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Declaration

I declare that this assignment is my own work and does not involve plagiarism or collusion. The sources of other people's work have been appropriately referenced, failing which I am willing to accept the necessary disciplinary action(s) to be taken against me.

Student's Signature : Luke

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Chapter 1: Introductory Chapter

1.1 General Background

Climate change and environmental destruction are issues that are becoming polarised due to its high coverage in new media. This has led to many efforts, both individual and large scale, taking flight. Greta Thunberg has been launching an active social media as well as in real life campaigns for years, and recently spoke at the United Nations in her efforts to campaign for greater action taken by the government to curb environmental issues. This was quickly followed by a Singaporean wing of a similar movement. @sgclimaterally is an organisation based in Singapore who runs an active social media account for similar purposes. Their focus is however more diverse, and they also offer advice for consumers hoping to make a difference beyond just social activism and demanding change from the government.

Some youths having been inspired by these groups have also taken to their own campaigns, and an example would be Zyn Yee, a Singaporean youth embarking on a nationwide campaign to eliminate straw usage by consumers. Another example would be Green is the New Black, an organisation run by youths to promote sustainable living particularly in the area of fashion. Not just youths, but adults are also leading the charge. Plastic Free July is a non profit organisation which posts tips on how to reduce the wastage and usage of single-use plastic products. Another polarised movement would be one led by the Vegetarian Society Singapore, which is campaigning for consumers to refrain from eating meat on certain days for the purposes of environmental protection.

1.2 Rationale

It is undeniable that these groups at the forefront of climate activism and other major figureheads are giving this issue much needed awareness. Simply from browsing social media, one would notice people liking, sharing and posting posts of such nature.

However, the main issue is not that most people are unaware of the need to act, however, the exact methods that one should consider and have considered are usually not the focus of other studies that have already been done. With a multitude of different groups promoting climate activism in Singapore, it is often overwhelming for individuals to respond to them. This project thus aims to compare the solutions being publicised by these organisations to determine the relationship between their effectiveness, as well as evaluate the popularity of these methods among youths in Singapore so as to offer people a more coherent narrative and allow them to be more informed when choosing the green movements they want to participate in.

1.3 Research Questions

1. What are the most popular methods to save the environment employed by youths in Singapore?
2. What are the factors behind their choices?
3. Based on (1) and (2), how may climate activists better skew their outreach and publicity towards youth to maximise the effectiveness of green practices among the youth?

1.4 Thesis Statement

Due to the issue becoming increasingly polarised on social media, the majority of Singaporean youth would have taken some form of steps to save the environment in their own lives. However, the overall effectiveness of their collective efforts are limited. This is because the more popular methods employed by Singaporean youth are those that are glamorized, trendy and/or easily achieved. This is likely due to the attractiveness of the publicity material published by these groups as well. On a whole, there is more that needs to be done on the part of the youth and the activism groups.

1.5 Delimitations and Scope

The organisations and the initiatives that I plan to focus on are the Vegetarian Society Singapore's meat-free days, Zyn Yee's straw free Singapore campaign, Plastic Free July's plastic free days or months, as well as fashion campaigns run by Green is the New Black. These initiatives were chosen on the basis of the difference in scale, the aspect of consumerism they are focusing on. However, the common links between them are that their main method of campaigning comes from social media, and their efforts are targeted at youths. These methods are also ones that revolve around the reduction and wastage of resources, in a bid to slow down environmental destruction and climate change, rather than methods that involve mitigating the direct effects, such as litter picking. The methods will be analysed in terms of the effectiveness in saving the environment and focus of their publicity material as well as the principles behind the methods proposed.

The target group of material to be analysed from my primary sources will be youths between 15 to 30 year old who are likely still to be studying in Singapore. The rationale behind this specific age is because these youths in their schooling years have more time to participate in

large scale green initiatives or even be involved in climate activism. Furthermore, they are the main target audience of the existing social media campaigns.

However, while increasing the scope may increase the breadth of the paper, it may result in over generalisation of habits on too large a group, such as Singaporeans. Inherently, the solutions to climate change are vastly different as well and they target different aspects of the issue. By limiting the scope of the research to a few green initiatives and a specific target group, we can thus zoom in and increase the depth of understanding we are able to glean for this specific scope.

1.6 Significance of Research/Usefulness

The youth in Singapore are a major stakeholder in the issue of climate change, and are very active online and offline in propagating solutions to climate change, as well as being the target audience of such campaigns. There is little research done on this specific target audience in Singapore. There is also little research done comparing different solutions, and very little mainstream media coverage of these informal social media campaigns. Thus, these solutions remain relatively under the radar for the majority of the population that are being surveyed, and are unaccounted for.

This project thus aims to find out more about the patterns of youths in Singapore with regard to environmental protection, such that climate activism groups may be able to better cater to youths in Singapore by better understanding what the motivating factors for the youth are.

Based on the number of people who have employed the various methods in Singapore, I also hope to be able to offer insight into the current state of Singapore's climate movement among

the youth, and rate the effectiveness of the youth in Singapore so far. This is so as to give Singaporean youths perspective into what can be further improved upon to play their part for climate change.

1.7 Limitations

The biggest limitation is the extremely limited target audience, with only youths of a certain age being studied. There is certainly more room for comparison to be made across the methods employed by people of different demographics such as age, nationality, gender, income level, etc. In terms of quantity, the reach that the online survey may be able to reach remains limited as there were only 100 respondents.

While no concrete research has been done by any substantial scientific journal regarding this issue since it is still quite recent, the COVID 19 situation may result in more members of the public using disposables as it is often seen as a more hygienic option. Additionally, with the public advised to stay at home, the number of disposables they might end up using when they use food delivery services may cause a spike in wastage of plastic resources. Until normalcy can resume in the lives of Singaporean youths, the information gathered about the habits of youths is likely to be affected by this outbreak. Thus, it may only be applicable for this specific time period and may no longer be true after the epidemic has died down.

Chapter 2: Literature Review

2.1 Climate Action and Awareness

Ahmad et al. (2012) researched the habits of Malaysian youth to investigate their awareness, perceptions and actions toward environmental protection. Using similar methodology, with a sample group of youths interviewed and surveyed, they uncovered that youths often take action when feeling pressure from their community, be it school groups or religious groups. It is worth noting that some of the respondents used Singapore as comparison, citing that the issue is worse in Malaysia because Singapore, (and by extension Singaporean youths) comparatively do not feel the effects of environmental pollution and is often seen to be a clean city. Thus, it can be used to explain the difference between the types of solutions that Singaporean youth are more likely to employ: changing their consumerist lifestyle, rather than the Malaysian methods that revolved around cleaning up areas in their community and making monetary donations. From this study, however, we see pressure from the community and social trends being a factor that contributes to environmentally friendly practices. This led to one of the motivating factors investigated in my discussion and analysis section being “Trends in Community”

According to the National Climate Change Secretariat (2019), which conducted research into the habits of Singaporeans regarding climate change, 94.9% of the respondents polled were aware of climate change and had read or seen it in media coverage. More than 90% were also aware of the impacts of climate change on the world. 80% of the participants of the survey also indicated that they were willing to do more to combat climate change. Most of the individuals polled cited the intellectual knowledge about the impacts of climate change as the

reason for their increased participation in green practices. However, most of the methods that were being used by the respondents are traditional methods like saving water, electricity, and reducing food wastage. This survey is able to show how Singapore on a nationwide level recognises climate change as an issue. However, it focuses on awareness levels rather than solutions. Additionally, the target group of this survey was all individuals above 15, including the majority of Singapore's population who are adults. This differs from the methods and target audience focused upon in my survey. Thus, their research can be further expounded upon in my paper. Since it is evident that many are willing and have made some effort to combat climate change in their own lifestyle, research can now change to look into the methods employed which is the next step for research on this topic. Nevertheless, the key factor that is suggested here is the increasing awareness and intellectual knowledge about its impacts as the driving force behind Singaporeans' decisions to pursue environmentally friendlier habits. Thus, presenting "Intellectual Knowledge and Logical Presentation" is also seen as a viable method to promote climate action.

Awareness of the issue is prevalent in Singapore and other communities. This willingness to act to improve the situation further increases the need for such timely research about the methods to do so, in order to better translate this awareness and willingness into action.

2.2 Social Media and Activism

In the United States, pilot tests were conducted, exploring the effectiveness of social media as a tool for youths to gain new insight and awareness about climate change. (Nadawapan et al, 2017) The exact methodology was to give youths in pilot schools across America a hashtag, #OurClimateAction, to post about issues in their environments that concerned them. Using

social media platforms, youth were able to be engaged with the issue, in contrast with the lack of awareness from American youth before the pilot test. They demonstrated greater and more nuanced understanding of the solutions to climate change and the vast impact it had on themselves and society. This is because different views can be quickly exchanged on social media. As a platform that youths are particularly familiar with, social media indeed has a power to reach out to youths and effect change in their mindsets about issues that are more complex. Additionally, this has been proven to be true in terms of political activism, with the main reason behind its success because of the power of social media to have a greater outreach that crosses physical limitations. (Kruikemeier, et al. 2013) This can also be applied to other forms of activism, or in this case climate activism. The outreach of social media is particularly important because Bowman (2019), theorised about the power of the masses particularly in climate activism. Simply, the more people are engaged in certain action, the more likely it is to attract even more people to the cause. He used the examples of #FridaysforFuture and other large scale mobilisation activities that demonstrated the power of youth to gather the masses. Other factors that can lead to greater success of activism include the usage of humour, an avenue that can be easily exploited on social media (Peters, 2012).

Kleres and Wettergren (2017) researched the emotions that sparked climate activism, citing fear and hope as the most important trigger emotions. This can be a framework that climate activist groups follow, making use of imagery that will trigger these emotions in their publicity. Thus, this gave rise to “Appeal to Emotion” as a viable motivating factor for why youth opt to certain methods to mitigate climate change.

The power of social media for the purposes of activism is undoubtedly outlined through the various studies previously done. There are also a variety of methods that have been proven to be able to heighten its effectiveness for activism. The methods that can be employed in social media to motivate a response are as follows: pressure from community groups and social trends (“Trends in Community”), emotive content (“Appeal to Emotions”), and the logical presentation of facts regarding climate change (“Intellectual Knowledge and Logical Presentation”). The usage of humour was another possible method mentioned in the Lit Review but was not deemed to be useful in this context since none of the climate activist groups investigated had used humour extensively. It is, however, worth investigating the other features within the publications of these campaigns and its relationship with its popularity.

Chapter 3: Methodology

3.1 Survey Questionnaire

This study is based primarily on primary data collected. The sampling was targeted at youths 15-30 years old youths and an attempt for equal representation of gender and ethnic groups. The survey will be done via Google Forms, investigating the respondent’s awareness of the four online green movements that have been mentioned in my scope, the respondent’s participation in these movements, as well as the motivating factors behind their choices. A sample size of 100 respondents were surveyed.

3.2 Scientific Studies

This section of data collection is secondary, where I look into pre-existing scientific papers, to find out the impact of each of the four methods employed on the overall state of the environment. Often, the greater the impact, the more difficult it is to achieve. This section is

accompanied by survey questions to decide the importance of the ease of achievement as a factor to determine the popularity of a particular green movement.

Chapter 4: Discussion and Analysis

This section encompasses three main parts: the scientific studies on the impact of each green movement, the results of the survey questionnaire and the findings from the interview.

4.1 Scientific Research

The primary purpose of this section is to rank the four movements in terms of their scale of impact. The impact will be measured in terms of energy consumption and the carbon dioxide emissions.

4.1.1 Analysis of Various Straws

According to a study conducted by the Honbalt State University in California, an average disposable plastic straw requires 27.2 kJ of energy, is responsible for 1.46 grams of carbon dioxide emissions. (Groffman et al. 2018) The increasingly common trend of reusable metal straws, would use an average of 2420 kJ or energy, and be responsible for 210g of carbon emissions. This would require the metal straw to be used 90-200 times in place of a plastic straw to make it worth its cost on the environment. Another point to note would be that plastic straws cannot be recycled due to its small size, thus the most viable way to reduce its impact would be to reduce its usage and go straw free. (Victoria State Government, 2020). Out of all the initiatives investigated, this is the least impactful yet most easy to practice.

4.1.2 Analysis of the Impact of Eating Meat

According to a study done by the Dutch University of Gronigen, 1.1-2.7 MJ of energy is required to produce 150g of pork if conventional methods are used. (Elferink et al., 2008) This figure varies based on the environmentally friendliness of the farming practices . It is

further responsible for 100 grams of carbon dioxide emissions. For perspective, this would mean that the reduction in consumption of one serving of meat would be somewhat equivalent to the reduction in use of about 90-100 disposable plastic straws. This would make the reduction in consumption of meat or meat free days the most impactful from the four movements investigated, yet the most disruptive to our lifestyle if implemented.

4.1.3 Analysis of the Impact of Single Use Plastics

According to a study done by the Singapore Environment Council (2019), Singapore uses about 1.76 billion disposable plastic items a day, with about 80% of it coming from the usage of single-use plastic bags. The carbon footprint of one plastic bag is about 3 grams of carbon dioxide emissions, and requires roughly 100kJ of energy, which would make it about 3-5 times as taxing on the environment compared to a disposable plastic straw. (Australian Bureau of Statistics, 2004). Reducing the use of single use plastic would be the second least impactful method yet still quite easy to achieve, albeit much harder than reducing disposable straw usage.

4.1.4 Analysis of the Impact of Fast Fashion

Based on statistics from the United Nations Environment Programme (2019) and the Ellen MacArthur Foundation (2019), a pair of jeans creates about 33.4 kilograms of carbon emissions when you take into account the cotton production and the delivery of the product; requiring about 330kJ of energy to produce. In all, the fashion industry makes up 10% of the world's carbon emissions. This is why turning to sustainable fashion will be the second most impactful method (as production will naturally dwindle when the demand has declined) and is rather easy to achieve, albeit quite disruptive to lifestyle, through mediums of education,

advertisement and encouragement as there are many alternatives to fast fashion such as sustainable fashion, which no doubt will become more accessible and widespread when consumers begin to turn to it.

4.1.5 Conclusion

It can then be argued that the most impactful movement would be the meat free movement, followed by sustainable fashion, then the plastic free movement, and finally the straw free movement is the least impactful. This trend is inversely proportional to its ease of achievement, with the most difficult to achieve and most disruptive to one's lifestyle being the meat free movement, and so on.

4.2 Survey Questionnaire Responses

The survey questionnaire was the main method used for the collection of primary data to evaluate all the factors that affect the participation in various green movements as well as the popularity of each movement. The respondents came from a variety of ethnic groups from the targeted age range of 15-30 year old youths.

4.2.1 Most Popular Green Movement

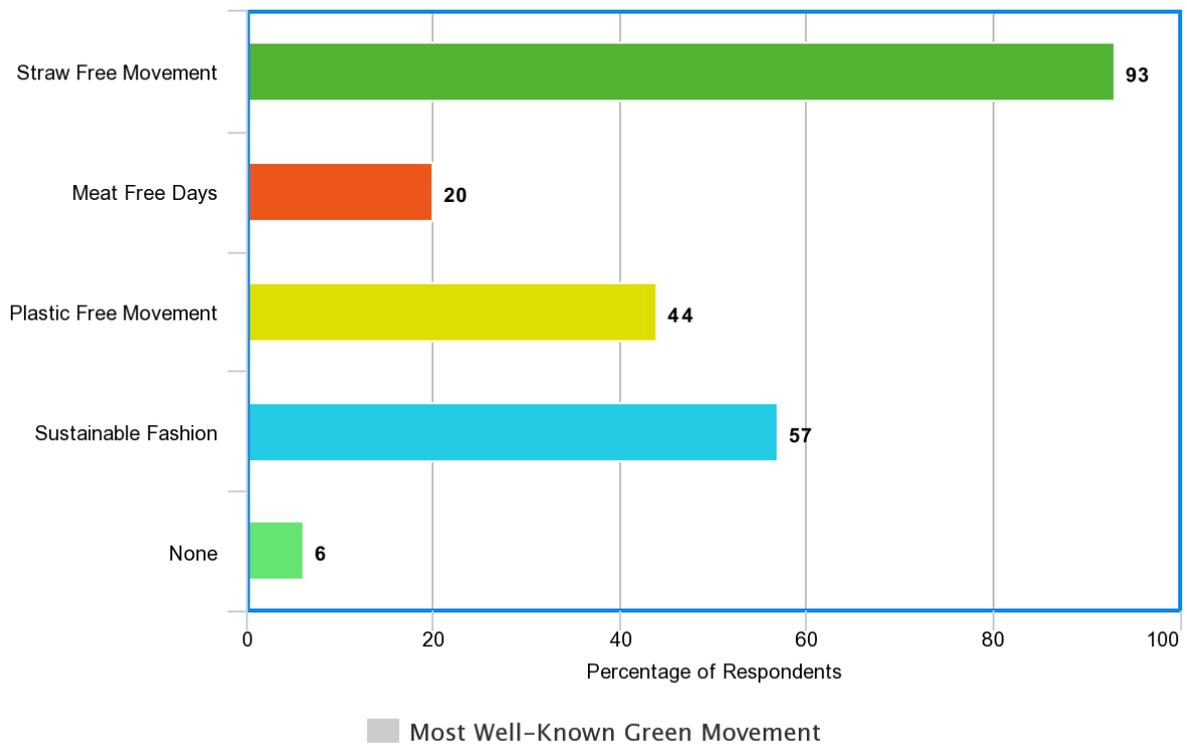


Fig.1 Percentage of Respondents Aware of the Green Movements

The most well known movement was the straw free movement, comprising 93% of the respondents. In contrast, the least well known was the meat free days, which comprised only 20% of respondents. Sustainable fashion and plastic free movement were less well known, with about 50% of respondents hearing of these movements before. This shows that similar to the studies done in my Lit Review, it is indeed true that many young people are aware of the various online green movements. However, we already see a trend here, in that the most

difficult to achieve movement, the meat free movement, is the least well known, likely because people are unlikely to change their lifestyles drastically and thus are not likely to share publicity regarding such movements they are not willing to carry out themselves for fear of being seen as hypocrites.

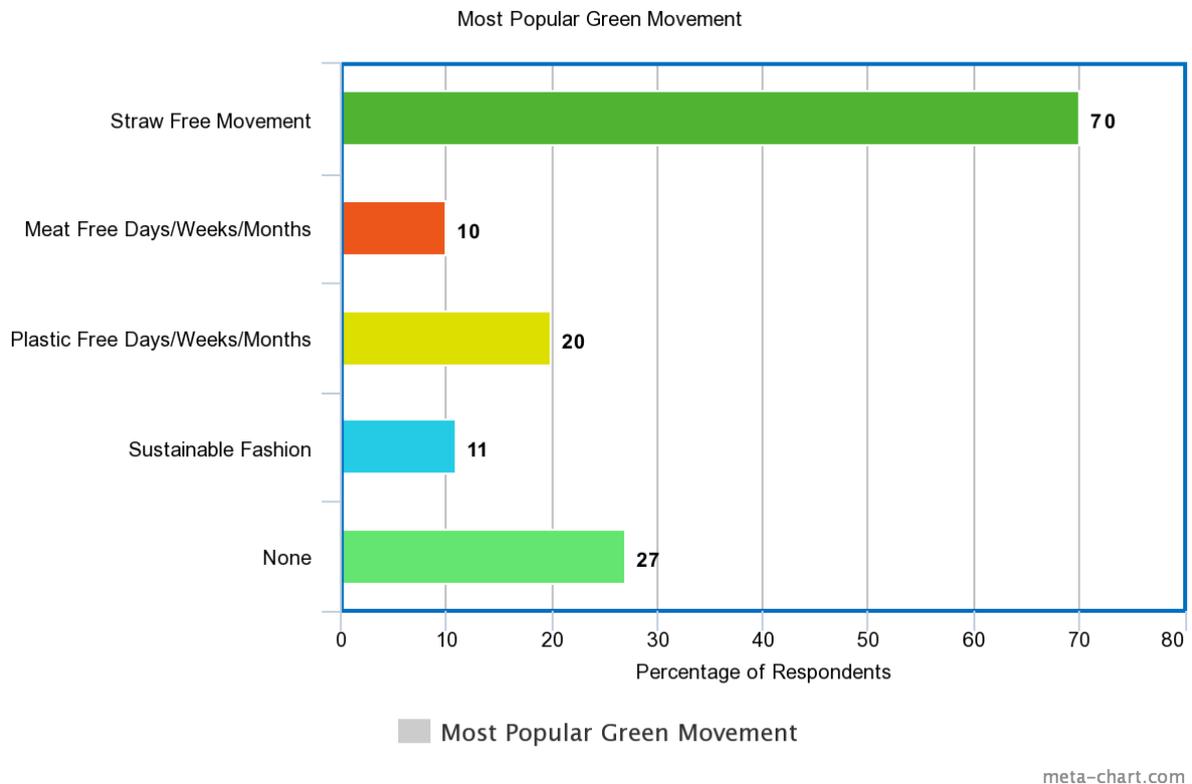


Fig 2. Graph of Popularity of Various Green Movements

As seen, the most popular movement in terms of its practice in daily life was the Straw Free Movement, with the second place in this graph being the percentage of respondents who had not employed any methods at all. Plastic Free Days/Weeks/Months were slightly more popular than the Meat Free Days and Sustainable Fashion, although the percentage for these movements remained relatively low, at about 10 to 20% of these movements. The trend varies slightly here, in that Sustainable Fashion and Plastic Free Days were relatively well known, yet were not employed to a percentage equivalent to the awareness rate. Throughout

all four movements, the take up rate is slightly lower than the awareness level, with about 10% of difference. However the difference is most drastic for these two movements. This would suggest that there are other factors beyond the promotional outreach of the social activist groups that determine the movements' take up rate.

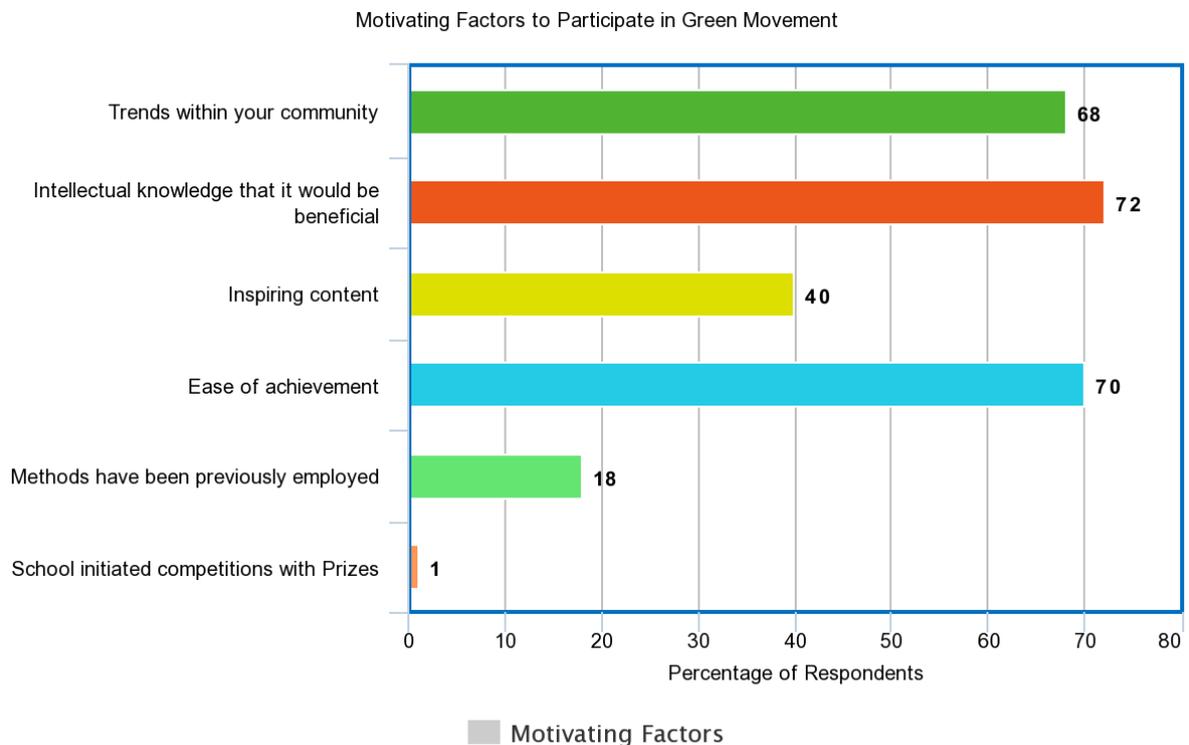
From the first two questions, it is quite clear that a factor that lies beyond the realm of influence of social media, its ease of achievement is one factor that is indeed responsible for the popularity of the movement. There is also some form of correlation between the public's awareness of the movement and the take up rate, with the exceptions of the Plastic Free Movement and Sustainable Fashion. This could be attributed to the large disruption to one's lifestyle necessary to accomplish these movements that far outweighs the motivating potential from the promotional material they may have seen. Thus, we see the ease of achievement of each movement as extremely important, even more important than the types of promotional material available. This would require concrete action to simplify the process (eg wider availability of stores with sustainable fashion and distribution of alternatives to plastic bags) in order to effect greater change beyond the convincing wide outreach that online movements are able to capitalise on.

This statistic is also particularly bleak as many are involved in green movements that are not as impactful as others. Through the studying of secondary sources that have carried out scientific research in 4.1, we can see that the most impactful methods for environmental friendliness, the meat free days and sustainable fashion, are among the lowest ranked in terms of popularity, while the reduction in usage of straws which roughly accounts to about a ninetieth of the effort of going one meal without meat, is among the most popular. By rough

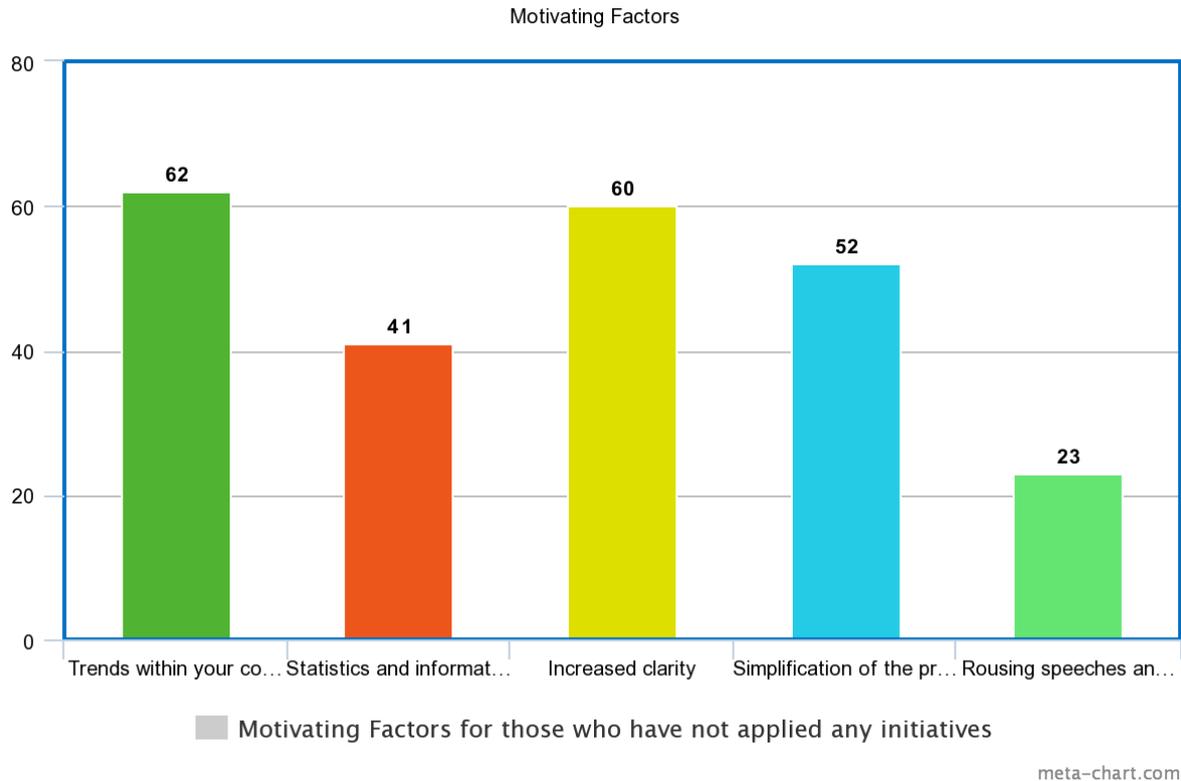
estimations, the 10% of respondents who had gone meat free on certain occasions have contributed more toward the environment than the 70% who had stopped using straws.

4.2.3 Factors Affecting Popularity of Movement

This section focuses on the types of promotional material that may garner more participation in the respective movements. The four options given to the respondents involved increasing its ease of achievement, which was the factor that was already discussed in the previous section. The other three options were regarding how the promotional material should better motivate them. The three options were factors suggested to be important during the Lit Review, namely the use of emotional content to evoke an emotional response, the presentation of facts and logic, and pressure from the community due to trends. In the questions posed to the respondents, examples were given that fell under the subsets of the four main motivating factors identified. For example, “Inspiring Content” is something that would “Appeal to Emotions” and was thus under that subset.



Through this chart, we see the most important motivating factors being the “Intellectual Knowledge and Logical Presentation”, “Trends in Community”, as well as “Ease of Achievement”. These three factors were extremely close to the 70% mark. We see also that the “Appeal to Emotions” as a factor, through the option of “Inspiring Content” to evoke a response is quite lowly rated compared to the other three options. One respondent suggested school programmes and physical incentives as a motivating factor as well, even though this was not presented as one of the options. Other than that, 18% of the respondents had already practised these green practices even before seeing any online publicity material. This relatively low number shows that the reach of social media is indeed vital in promoting such green movements to the remaining 82% of respondents who had begun employing green practices. However, the difference is in the content publicised. One point to note is that this question does not measure the extent to which each of these factors contribute to one’s desire to participate in the movements as respondents could select more than one motivating factor. However, the factors that ranked highly can all be applied by the organisers of green movements in tandem, so as to cater to a wider range of audience.



This graph is for those who had previously ticked that they had not applied any of the green initiatives, though they had previously heard of them via social media. Unsurprisingly, the highest ranked motivating factors are quite similar to those who had already participated in the green movements. “Increased Clarity” and “Simplification of the Process” were both subsets of the “Ease of Achievement” factor. However, this was separated into two options so as to evaluate the importance of external influence. “Simplification of the Process”, refers to the government who could take direct action to encourage green habits (for example, provide reusable bags to every household), as compared to “Increased Clarity”, where the organisers of online green movements, (for example to provide links to stores that sell sustainable fashion) whose sphere of influence is limited to the online platforms. Both of these methods would increase the “Ease of Achievement” for the respondent to participate in various movements. However, they are carried out by different groups, with the second type more

suitable for online climate activists to employ. In the questionnaire, though it is not represented here, examples of both of these factors were given so as to clearly highlight the difference between the options. Similar to previous, we see both subsets of the ease of achievement factor extremely highly ranked. However, we see with increased clarity that the aspect that is more highly prioritised is the intangible support that the organisers of green movements can direct their following to, in terms of taking the first step to begin the green practices.

As compared to those who had already participated in the green movements, those who had not, actually cited “Statistics and Information” (under the subset of “Intellectual Knowledge and Logical Presentation”) as much less motivating. Understandably, raw facts are unlikely to elicit a proactive response because they are not as eye-catching and easier to scroll past. However, they are useful in sustaining one’s motivation to continue participating in a green movement after one has taken the first step, in order to understand better exactly how they are helping and what they’re efforts are contributing to.

“Trends in Community” continue to be an important factor in motivating both those who have already begun practising these green habits and those who have not. This is quite unsurprising, seeing as the desire to fit in is common in every individual. This is also due to herd mentality, where one is likely to follow the crowd and the actions of those around them, particularly in relation to their habits and practices. This point was covered in my Lit Review, and was true in another country. In Singapore, this appears to be no different.

Chapter 5: Conclusion

After the evaluation of the survey results in Chapter 4, along with the scientific studies done regarding the various green practices, unsurprisingly, the large majority of Singaporean youth are engaged in green practices that are less impactful, simply on the basis of its ease of achievement. This would mean that the organisers of green movements should focus on making the practices that they propagate as easy to participate in, rather than using “Intellectual Knowledge and Logical Presentation” or the “Appeal to Emotions”. Along with increasing its “Ease of Achievement” with practical steps, organisers of green movements should also ensure that they’re publicity material involves featuring others who participated in the green movements and encouraging everyone to not just participate but share about their participation online, so as to capitalise on “Trends in Community” as a motivating factor. The primary purpose of this would be to decrease the knowing-doing gap, and have a higher potential to convince youths to participate in the green practices propagated.

As I hypothesised, many youths, close to 75%, have employed some form of green practice. There is, however, cause for concern in the popular green initiatives being the least impactful. This would make the collective effort of Singaporean youth so far not as impactful as one might expect and largely ineffective. This is in line with my hypothesis, seeing as how practices that are easier to achieve are likely to become trends more easily. While the outreach of social media can be maximised by improvements I have cited in the previous paragraphs, more support and outreach needs to be done especially by the Vegetarian Society Singapore and the Green is the New Black group, such that these two movements can gain traction as they are the most impactful, so as to improve the collective effectiveness of Singaporean youth. Youths also should contribute to boosting the popularity of these more

impactful movements, by turning them into online trends, a factor that is seen as extremely motivating.

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