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Full Paper

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Abstract

Rising popularity of social media platforms has led to many online exchanges on emergent topics by citizens globally. The growth in obesity rates worldwide has fuelled ongoing obesity-related discussions over social media. This study investigates the existence of weight stigma targeted towards different genders in online discussions. Using a mixed method analysis approach, we examined sentiments and word co-occurrences associated with weight stigma from the data corpus captured from Twitter and YouTube. Using the objectification theory as the underlying theory to examine the experiential consequences, our study reveals many sentiments over online discourses and reports significant gender-based differences in the stigmatising content, with more intensity in negative emotions targeting female objectification than males. This study bridges data mining and social construction studies with embedded analytics to share new insights on human behaviours that can help extend our understanding of sentiments that lead to male and female objectification.

Keywords: Obesity, weight stigma, social media, mixed method, objectification, sentiments

1 INTRODUCTION

Obesity has become a major global concern. It was formally recognised as an epidemic in 1994 by the World Health Organization (WHO), as excessive body weight was found to be linked with metabolic disorders and to increased disease risks (Caballero 2007). A recent study has found a "startling" increase in obesity rates worldwide over the past three decades, with no significant decline in any country (Ng et al. 2014). Along with the health risks associated with obesity, the perceptions of the "ideal" body too has evolved over time. Body image is described as cognitions, perceptions, and attitudes toward one's body (Anderson-Fye 2012). The "ideal" body image can vary between cultural groups, ethnic groups, and within any other group to which one belongs (Martin 2010). Relatively, the interpretations of an ideal body vary between gender groups, although the underlying assumption of what is considered physically attractive or appealing to the opposite sex are similar.

Overall mass media has much influence in spreading messages that reinforce thinness as a form of body ideal and in building expectations regarding body shape, which can have a negative impact on one's self-esteem (Cramblitt and Pritchard 2013). The rapid increase in obesity has led to heated discussions about excess body fat in social media and over blogging communities, as public perceptions around 'what is not acceptable body weight?' has gathered momentum. More often than not, these discussions propagate prejudices, stereotyping and discriminatory behaviour towards overweight and obese individuals. Disruptive and aggressive posts (or internet trolling) under the guise of freedom of expression has been found to lead to different forms of stigmatisation, including that of weight, religion and colour amongst others. Recent works in behavioural science research have discussed widespread stigmatisation, specifically negative weight-based characterisation, and how detrimental such content can be to those who are struggling with weight issues (Ata and Thompson 2010; Puhl and Heuer 2009). The social devaluation and denigration towards individuals who carry excess weight is defined as weight stigma (Tomiyama 2014).

Studies that focused on gender differences in weight stigmatisation have reported higher weight bias internalisation and greater risk of weight discrimination among women (Himmelstein et al. 2017; Puhl et al. 2008). Female children and adolescents who are considered overweight are often subjected to teasing and social marginalisation (Almenara and Ježek 2015). Similarly, overweight/obese women are more stigmatised in education and employment sectors than men (Fikkan and Rothblum 2012); although no studies have investigated the impact weight-stigma on racial and gender groups among adult populations (Himmelstein et al. 2017). One of the most reliable psychological correlates of overweight and obesity, as experienced by adults, is that of body dissatisfaction (Schwartz and Brownell 2004). The correlation between weight stigma and body image can provide insights on how male and female bodies are objectified in weight stigmatising content. The objectification theory presents a framework for understanding the experiential consequences of being female in a culture that sexually objectifies the female body (Fredrickson and Roberts 1997). Therefore, studies on how objectification appears in weight stigmatising content over public communication platforms can help to unravel novel research paths in obesity and gender research.

Conducting public discussions on a variety of topics over social media has become mainstream. The number of worldwide social media users have increased from 0.97 billion in 2010 to 2.46 billion in 2017 (Statista 2019). Among the 18-29 year-olds who have access to the internet, 72% use at least one social media website (Puhl and Brownell 2006). Social media platforms such as Twitter and YouTube are highly populated with ongoing public exchanges on various topics, one of which is obesity. By understanding the importance of social media discussions, this study examines the impact of weight stigmatising content on gender in two very popular social media platforms, namely Twitter and YouTube.

2 AIM OF THE STUDY

The study seeks to investigate the existing stance of weight related stigmatising discourses over social media platforms to understand how men and women are positioned in obesity based discussions. While understanding how attitudes are formed around gender when discussing overweight/obese individuals, this study further examines the negative and positive sentiments associated with each gender. The need to identify how perceptions of stigma are mediated by women's physical appearance in the context of their social interactions have been backed by the objectification theory. Social network characteristics can amplify or mitigate broader structural messages that may be potentially damaging to the person with the stigmatised condition (Hruschka et al. 2011), such as judging an overweight person to be lazy with no self-control. The effect of such stigmatisation can lead a person, specifically women, to damaged self-assessment and impact their everyday relationships (Brewis et al. 2011). Therefore, this study has

gathered opinions around overweight and obese individuals to aid in the recognition of gender-biased sentiments for answering the following research questions:

> *RQ1: What sentiments are associated with public weight based discussions, and how are they aligned with gender in weight stigma over social media?*

> *RQ2: How word co-occurrence and qualitative analysis can be used to identify male and female body objectification in weight stigmatising content in social media?*

3 LITERATURE REVIEW

Studies over the past decade have examined the sociological, biological and psychological consequences from weight stigma discourses conducted over various social media platforms. Brooker et al. (2018) have discussed how excess weight or obesity is framed as a medicalised problem, a problem stemming from poor lifestyle choice, illness/disability or personal body irresponsibility; all of which have negative health effects that can strain our scarce public health funds. Another study found social media posts to associate obesity with cancer, where suggestions are posted on adoption/avoidance of a particular factor (e.g., exercise) that could lead to prevention or remediation of both health outcomes. These could mislead users to myths around health and behavioural changes (Kent et al. 2016).

The influence of weight stigmatisation towards body dissatisfaction among overweight and obese individuals have been studied recently (Lee et al. 2013). These studies have found that overweight and obese people are accused of being responsible for their weight gain (Brooker et al. 2018; Chou et al. 2014; De Brún et al. 2014; Kent et al. 2016). The effect of weight stigma on the psychological well-being of overweight and obese females across Asian (Korean and Japanese) and American cultures have also been discussed in the past decade (Lee et al. 2013; Taniguchi and Lee 2015). Online media also promotes unrealistic body-stereotyping imagery that makes heavier individuals feel marginalised and demoralised (Chou et al. 2014; De Brún et al. 2014). Body appearance norms in social media affect overweight and obese individuals who then purposely portray themselves as thin to avoid weight stigmatisation (Taniguchi and Lee 2015). Self-derogation too is a consequence of weight stigmatisation in social media (Chou et al. 2014). Other studies have revealed that derogatory humour garners much interest in social media (So et al. 2016; Yoo and Kim 2012).

Research indicates that weight stigmatising experiences can vary by gender. Reports of teasing experiences among adolescent populations have found that overweight girls are generally more upset when teased (Neumark-Sztainer et al. 2002). Falkner et al. (1999) too found that, compared to men, women were significantly more likely to experience perceived mistreatment due to their weight from remarks made by strangers. Likewise, in a series of focus groups, Cossrow et al. (2001) found that women participants reported a greater number and more variety of negative experiences related to their excessive weight, compared to men. These experiences encompassed teasing, slurs, insults, harassment, negative judgments/assumptions and perceived discrimination related to weight. Chen and Brown (2005) too report obese women as more likely to experience stigmatisation by men during a sexual-partner choice task.

Recent studies have investigated the association of the target's gender with the stigmatising content and noted that women experience more weight stigmatisation (Chou et al. 2014; Hussin et al. 2011; Jeon et al. 2018). One study examining age in stigmatising content in YouTube identified that adults are targeted more often, while the antagonist too most often is an adult (Hussin et al. 2011). Another study revealed that overweight/obese women were attacked for their capacities (e.g., laziness, maturity) while men were attacked for their heterosocial skills (e.g., rudeness, annoyance) in YouTube comments (Jeon et al. 2018). Thus, verbal aggression against overweight individuals is taking on forms of gendered objectification.

4 THEORY

Fredrickson and Roberts (1997) introduced objectification theory to help researchers understand the experiential consequences of being female in a culture that sexually objectifies the female body. The objectification theory suggests that girls and women are acculturated to adopt an observer's perspective as the main view of their physical appearance. The adaptation of such perspective can lead a female to habitually body monitor themselves, which in turn can increase self-body shaming and anxiety, reduce their motivational levels and alienate them from their internal bodily needs. The theory highlights that accumulating many such experiences could lead to mental health risks that further feed ongoing life-changing disorders causing discontent. As a result, appearance rather than accomplishment starts to dominate our judgement (Ellemers 2018) and leads in forming of gender stereotyping attitudes.

Exposure to thin body images over social media can lead to self-objectification, as the battle between 'fashion versus fitness' takes shape (Prichard et al. 2018). With different forms of inspirational fitness images ("fitspiration") surfacing on social media, the study observed negative moods and poorer states of body satisfaction among Australian women who were exposed to these fitspiration images. Similarly, the positive association between selfie-posting and self-objectification among Chinese women on social network sites and the effect of commentary on appearance on restrained eating was also discovered (Niu et al. 2019). These studies further clarify the effect of self-objectification on women in different cultural groups. Apart from being self-objectified, entertainment videos on YouTube (such as fail video genres that show mishaps/accidents) have targeted females with more body objectifying content and with gendered hate comments compared to men. For instance, skimpily clad women versus fully clad men are often portrayed in these videos, and aggressive type of humour is directed more towards the failing women compared to the failing men in the social media comments (Döring and Mohseni 2019).

5   METHOD

Social media posts provide a real world view of user sentiments and beliefs from user-generated data. Moreover, rich user data can be captured directly without being intrusive like directly asking questions, and data can also be harvested frequently in changing contextual conditions such as coverage at a single point of time or as a sequence of observations over time (Chang et al. 2014). With data mining and analytics, social scientists can now make meaningful interpretations of real-world phenomenon. This study too has adopted a computational social science perspective by bridging data mining and social construction studies with embedded analytics to give a gendered objectification perspective of weight stigma posts made in social media platforms. Therefore, online text was mined from two popular platforms – Twitter and YouTube – to give a first-hand view of users' disposition towards people whom they consider to have excessive weight. These two social media platforms are popular and have been used in many prior studies for their weight stigmatising content. Predetermined keywords were used for text mining, and included the words: "obese", "overweight" and "fat". The linguistic corpora was thus extracted for the next stage of the study. Appropriate crawling methods were used to browse the user posted content on Twitter and YouTube, and publicly available APIs (Application Programming Interfaces) were used to scrape data from both platforms (Google ; Twitter).

User sentiments were tracked computationally on selected data excerpts from sentiment analysis tools. Computational modelling can help social scientists leverage research methodologies to achieve "control and precision in measurement, while maintaining realism in application and generality in theory development" (Chang et al. 2014, p. 68). The anonymity of the online users who were posting messages has been preserved in our presentation of excerpts and phrases. While some exact wording is modified, the links to URLs are replaced with "[URL included]," and the users' Twitter handles are replaced with "@USERNAME." All typos, misspellings, and slang are retained to illustrate authentic exchanges, while expletives are replaced with asterisks for each letter of the word.

The following subsections elaborate on the data scraping methods used and techniques used for pre-processing the data and conducting mixed method analysis.

5.1   Data Scraping on Twitter

The corpus extracted from Twitter included "girl" and "boy" keywords along with the predetermined keywords. Data were mined on 18th July 2019 by requesting the latest 5000 tweets containing different combinations of the keywords, for example, "fat+girl". Crawling is an automated software technique, so the next step involved data cleaning which was conducted manually. In this step, irrelevant tweets, such as those texts which referenced topics other than human body weight were removed. (e.g., excluding the tweets that contained the requested keywords in the screen name).

5.2   Data Scraping on YouTube

Two popular videos –"Fat Girl Tinder Date" and "Fat Guy Tinder Date" – were chosen for the linguistic corpus related to YouTube. These videos were a part of an online social experiment, that is, the videos comprised actors who deliberately made themselves targets of online posts, so as to get a real world view of how overweight people are perceived by online user community. All comments posted for these two selected videos were crawled separately on 05th June 2019. The predetermined keywords have been run on each set of comments to categorise comments for specific keywords.

5.3   Mixed method data analysis

A mixed method data analysis was conducted next on the retrieved data corpus to capture a broader sense of the data representation and explore new findings that may emerge. The data was pre-processed to eliminate prepositions (of, to, for) and conjunctions (and, or, also). In the initial exploration, the relative distribution of keywords was examined visually. Subsequently, the R library "syuzhet" (Jockers 2017) was used to capture more in-depth sentiments associated with the linguistic corpus, specifically around both genders. The library provides sentiment scores for ten different pre-defined sentiments (Mohammad and Turney 2010). To identify objectifying word occurrences along with specified gender groups, word co-occurrence maps were generated for each platform, each keyword and with keyword combinations. Textometrica (Lindgren and Palm 2011) was used to generate the co-occurrence maps as it facilitates in enhancing our understanding from large volumes of text (that are related to conversations around groups of connected keywords) and allows filtering the original dataset around selected words.

6   RESULTS

The study findings are presented in the following order: relative distribution of the keywords, sentiment visualisations, word co-occurrence maps, and finally with qualitative illustrations of selected posts.

6.1   Distribution of the keywords

The Twitter API request was set to capture at most 5000 tweets for each keyword combination against a sampling of recent tweets published in the past 7 days. A total number of 5000 tweets were attained for the keyword combinations; "fat+girl" and "fat+boy", while other keyword combinations yielded fewer tweets. The total number of tweets obtained for different keyword combinations are listed in Table 1. Overall, there were more posts for females ("girl") compared to males ("boy"), except with the combination of the keyword "obese".

The YouTube API extracted a total of 14613 comments from the video "Fat Girl Tinder Date (Social Experiment)" and 10312 from "Fat Guy Tinder Date (Social Experiment)". These comments have been aligned with three keywords – fat, overweight and obese – and again shows more comments are associated with the word "fat". A detailed breakdown of comments with associated keyword is also shown in Table 1. Again, more comments were associated with females than with males.

The most common keyword associated with human body weight that appeared in both selected social media platforms was "fat". In YouTube comments, 18.42% of the entire comment corpus contained the keyword "fat". By comparison, "obese" appeared in 0.7% of the captured YouTube data, followed by "overweight" (0.6%).

Twitter		YouTube		
Keyword Combination	Number of Tweets Retrieved	Video Title	Keyword	Number of Comments
"fat" + "girl"	5000		fat	2944
"overweight" + "girl"	515	Fat Girl Tinder Date	overweight	122
"obese" + "girl"	129		obese	156
"fat" + "boy"	5000		fat	1649
"overweight" + "boy"	321	Fat Boy Tinder Date	overweight	47
"obese" + "boy"	129		obese	32

Table 1. Keyword distributions in Twitter and YouTube

6.1.1   Sentiments

Ten sentiments: anger, anticipation, disgust, fear, joy, negative, positive, sadness, surprise and trust were identified for the whole linguistic corpus. Among these sentiments, high values in anticipation, joy, surprise, trust and positive indicate empathy towards the actor in the video (YouTube) or towards the person at the receiving end of the tweet. On the other hand, high values for anger, disgust, fear and negative exhibit a resentful attitude. All the sentiments for the comments extracted from YouTube for the keyword "fat", were higher for females than males. Twitter almost displayed the same results except for the "disgust" and "negative" sentiments. Therefore, it may be noted with some caution, that both platforms contained posts which presented more intense and varied emotions to females compared to males. Figure 1 gives an overview of sentiments associated with the keyword (fat).

Figure 1. Sentiments of the data corpus of the keyword "fat"

6.1.2 Word co-occurrences

The word co-occurrence maps have next been generated for the captured comments to identify the words that are mostly associated with the words that represent gender and human body weight. These maps were produced by selecting the strongest links by normalised co-occurrence frequency; the normalised value of the frequency occurrence of two-terms in a text corpus. The concepts were created in Textometrica by grouping words that represent gender and body weight. Word co-occurrence maps on the retrieved tweets for the keyword combinations "fat+girl" and "fat+boy" are displayed in Table 2.
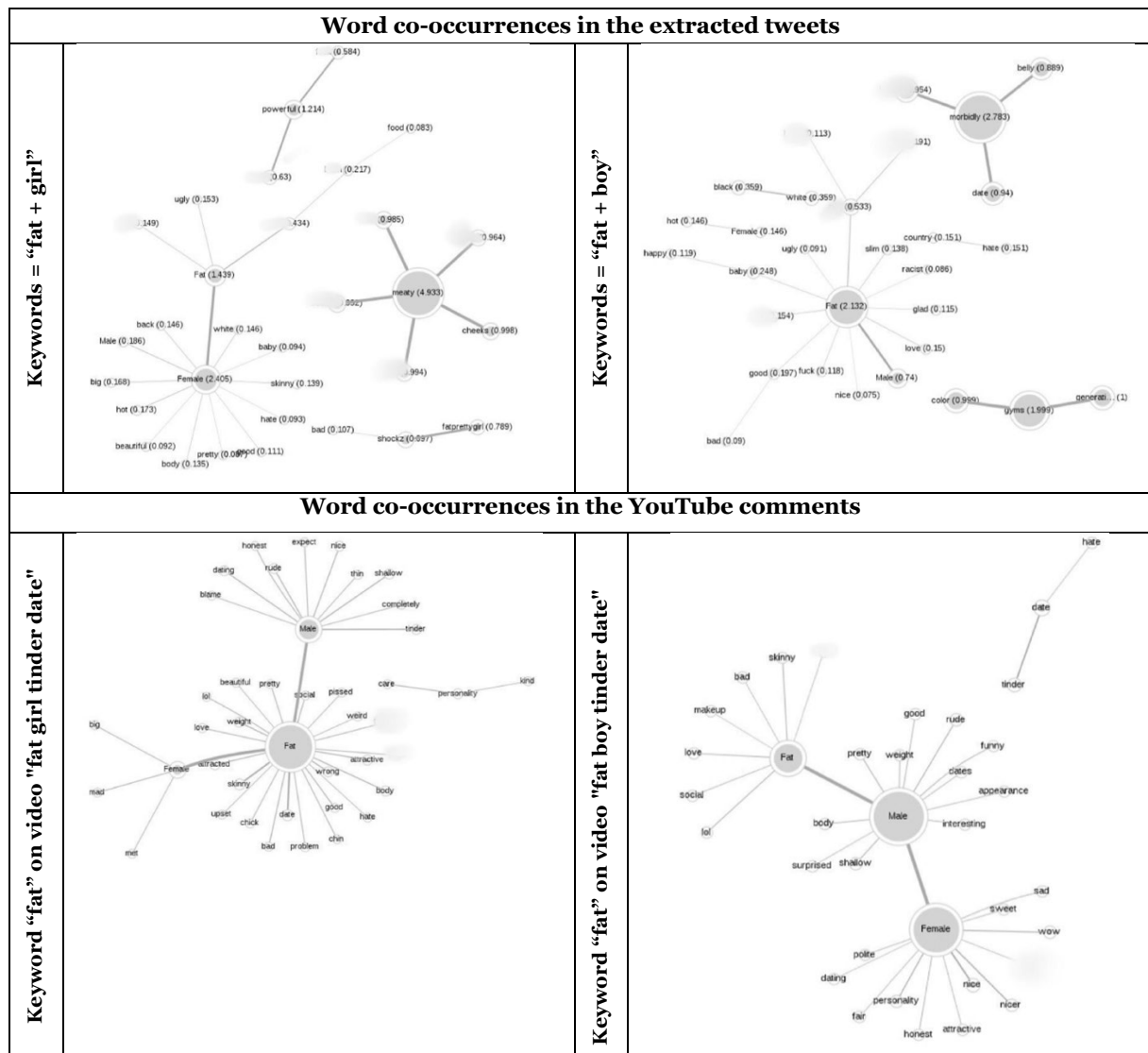

Table 2. Word co-occurrence maps

Further, qualitative analysis of tweets revealed that the keywords "fat+girl" displayed more derogatory discourse than the tweets containing keywords "fat+boy". The following section (6.1.3) expands on this finding. Both maps demonstrated objectifying words on female body. Our observations too confirmed these findings. The word co-occurrence maps on the retrieved YouTube comments of two videos that contain the keyword "fat" are also displayed in Table 2. Compared to the Twitter data, YouTube comments demonstrated less derogatory discourse towards both male and female. However, gender was more conspicuous in the comments posted for the video "fat guy tinder date".

6.1.3   Qualitative data analysis

The collected discourse was further analysed to identify the key sentiments associated with the data corpus. Particular excerpts that are not very derogatory have been selected from the identified key sentiments and presented in Table 3. Data excerpts were selected through a consensus process by the study team. The most common sentiment distributed across the corpus as confirmed by the sentiment diagrams is negative (refer Figure 1).

Sentiment	Gender	Comment
Negative	Girl	*Omg I've been eating like a fat girl* *Fat people are lazy* *Y'all realize everyone meaning every single person lies on their profile. They just hate fat ppl.*
	Boy	*@USERNAME Am no laffin..fat boy..Get off Twitter and get out a jog* *Fat boy couldnt handle the walk* *Tbh I wouldn't want to date a fat person*
Anticipation	Girl	*RT @USERNAME: I just want what every girl wants, to eat cake all day and not get fat.*
Anger/Disgust	Girl	******es keep talk this a hot girl summer it's more like a big girl summer cuz you "saw a fat girl td, called her ******"*
	Boy	*@USERNAME You're a very stupid fat boy!* *RT @USERNAME: 10 years ago this boy use to call me"a fat disgusting cow " and use to spit on me and call me "you dark immigrant go back to...*
Sadness/Fear	Girl	*@USERNAME: Hi im a fat girl and i have trouble loving the way i am. Do you have any advices for me? :(((* *how can I get a girl to love me if I'm fat— idk if you figure it out let me know i'm in the situation*
	Boy	*just want to be the skater boy of my dreams man. but im poor and fat and ugly and tra...*
Positive/Trust	Girl	*@USERNAME You not fat at all baby girl. You look good.* *That's rude to call her fat. She's amazing, she's her.*
	Boy	*2 weeks since I pulled my finger out and hit the gym hard again, and started eating right, 5lb dropped. Get ******* in there fat boy* *He was being fun to talk to and be with. I wouldn't have any problem with him being fat at all.*

Table 3. Selected excerpts represent different sentiments

Apart from the mean-spirited attacks, the selected tweets show how a part of society recognises overweight/obese individuals as out-grouped. However, the female-centric tweets mostly targeted body-shaming for overweight girls, while the male-centric tweets targeted the physical inability of the overweight boys.

The negative statements posted in the comment section on YouTube have displayed different types of negativity. Some comments have directly accused the overweight/obese girls of not being able to achieve specific weight goals and emphasised that losing weight is a self-responsibility ("*Omg I've been eating like a fat girl*"). Certain commenters tried to speak on behalf of the community and constructed a negative image by stating that a specific social group hates overweight/obese girls ("*They just hate fat ppl*"). There were other comments that simply expressed their individual view of "fatness" ("*I wouldn't want to date a fat person*").

Anticipation has been recognised mostly in tweets that were targeted towards females. Though it was least presented within the captured data corpus, it is a sentiment that needs to be discussed further in the study as it spread positivism. By directing messages as in the selected tweet, though it is not motivational, it conveys that the overweight/ obese females are not a separate group of the society ("*I just want what every girl wants....*").

Anger and disgust are the second most commonly portrayed sentiments in the selected data. The sentiment levels from the selected samples did not seem to be gender specific. However, as witnessed within the corpus the anger and disgust portrayed towards overweight/obese females were mostly accompanied by derogatory terms (*"saw a fat girl td, called her ******"*), while for males it was more straightforward (*"You're a very stupid fat boy!"*). Sadness and fear were expressed by the individuals' feeling of being overweight/obese (*"Do you have any advices for me? :(((", "im poor and fat and ugly"*). It is clear that sadness and fear of being cornered and neglected within their social group is commonly felt by both sexes.

Though negative sentiments overcome the positives in the retrieved corpus, there were a considerable amount of tweets spreading motivation and positivism throughout the selected social media platforms (*"That's rude to call her fat. She's amazing…"* or *"He was being fun to talk to and be with"*). As in the selected examples, mostly females were motivated and were positively addressed by other members of the social group while the males are self-motivated and show their trust in themselves.

7 DISCUSSION

The main objective of this study was to identify how weight stigmatisation content in social media has been formed around gender. The study results indicate elements of gendered body objectification and weight stigmatisation with text mining methods. The keyword distribution reveals the term "fat" to be the most commonly used word in discussions related to excess body weight. The words "overweight" and "obese" have been found to be related to Body Mass Index (BMI) and accordingly the reflecting content hinges on a clinical note while the term "fat" is hinged as a social descriptor of terms overweight and obese. Therefore, social media discussions about weight are mostly established around the word "fat".

The fundamental sentiment analysis performed on the data corpus further revealed how discussions on gender-based fatness are scattered around different emotions. The selected corpus displayed many varying emotions, and these emotions showed higher intensity when the discussions were on females than on males. Most common sentiments that emerged from the selected discourses have been observed to be negative. These emotional discourse can either be posted by a victim of weight stigma or by a stigmatiser; therefore, it is unclear as to whose emotions are represented by the sentiments. Although all sentiments displayed in YouTube comments are higher for females than for males, the Twitter posts demonstrated mixed results by indicating higher disgust for males compared to females.

The word co-occurrence maps were next used to analyse the discourse. We observed the most related words associated with concepts 'Female', 'Male' and 'Fat'. The resulted maps indicated that Twitter posts contain more derogatory words associated with the given concepts compared to selected YouTube comments. The selected videos for the study were part of a social experiment as was also titled in each video; therefore, the individuals involved in the experiment in each video may not apparently be considered as overweight or obese by commenters. This may have led the commenters to discuss more on the overall scenario of the video rather than use hateful comments targeting a particular individual. Also, YouTube does not specify a limit in their comment section, which allows users to descriptively express their views on a video or within a discussion. While Twitter has doubled their character limit of a tweet from 140 characters to 280 characters, only 5% of tweets are longer than 190 characters (Perez 2018). We can only speculate that since Twitter users have to use less number of words for commenting, they use more terse and blunt words to express themselves. This could also explain the use of more derogatory words on weight in Twitter discussions.

More female body objectifying words were also observed in Twitter discussions. Though most of these objectifying words were not directly co-occurring with the female concept, the words were discovered with the search terms "fat" and "girl". Such objectification can cause an overweight/obese individual psychological distress, which eventually leads to eating disorders (Chou et al. 2014). When any form of objectification occurs in social media platforms, it can have an effect upon the targeted user as well as on the readers. The existence of objectification, especially for females, should not be taken lightly as it directs women into internalising the objectifying perspectives on their own physical self, which could lead to mental health risks (Fredrickson and Roberts 1997).

Some of the YouTube comments have thoroughly emphasised the female body objectification developed in present as the example:

"To everyone in the comments saying thats it's ok because the guys were lied to, you obviously haven't seen the video where the roles were reversed! In the video where the man is in the fat suit, women were way more respectful and receptive to the guy. Why? Because there is not very many exceptions for a man to fit into a certain standard of beauty! His dating profile showed him in pictures where he was

thinner. Women, on the other hand are expected to meet unrealistic standards of beauty especially when it comes to body type. We're supposed to be thin, but not too thin; thick but not too thick. Anyone making excuses for the guys who walked out are clearly fatphobic and making excuses for it."
YouTube comment on "Fat Girl Tinder Date (Social Experiment)"

The selected YouTube videos exposed other aspects emerging from the female body objectification. We found that girls who meet any overweight/obese male react in a much nicer manner than boys who meet an overweight/obese girl. The above comment explicitly discusses the nature of the female objectification, while some comments are directly objectifying women.

"All people in the comments so soft. I literally wouldn't date a fat woman. she's unattractive. Period. She needs to work on her lifestyle. Her lifestyle will reflect the raising of my kids and my mental health and help. Period. Fat is a Nono. Being lied to is a good reason to leave too. But she's unattractive that's why they left so stop covering up LOL. All feminists are going to hell"
YouTube comment on "Fat Girl Tinder Date (Social Experiment)"

As evident in the sentiment analysis, such negative discourses are largely available within the selected linguistic corpus of this study. The availability of such content exposes overweight/obese women to society as unattractive and irresponsible individuals. Obesity in women is often associated with medical conditions including alterations in the reproductive cycle with a reduction in fertility, as well as an increased risk of the polycystic ovarian syndrome (PCOS), and maternal obesity (Templeton 2014). Specifically, in such situations, the social pressure followed with the objectification along with the existing medical conditions can lead a female to depression or similar mental condition. Therefore, further investigations on eliminating such stigmatising content from popular social media platforms are needed.

8   CONCLUSIONS, STUDY LIMITATIONS AND FUTURE DIRECTIONS

The study extended the existing knowledge of weight stigma associated with social media by identifying aspects of gender difference within stigmatising social media content. The mixed method analysis revealed the attitudes and perceptions towards overweight/obese individuals in social media and that gender differentiation and body objectification often occur in public conversations. The analysis confirms the existence of stigmatising and objectifying discussions concerning overweight/obese individuals, particularly females. Evidence of positive and motivating discussions around obesity have also been presented, although the majority of extracted content displayed negativity. Further discussions on the association of gender and weight stigma have specifically pointed at the presence of female body objectification. The underlying objectification theory accounts for the mental state of women when their body is being objectified (Fredrickson and Roberts 1997). However, the different emotions associated with the objectifying content needed to be examined more to identify the criticality of distress resulting from objectification. Some aspects of these emotions have been elucidated in this study by capturing underlying sentiments associated with the discourse. They have been further explained by identifying the objectifying words co-occurred with both genders.

The study has described conversations about gender-specific obesity stigma in social media. While facilitating the primary goal of the study, the possible discussion themes that are not specifically aligned with the study goals could not be analysed in-depth. The analysis of such themes could lead the discussion into deeper arguments on female body objectification and gender-based weight stigmatisation. The linguistic corpus of the study was limited to only two popular social media platforms, Twitter and YouTube. Thus, a significant portion of social media data has been left out of the study, which may have affected the study results either negatively or positively. The discourses are captured by mining direct tweets and comments from social media, and few predetermined keywords. Hence, the corpus does not represent complete conversations. Moreover, as interactivity is the hallmark in social media, capturing more facets of social interaction data can give a more holistic outlook on how certain stigmatising themes may have emerged.

This study bridges data mining and social construction studies with embedded analytics to share new insights on human behaviours that can help in extending our understanding of sentiments that lead to male and female objectification. We will be conducting more in-depth analysis with text corpus extractions from other social media platforms to understand positioning of sentiments towards weight-based content.

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