Understanding and analysing the role of social media and its algorithm in affecting body image amongst GBMSM.

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Abstract

The rise of social media age has led to a byproduct to the world which is popularly known as ‘Echo chambers’. The effects of echo chambers are not unknown to anyone. The polarisation caused by it has various implications including body image norms. Body image issues amongst young women due to social media are widely researched. But when it comes to GBMSM, there is no such study conducted, which has led to this paper’s research. The experiment is conducted to critically look at the algorithms that curate the ‘just for you’ content, that are to be blamed for the creation of echo chambers. It uses an account on instagram to study its algorithm. Specific hashtags are used create a gay-coded user. After engaging with data from the hashtag feed, content is extracted from the explore feed. Along with that content from hashtag feed is also used to analyse. The results show the algorithm curates a skewed vision of body image through its curated feed. This needs to be further researched extensively. While algorithms should be developed responsibly and consciously.

Keywords: Body Image, Social Media, Algorithm, GBMSM.

Introduction

The rise of social media has been accompanied by a sharp increase in the prevalence of body image issues among women and girls. This has been researched by many, but what about men and especially men that are Gay, Bisexual, Men who have sex with men (GBMSM)? There are multiple factors that come into picture when we talk about body image issues. How theories like objectification theory in GBMSM context, mere exposure effect and confirmation bias affect has been discussed in the literature review. But what this research focuses is to examine the prevalence of these theories in social media, specifically in gay-coded space. These spaces are another form of Eco Chamber created by the algorithm. And thus also critically looked at through the research.

Literature Review

The impact of social media in terms of echo chambers has been well researched. Ludovic Terren and Rosa Borge (2021) in their literature review, reveals different ways the research has been conducted and how echo chambers existence cannot be ignored through articles based on digital trace data. Echo chamber is defined as the environment in which an individual encounters only content that aligns with their own belief systems and opinions and everything else is filtered out because of the way the algorithm is written. This is made worse with confirmation bias put into picture. Confirmation bias is the tendency of people to favour information which aligns with their own. Gillespie (2014) defined algorithms as “are encoded procedures for transforming input data into a desired output, based on specified calculations”. They are the backend of the AI running the social media applications and other applications. Echo chambers are formed as a result of these algorithms which when met with the mere exposure effect leads to a person feeding the algorithm with a streamlined data that is familiarised by the popular culture and media around them. And eventually end up normalising the popular culture, adding up to the monoculture created through the algorithms, this is made possible through user engagements which are likes, comments, taps, watch time and other activities fed into the algorithm. Monoculture is the concept of polarising the mass population using social media into one kind of culture associated with a single social or

ethnic group. Monoculture is to be blamed for vanishing authenticity and traditions and inculcating herd mentality amongst the user by making them indulge in popularised culture. The mere exposure effect can be understood through the study by Andrew R. Flores et al (2017), where they found out how exposing people to more transgender content results in lower levels of discomfort and transphobia. It works on the theory that the more we see something the more confirmation bias we build towards it and are normalised to the idea of it. The effects of echo chambers and social media have been analysed by many in different contexts, Jasmine Fardouly and Lenny R Vartanian (2015) provides an overview of research on social media and body image. Their study focuses on facebook usage associated with body image concerns among young women and men and the role appearance comparisons play in it. Nikolai Holder (2020) examines how instagram's explore feed algorithm is destabilising body ideal discourse and how it is related to the reproduction of societal bias. The study demonstrates that the algorithm functions as a memetic copying machine of user behaviour, primarily stabilising the corresponding body ideology assemblages. During such studies various factors need to be addressed. One of them being sexuality and how that plays a role in content engagement and how it is being consumed. Joshua Hendrickse et al (2017) have taken intrasexual competitiveness as one of the variables to understand body image issues caused by social media usage. Most of the studies are focused on heterosexuals, in which case sexuality plays a role in competitive sense. But it is interesting to see how it works for people attracted to the same sex. Eric Filice et al (2019) explain how social media influence body image and weight and shape control behaviour among sexual minority men in particular. They reveal the complexity of interrelated biological, psychological, social and cultural determinants and how it's made worse because of digital technologies (social media) and sexuality. Objectification theory suggests that women in particular self-objectify as they adopt observers' perspectives of the self and displace their own. This is manifested by lowering self worth in order to fit in with the normative cis-hetero-patriarchal sandards of beauty. Fredrickson and Roberts (1997) defined
sexual objectification as occurring when "women are treated as bodies—and in particular, as bodies that exist for the use and pleasure of others". Now adding to this, Perils of sexual objectification hypothesis argues that heterosexual women and gay men have increased emphasis on physical attractiveness as both the groups are interested in attracting men. This suggests that then heterosexual men and lesbian women should show lower level of body image disturbance, which is thus proved to be true by findings from Siever's (1994) analysis of college students.

Another factor is in sociocultural norms which are introduced by sociocultural models. It suggests that the body image disturbance amongst GBMSM (Gay, bisexual and other men who have sex with men) is prevelant because of the community-specific norms around ideal appearance. These norms have seeped into the gay culture discourse mainly by young, White, metropolitan gay men that poses mesomorphic bodies i.e. lean amd muscular bodies. This is also very well reflected in the social media content. Body dissatisfaction is also related to the femininity hypothesis, which states that disordered eating is linked to adherence with hegemonic feminine gender practices. Adding to that masculinity hypothesis shows greater body dissatisfaction in "high feminine" gay men than in "less feminine" gay men, which is because of failing to adhere to the gender norms imposed by the society. This also can be observed through the homonormative discourse throughout the gay-coded spaces on instagram, as observed by Garrett Souza (2019).

We have enough research and studies revolving around social media and its effects on body image. But it lacks in the context of GBMSM. There is an existing study by Garrett Souza (2019) that focuses on gay-coded spaces on instagram but this study focuses on racial discourse. The methodology that is being used can be applied to study body image in the gay coded-spaces as well. The study is conducted on an instagram account created for experiments sake, which has no to minimal activity and hence no data entries to the algorithm. To feed the data to the algorithm and to create a gay-coded user, specific hastags are used to find relevant content and accordingly they are engaged with. The touch points of data collection at the end of the study are explore feed and search feed. Hashtags are used to engage with gay-coded content since it's easier to find relevant content and understand instagram's representational hierarchies. #gay is used for the same and all the posts of the hashtag search feed is engaged with by liking each post. Hashtag is the way to let users tag the data they are uploading, which is then used by the algorithm to push the content to a specific audience. Hashtag search feed has three sub-feed called Top, Recent and Reels. Explore feed is completely generated by Instagram algorithm. Hashtags from each posts' captions are also extracted to analyse and contextualise content. Hashtags are markers of online discourse and it is essential for the study to analyse what the top hashtags are that are used by the users. All the engagements and activities affect Explore feed the most. The effect of 'echo chamber' can be very well seen through this feed as this is the place where the algorithm shows you content created 'just for you'. To understand body image it is necessary to classify body types

in the first place. *Mona. M Voges et al.* (20 have classified body types into 5 categories i.e. Thin, Average, Overweight, Athletic and Muscular. These body types can be used to analyse the algorithm and its relationship with the type of content that is being pushed which is leading to body image issues amongst GBMSM.

Objective

This research aims to critically look at the way instagram algorithm works when fed with data and see its effect in gay-coded spaces specifically. Backed by the literature review it is clear that body image issues is very much prevalent in GBMSM and the cause of it is similar to why it is prevalent amongst heterosexual women. This research intends to look at the content social media (instagram) push and critically assess it based on the ideal body type that is portrayed through the polarisation by the algorithm. Its primary objective is to criticise the way algorithms are built through evidence.

Methodology

The experiment is conducted on an instagram account created for experiments sake, which has no to minimal activity and hence no data entries to the algorithm. To feed the data to the algorithm and to create a gay-coded user, specific hastags are used to find relevant content and accordingly they were engaged with for three days. The touch points of data collection at the end of the experiment are explore feed and search feed..

1. Hashtags

To create a gay-coded user specific hashtags are used. #gay is the initial hashtag that is used to generate other similar hashtags. ‘Inflict’ is the website used for generation of the similar relevant and trending hashtag, where #gay is used as the prompt. The hashtags generated by the webtool are #gaymen, #gayman #gayboy, #gaylife, #gayguy, #gaypride, #instagay.

2. Data set

The data set that is created contains images associated with the post, number of likes, number of comments, timestamp, caption and for videos and reels thumbnails are scraped into the data set. All the posts were acquired from the official website from the created account.

3. Hashtag search feed

Hashtag search feed was one of the touchpoints from where the data was scraped. Hashtag is the way to let users tag the data they are uploading, which is then used by the algorithm to push the content to a specific audience. Hashtag search feed has three sub-feed called Top, Recent and Reels. Content from each sub feed has been fed to the data set in the above mentioned format. Above mentioned 10 hashtags are used to scrap the data from.

4. Explore feed

Explore feed is completely generated by Instagram algorithm. All the engagements and activities alerts Explore feed the most. The effect of 'echo chamber' can be very well seen through this feed as this is the place where the algorithm shows you content created 'just for you'.

5. Analysing Body type within #gay coded spaces.

Understanding body type through the lens of diversity and then classifying it is a near impossible task. There are numerous types of bodies and generalising them is not the best way to go about it, but for the sake of this experiment it had to be done based on what people classify these body types as. It has been classified into four, namely Thin, Average, Well-built and Overweight. This not an exhaustive list as mentioned earlier, but provides an array that can be used to study the imbalance in the body type representation in these gay coded spaces.

5.1 Classification of body type

Mona. M Voges et al. have classified body types into 5 categories i.e. Thin, Average, Overweight, Athletic and Muscular as you can see in the fig. 5.1.1. For reducing the complication, Athletic and Muscular has been made into one category, and put into Well-built as an overarching category.

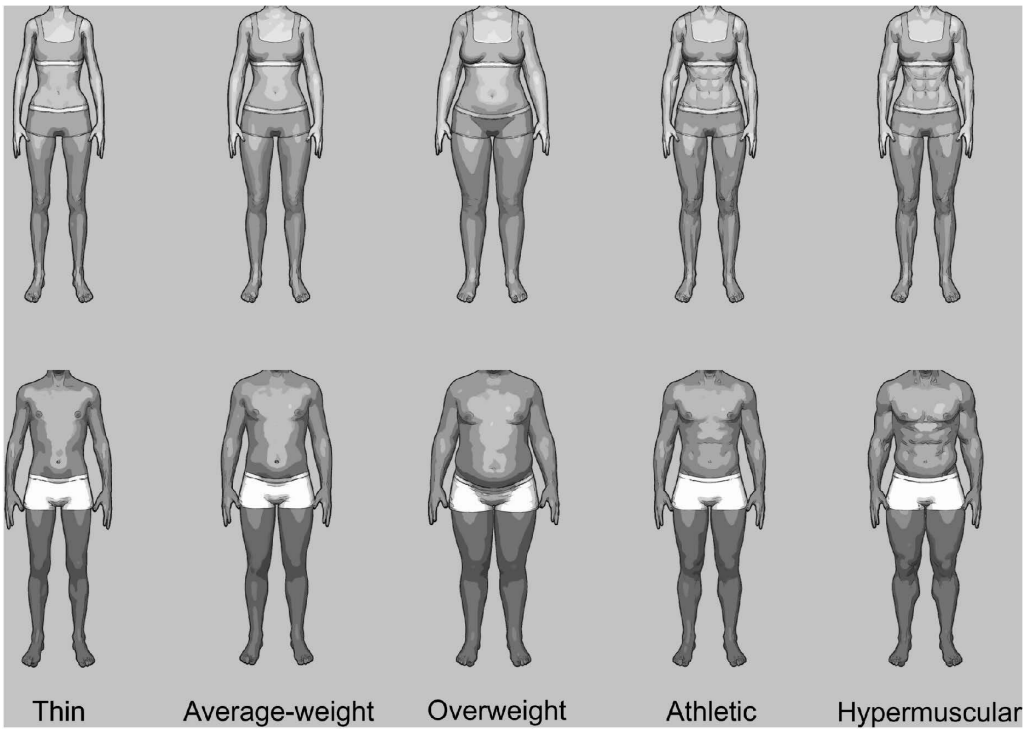

Figure 5.1.1

5.2 Body type analysis

Based on these body types, each post will be marked with an indicator to analyse the data extracted from the feeds. This process is done manually in this project but can be carried out by developing an AI model to classify the images retrieved.

6. Hashtag Analysis

Hashtags from each posts' captions are also extracted to analyse and contextualise content. Hashtags are markers of online discourse and it is essential for the study to analyse what the top hashtags are that are used by the users.

Finding and Discussion

At the end of three days of feeding the data to the algorithm, the posts were extracted from explore feed and #gay feed as discussed earlier. 1000 posts from each were extracted, out of which only 459 contained people in explore feed and and 382 contained people in #gay feed. This data was used to analyse body image portrayed based on the body type classification mentioned in the methodology. For hashtag analysis all the posts were used.

1. Body type analysis

The distribution of the content across Thin, Average, Athletic/Muscular and Chubby is seven percent, thirty percent, fifty percent and thirteen percent respectively in the #gay feed. And for explore feed it is one percent, six percent, eighty one percent and twelve percent respectively. You can clearly see the spike in the percent difference between the Athletic/Muscular body type and others. This shows how it keeps getting polarised as your engagement increases. This is visualised in the figures below.

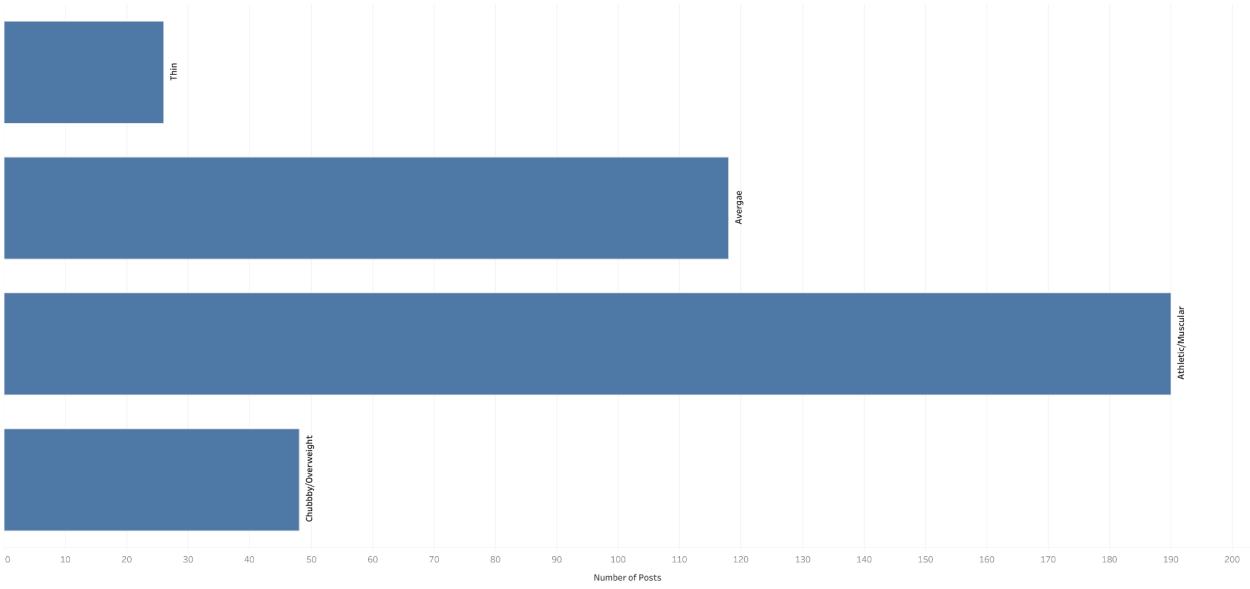

Fig 1.1

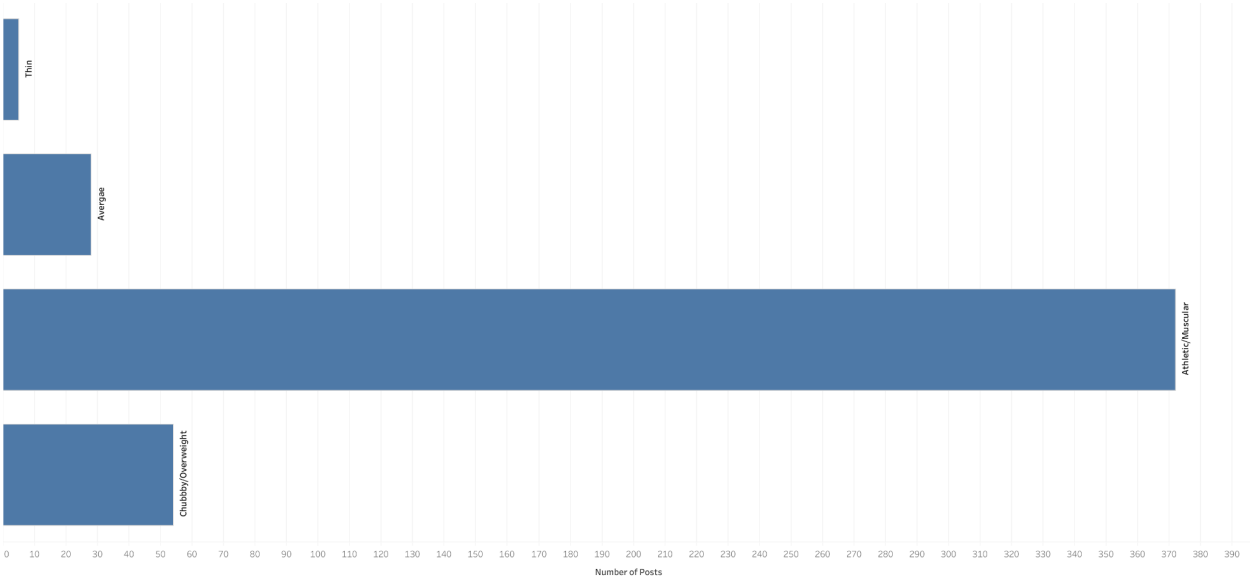

Fig 1.2

2. Hashtag Analysis

Similar trend is observed with hashtags. The usage of hashtags related to muscular and 'fit' bodies spikes up after engagement with the content as compared to in #gay feed. The data is visualised in the below figures.

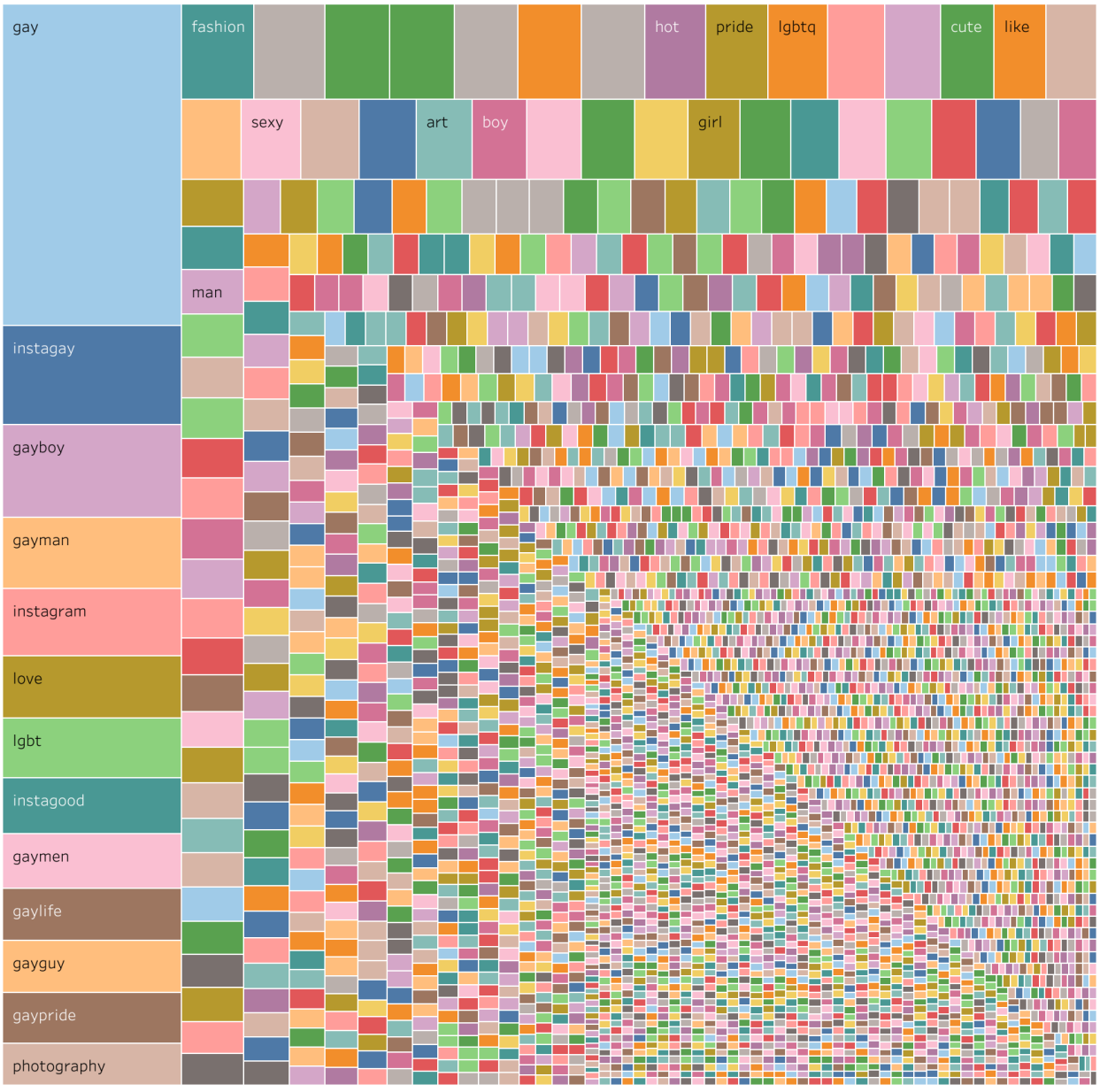

Fig 2.1

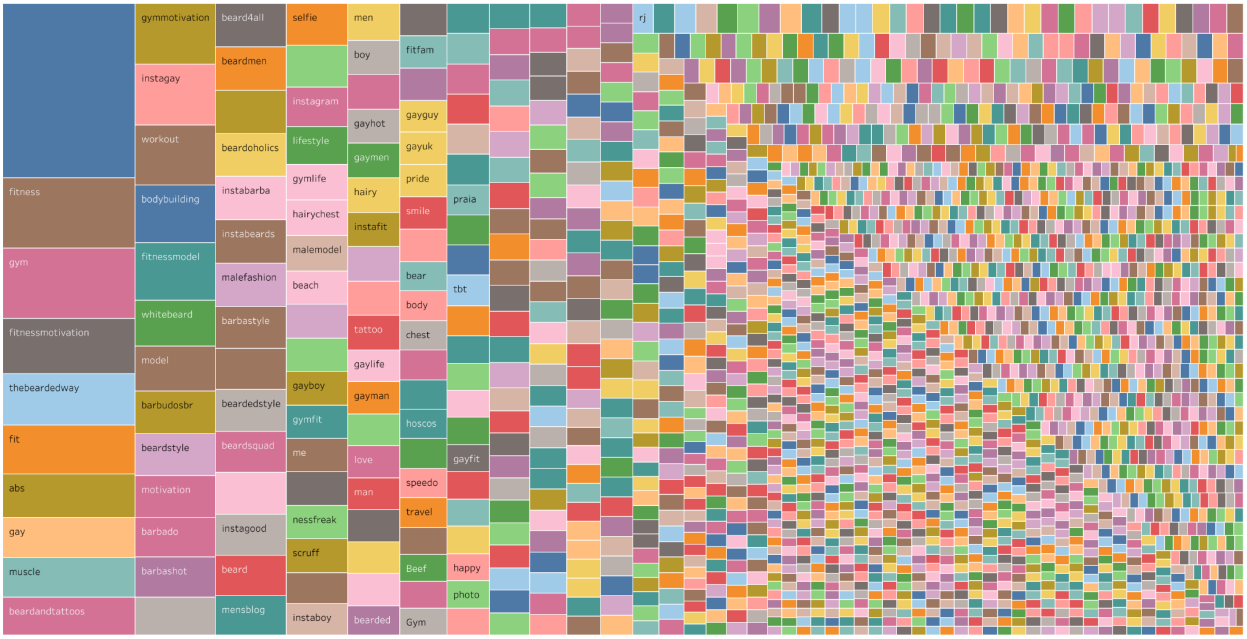

Fig 2.2

Conclusion

After looking at the data visualisation, there are two conclusions that could be drawn. One is that the algorithm itself, which curates the hashtag feed, creates a polarised feed where a particular body type viz. Athletic/Muscular occupies most of the space, fifty percent to be specific. Second most being Average body type followed by chubby and thin. This itself gives us an idea of how the algorithm produces a skewed set of content which normalises a specific body type and shifts the body ideals to unrealistic standards. The second conclusion comes from the explore feed analysis, where the content curated is manipulated by the engagement. From the visualisation it's clear how the polarisation is extensively increased after the engagement. The Athletic/Muscular body type occupies eighty one percent in explore feed. This shows how the algorithm further polarises the content. There is a direct implication of this on people's body image leading to body dissatisfaction and its resulting issues.

Practical Implication

The research clearly criticises the way the algorithm works. And it is high time the algorithms are written consciously and responsibly. The direct implication of this is changing the algorithmic models to not just tackle body image issues but also racial representation and other biases created by the technology itself.

Scope of Future Research

The experiment is conducted in a span of a week, so the data collected is also subjected to the situational aspects that were bounded by the week, this can be seen through hashtag analysis where #kuwait is one of the top hashtags. A more extensive research can be conducted over a duration of longer time frame to have a robust process. Moreover, this research can also be made more research, if lived experiences of GBMSM is taken into account or even actual instagram accounts are used for the research instead of a dummy one. More aspects would need to be taken into consideration like personality, interests, socio-cultural status and more to understand the data more deeply.

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