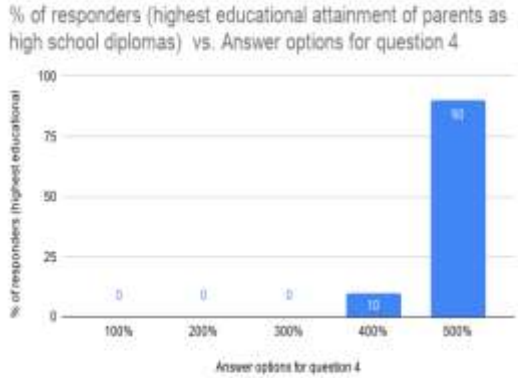


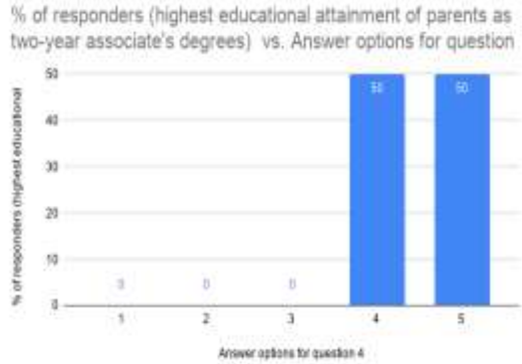
Question 12:

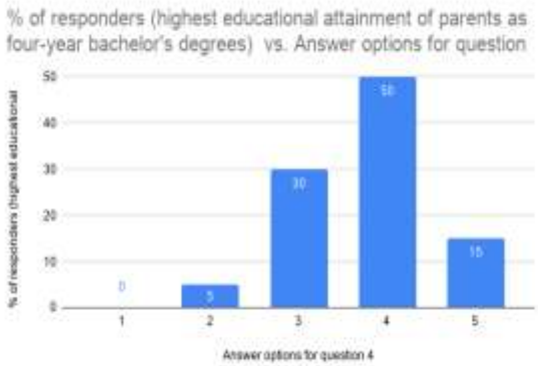


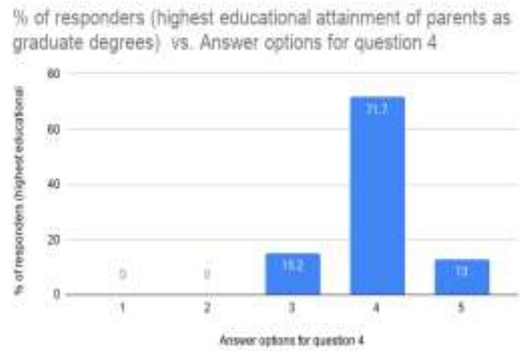


Charts of data disaggregated by highest level of educational attainment for parents:
Question 4:

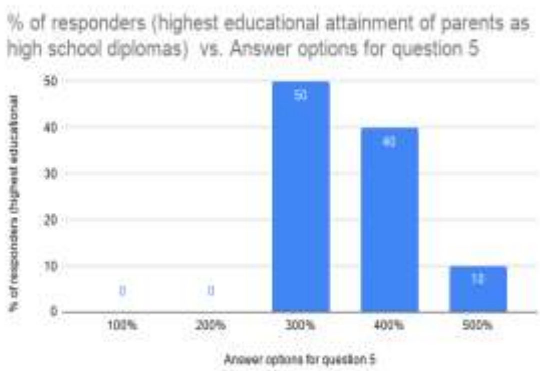


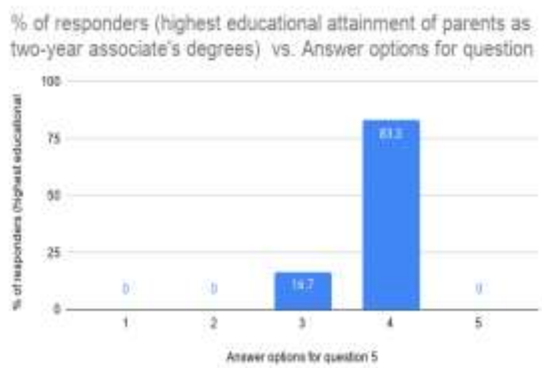


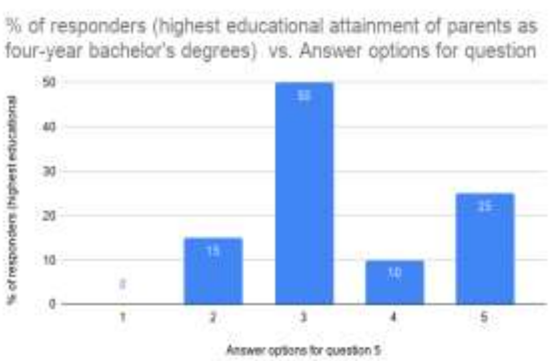


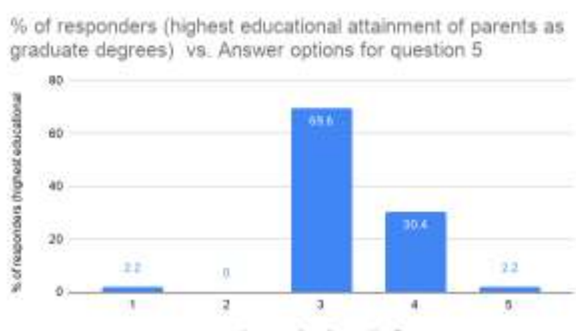


Question 5:

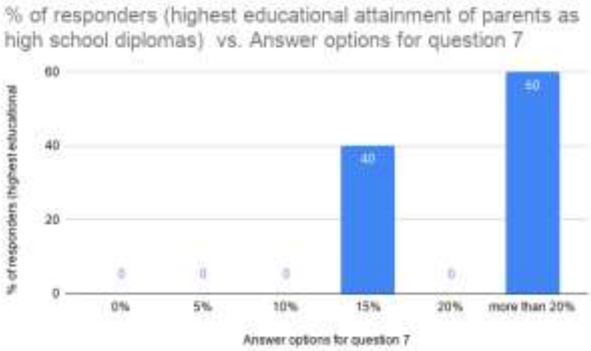


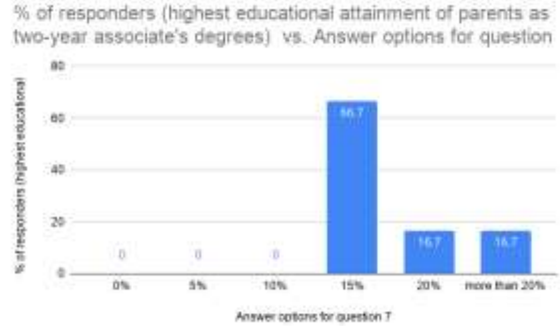


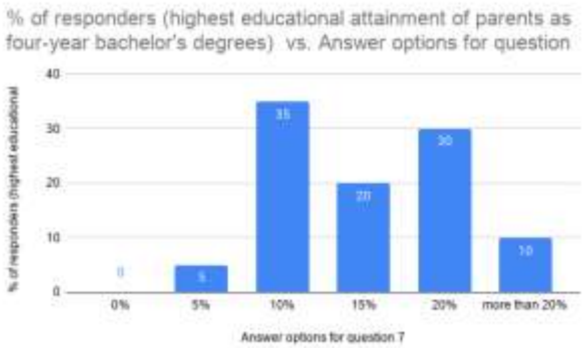


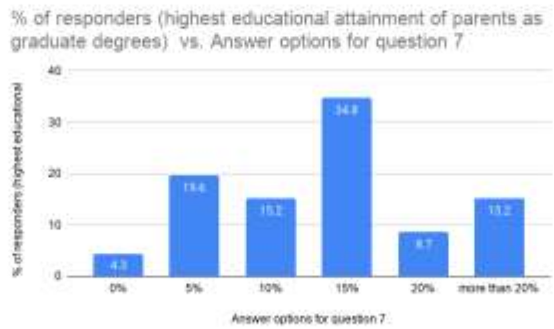


Question 7:

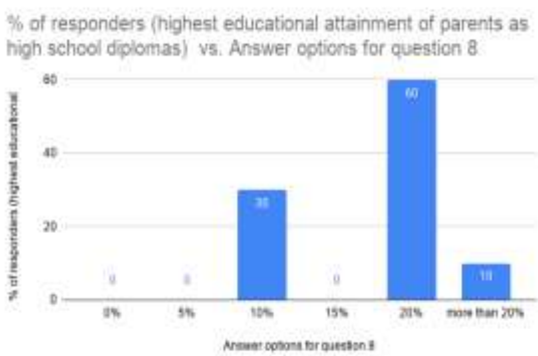


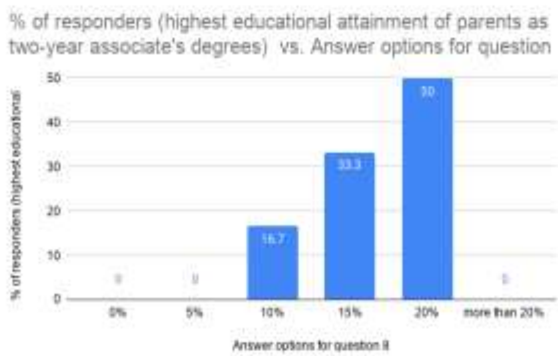


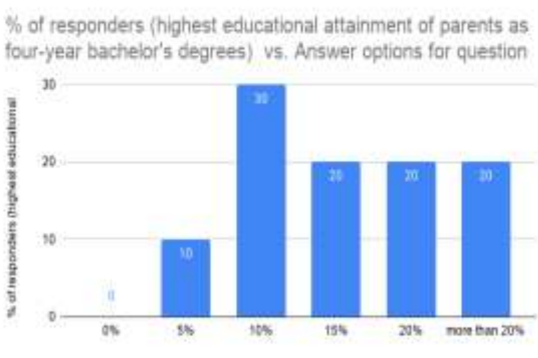


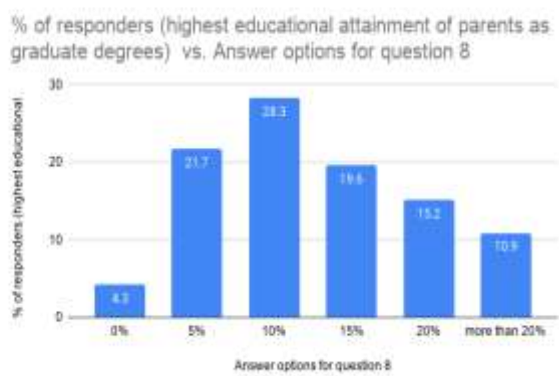


Question 8:

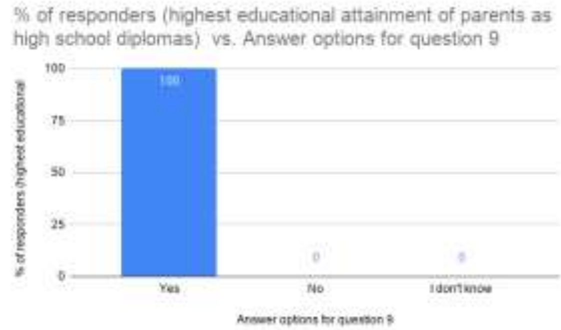


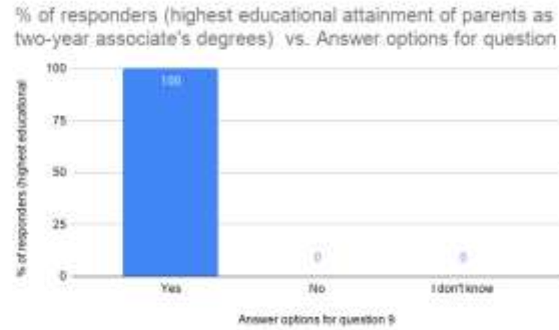


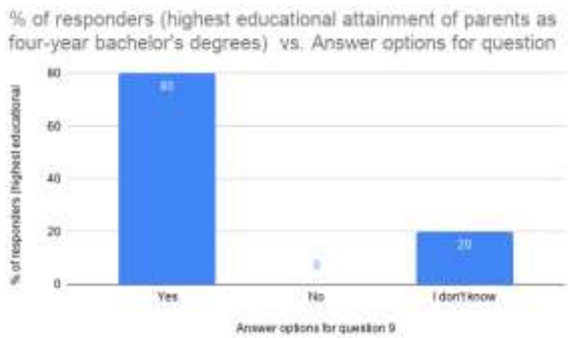


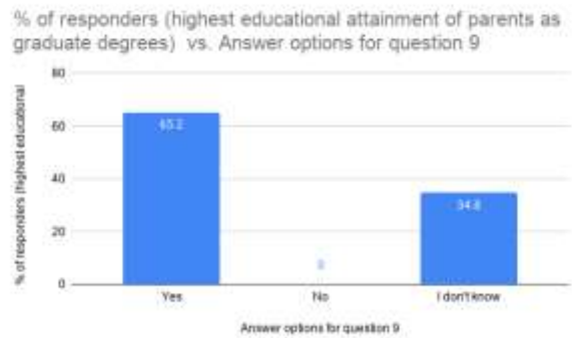


Question 9:

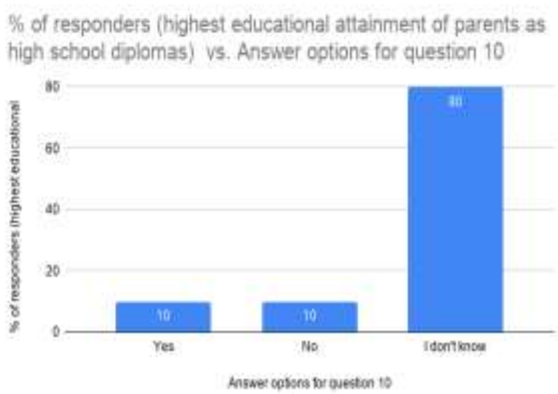


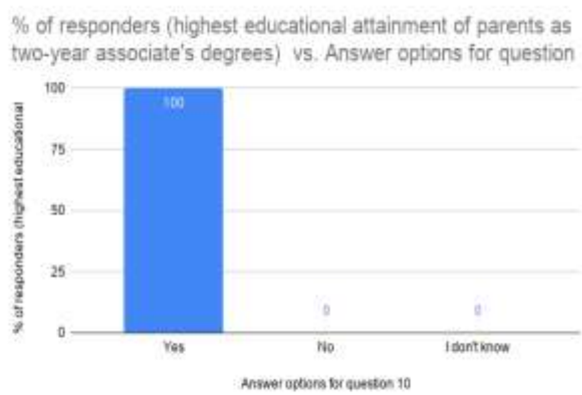


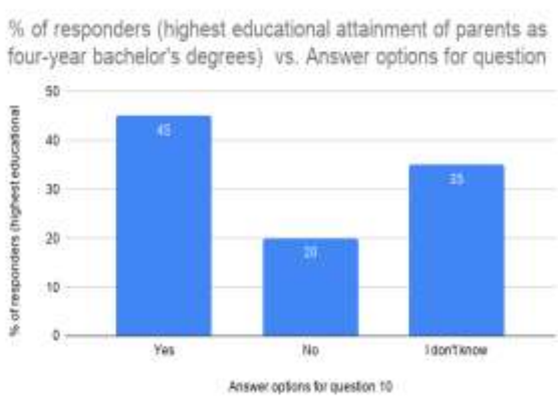


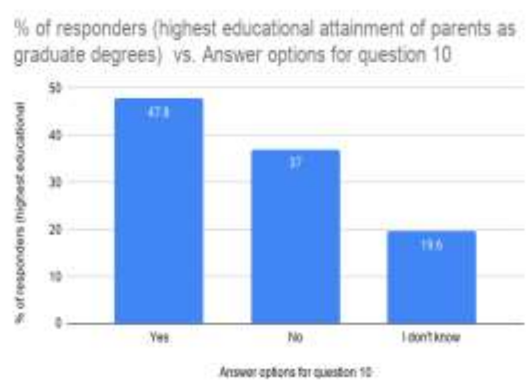


Question 10:

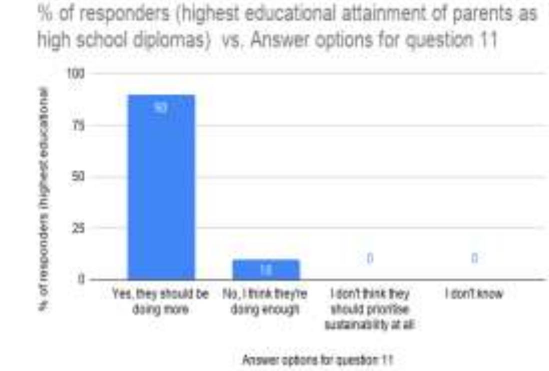


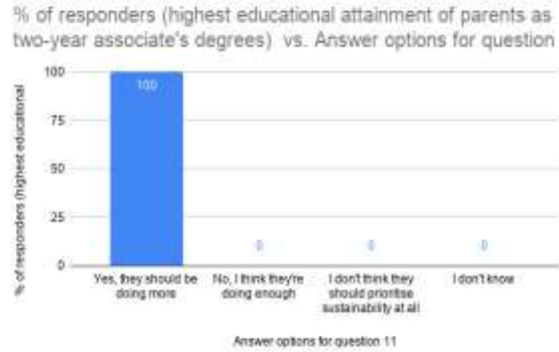


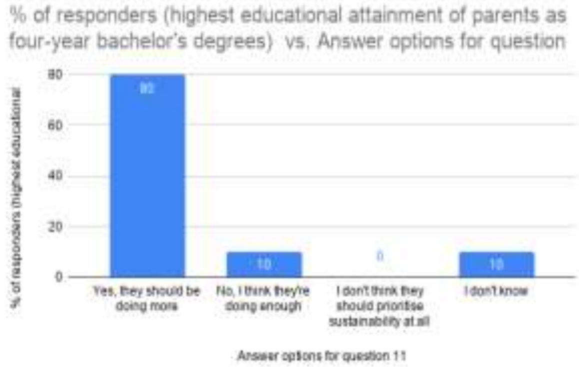


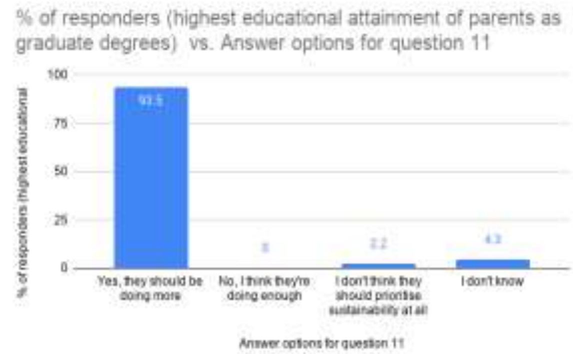


Question 11:









Question 12: