Sentiment Analysis of Comments on Flexing Content Posted by Gen Z Celebrities: Does Gender Matter?

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Abstract. Flexing has broadly started to reach the digital world since the emergence of photo and video-based social media such as Instagram. This showing-off-luxury behaviour is often aimed at getting praise, recognition, or making other people jealous of their achievements. Regardless of age and gender, flexing often creates new Instagram celebrities from young people such as Gen Z who are still in their early 20s. In this research, through sentiment analysis using a support vector machine algorithm in the comments on Instagram posts, the research wants to know whether gender influences people's views on Gen Z celebrity flexing content. This research uses a netnographic approach by conducting sentiment analysis on comments in flexing posts belonging to two Gen Z celebrities, namely @siscakohl, a 23-year-old woman, and @willie26_, a 22-year-old man. The comments analysed are from posts from 2020 to the present. The results show that negative comments have increased since @siscakohl and @willie27_ consistently post flexing content. However, the proportion of negative comments in @siscakohl in the last two years has tended to decrease by 0,8% - 7,3% since she uploaded more posts about her husband and baby, while @willie27_, who still focuses on distributing money and displaying his wealth, has tended to increase by 3,8% - 4.8%. So, public sentiments in Gen Z celebrities who flex are not influenced by gender but by the existence of flexing itself.

Keywords: sentiment, flexing, Instagram, Gen Z, gender

1 Introduction

Flexing on Instagram, the act of showcasing one's possessions, lifestyle, or physical appearance, has become a widespread phenomenon among social media users [1]. Flexing post can invite negative sentiment from the public, while authentic post tends to invite positive sentiment [2]. This practice offers individuals the opportunity to gain attention and potentially enhance their social standing [3]. The rapid growth of social media platforms, particularly Instagram, has become an integral part of contemporary consumer culture, profoundly shaping how individuals interact with and perceive brands [4]. Instagram's simple and interactive features, such as the ability to express likes by clicking the red-heart symbol, leaving comments, sharing, following and any other engagement have facilitated more intimate levels between users and content creators compared to other platforms. Interestingly, this heightened level of engagement

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has been particularly prominent among the younger generation, who have been observed to actively embrace Instagram as a medium for social and cultural expression [4].

In the modern digital landscape, the pursuit of likes, followers, and other forms of social media attention has become a driving force for many individuals seeking to increase their influence and achieve fame. This desire for fame, which has been associated with wealth, attractiveness, and social recognition, is particularly prevalent among younger generations who have grown up immersed in a culture where social media presence and engagement are often viewed as a measure of social status and success [5]. In Indonesia, this phenomenon has been created a group of people called *selebgram* (Instagram celebrities), who have amassed significant followings and influence on Instagram [6].

The presence of social media in the lives of today's youth has fundamentally altered the way they interact and present themselves to the world [7]. This is particularly true for Generation Z, the cohort born between the mid-1990s and early 2010s, who have grown up immersed in a constantly connected, visually driven online landscape. In Indonesia, a country with a rapidly growing digital infrastructure and a large youth population, Gen Z's social media activity, particularly on Instagram, has become a subject of increasing interest. [8]. In this research, sentiment analysis is conducted to answer two questions: 1) Does the gender of Gen Z Instagram users who create flexing content influence public sentiment? And 2) what role does flexing play in that public sentiment? Support vector machine on comments from Instagram is a promising approach to understand the phenomenon of "flexing" - the act of publicly displaying one's wealth, status, or achievements - among Generation Z individuals on the Instagram platform [9].

2 Method

In general, this research was conducted in three main stages, namely conducting a survey, running sentiment analysis with SVM, and describing the results. SVM has emerged as a powerful tool for sentiment analysis, enabling researchers to measure and analyze public opinions expressed on social media platforms like Instagram [10]. By running sentiment analysis with SVM, the result gained is then used to answer two questions: 1) Does the gender of Gen Z Instagram users who create flexing content influence public sentiment? and 2) What role does flexing play in that public sentiment?

In the initial step, the author conducted a survey of 80 Instagram account owners who were Generation Z (aged 18-19 years at the time of this research). The 80 Instagram users were asked to create a feature on online page about the Instagram account belonging to Gen Z who likes to create flexing content based on their own judgement. From there, 30 Instagram accounts were obtained. The top two most frequently mentioned accounts from the 30 Instagram accounts, which are @siscakohl and @willie26_, became the data sources. Then in the second stage, from these two accounts, comments from posts from 2020 to 2024 were taken and sentiment analysis was carried

out using SVM. Below are the details of this stage, all of which use the python programming language:

1. Scraping. In this step, Instagram is used using the username, Instagram password and post link that will be used for scraping.
2. Data cleaning. The collected comments are then filtered so that comments that mention other accounts, duplicate comments, and comments that only consist of one word are not included. Data from each year are combined into one.
3. Data preprocessing. To get better results, several preprocessing techniques are carried out on the comment data, including: casefolding (changing all data to lowercase), removing mentions, hashtags, and links, changing words with elongation (additional letters), changing slang to standard words, changing emojis to words, removing special characters, numbers, repeated letters, empty strings, and stemming (changing words to their basic form)
4. Labeling with lexicon. Data is labeled with an existing dictionary. The dictionary contains words and their values. If the value is > 0, then it is positive. If less than 0, then it is negative. If equal to 0, then it is neutral. To see the sentiment for each year, the dataset will be filtered by year, then the total is calculated. In this step, the percentage of sentiment analysis has been obtained, but the author needs cleaner data, so it is run again using SVM.
5. Sentiment Prediction with SVM. To obtain more accurate results, data prediction will be tried using Support Vector Machine. In this step, the best hyperplane that separates each classified class will be found. Each of 1000 positive, negative, and neutral data is taken for the data training and testing process. The data will then be divided into training data and test data, then converted into vector form. The SVM model is trained and hyperparameter tuning is carried out to find the best model. After successfully obtained, predictions are made on the test data. The trained model is used to predict sentiment each year. The data used is all data that has previously undergone a preprocessing process.

The output of the second stage is a table showing the sentiment of two Instagram accounts (@siscakohl and @willie27_) each year from 2020 to 2024 which is then continued with a descriptive qualitative method. In this third stage, the author answers the question of whether the gender of the Gen Z Instagram account owner who creates flexing content affects sentiment, and what role flexing plays in that sentiment.

3 Result and Discussion

3.1 Result

This research began by conducting a survey of 80 Gen Z Instagram users. They were asked to create a feature on their online page about a Gen Z *selebgram* that they found interesting to review because of the flexing on their Instagram page. From the survey, the research got 36 Gen Z names with two Instagram accounts most chosen in the survey. They are Sisca Kohl's Instagram account with the name @siscakohl and Willie Salim's @willie27_. The list can be seen in Figure 1 below.

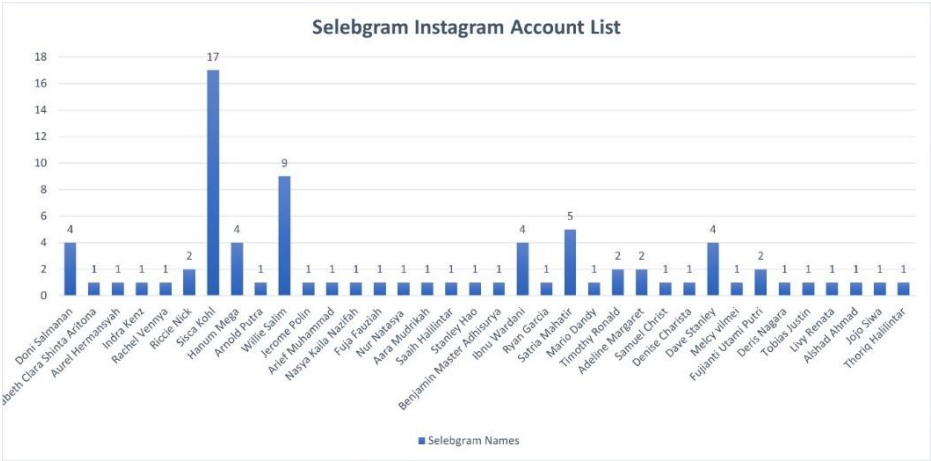


Fig 1. *Selebgram* Instagram Account Chart

Comments on posts from 2020 until this study was conducted were taken as data. Then sentiment analysis was carried out using SVM. With this machine, the percentage of sentiment for positive, neutral, and negative comments was obtained as shown in Table 1 below.

Table 1. SVM Result

		2020	2021	2022	2023	2024
Followers	@siscakohl	126.000	1.540.000	2.047.000	2.990.000	3.080.000
	@willie27_	21.000	867.000	2.270.000	8.190.000	11.140.000
Positive	@siscakohl	25.8%	29.4%	40.9%	42%	51.3%
	@willie27_	44%	40.5%	34.5%	38%	38.7%
Neutral	@siscakohl	59.2%	35.3%	28.3%	34.5%	26%
	@willie27_	32.3%	36.4%	41.1%	33.8%	28.3%
Negative	@siscakohl	15%	35.3%	30.8%	23.5%	22.7%
	@willie27_	23.7%	23.1%	24.4%	28.2%	33%

Table 1 shows a comparison of the number of follower increases, and the rise and fall of the percentage of sentiment that occurred on the @siscakohl and @willie27_ from 2020 to 2024. The largest increase in followers on @siscakohl occurred in 2021 with 1,414,000 followers. Meanwhile, the largest increase in the number of followers on the @willie27_ occurred in 2023 with 5,920,000 followers. Next is positive sentiment. Support Vector Machines have been widely used in sentiment analysis tasks due to their ability to handle high-dimensional feature spaces and their robustness to overfitting [11]. A key aspect of utilizing SVM for sentiment analysis is how the model identifies and processes positive sentiment, as this takes on heightened importance

when the comments being examined are assigned a numerical value exceeding 0, indicating a higher degree of positive sentiment. Positive sentiment on the @siscakohl account continued to increase. Meanwhile, @willie27_ continues to fall every year then but rises again in the following year by around 2%-3%. Next is neutral.

Neutral sentiment on SVM means the comments have a value of 0, indicating a neutral emotional tone, while negative sentiment is represented by values less than 0, reflecting an overall negative perspective within the text [12]. Comments such as *"mau dikasih IPhone"*, *"mau dibayarin keluar negeri"*, *"semoga kebagian juga"* were labeled neutral. Previously, by only doing based on the lexicon, these comments were categorized as negative/positive. However, with manual checking, the labels were corrected to achieve better accuracy. Neutral sentiment on the @siscakohl and @willie27_ rise and fall each year. In 2024 it decreased, but this data was obtained only from half a year, considering that this research was conducted in the middle of 2024. The last one is negative sentiment. On the @siscakohl account, it rises in 2021, but continued to fall after 2022. Meanwhile, @willie27_, it has increased relatively even though it falls in 2021. After this, the data that has been described is analyzed to answer two questions: does the gender of the Gen Z Instagram account user who creates flexing content affect sentiment? and what is the role of flexing in that sentiment?

3.2 Discussion

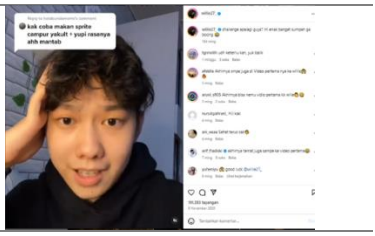
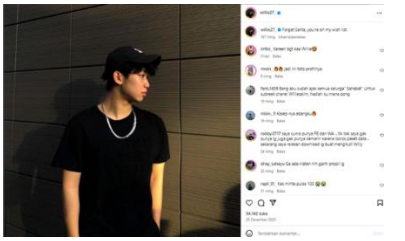
While the idea that gender shapes public sentiment on social media is widespread, emerging evidence suggests that the phenomenon of "flexing" and personal branding may in fact play a more significant role [13]. Specifically, research has found that the credibility and influence of social media storytellers is more closely tied to their ability to cultivate a compelling personal brand, rather than their gender [14]. By analyzing the SVM results obtained and transcribed in the previous subheading, researchers can find out whether the gender of the account owner affects sentiment.

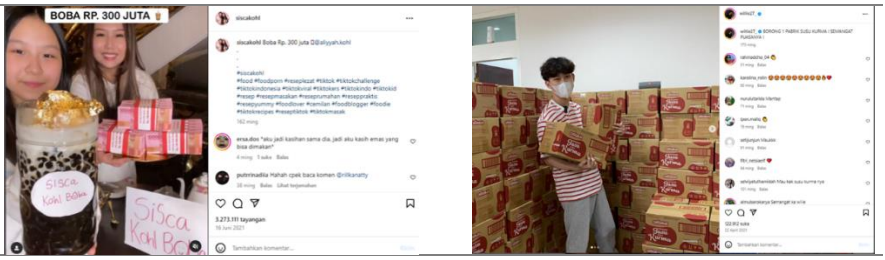
The two accounts analyzed in this study are of different genders. The first is an Instagram account with the name @siscakohl. The owner of the @siscakohl account with 3 million followers is a woman named Fransisca Fortunata, or who is familiarly called Sisca Kohl. This Gen Z born in 2000 comes from a family of entrepreneurs and is the niece of Ma Huateng, the fourth richest person on the China's 100 Richest list with a fortune of $32.1 billion according to Forbes 2023 [15]. The second account is @willie27_. The owner of this account is a man named Willie Salim who is an influencer who is active on a number of social media platforms ranging from TikTok, Instagram, to YouTube. Willie is known to have been born on May 27, 2002 in Pangkal Pinang, Bangka Belitung Islands, Indonesia. The 22-year-old man started his career as a TikToker and gained popularity around 2020. Willie often creates sharing content and is popular with his uniqueness of buying all other people's goods. Many netizens often suspect that Willie Salim is the son of conglomerate Anthony Salim. However, in fact, he is not part of what is rumored by the public.

To answer the two questions, the activities of the 2 Instagram accounts are presented in Table 2 and divided based on years 2020, 2021, 2022, 2023, and until this study was conducted, namely mid-2024. By paying attention to the two posts that received the

most comments from netizens and comparing them with the SVM results, the researcher hopes that this study is accurate and easy to read.

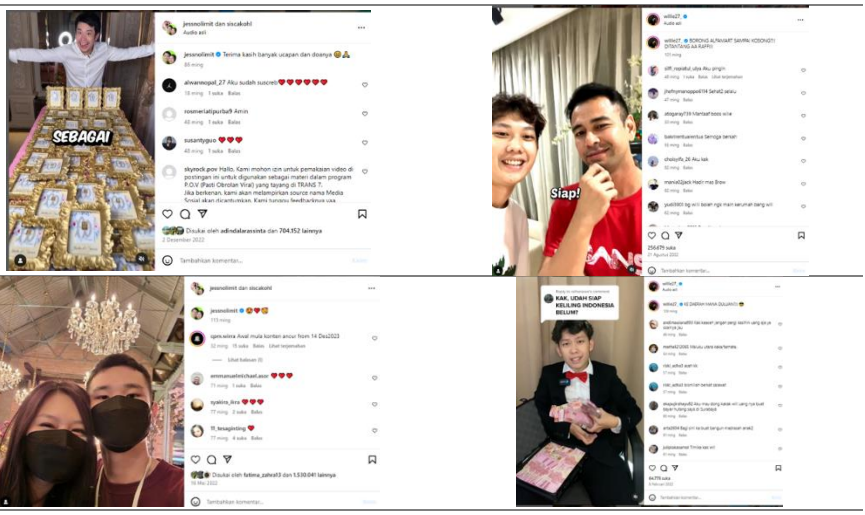
Table 2. Flexing Comparison on Most Commented Posts Each Year

@siscakohl	@willie27_
2020	
	
	
In 2020, @siscakohl did a lot of experiments with food. A post about making soy sauce flavored ice cream became one of the most commented posts. It is followed by one that showed her parents bought her an ice cream maker. On the same year, @willie27_ made fashion content and eating unsual food content that requested by his Instagram follower. This year, @siscakohl has 126,000 followers, with a positive sentiment of 25.8%, neutral of 59.2%, and negative of 15%. Meanwhile, @willie27_'s followers are still far below, I is 21,000 followers, with a positive sentiment of 44%, neutral of 32.3%, and negative of 23.7%.	
2021	
	



In 2021, both of them began to post flexing content more freely. @siscakohl is still consistent with her food content showing that she is able to make various foods, but this time with fantastically expensive ingredients. While @willie27_ focuses on sharing food on a large scale and showing off money. This year, @siscakohl has 1,540,000 followers, with a positive sentiment of 29.4%, neutral of 35.3%, and negative of 35.3%. Meanwhile, the total of @willie27_'s followers are still below @siscakohl, which is 867,000 followers, with a positive sentiment of 40.5%, neutral of 36.4%, and negative of 23.1%

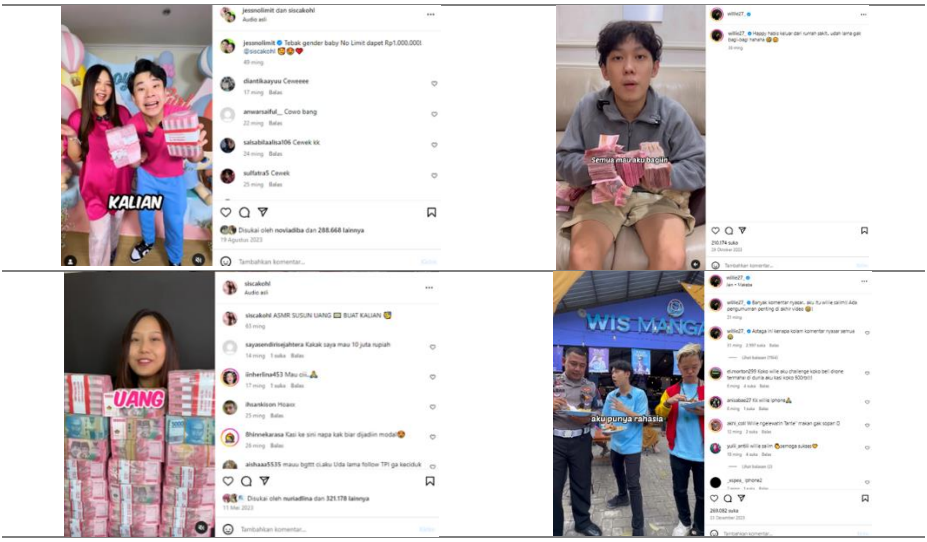
2022



In 2022, @siscakohl was seen dominantly showing her romantic relationship with @jessnolimit who is also a *selebgram*. This account is owned by Tobias Justin, whose name is big because he won a tournament in 2017 in Mobile Legends: Bang Bang and was ranked second in the world in the fourth season. This year, @siscakohl has 2,047,000 followers, with positive sentiment increasing rapidly to 40.9%, neutral decreasing to 28.3%, and negative decreasing to 30.8%. Meanwhile, @willie27_'s followers managed to catch up and increase very rapidly to 2,270,000 followers, with positive sentiment decreasing by 34.5%, neutral increasing compared to last year to 41.1%, and negative also increasing to 23.1%. Both of these accounts started to include content where they share money. Unlike @siscakohl, @willie27_ includes several local artists on his Instagram such as Raffi Ahmad and Baim Wong. Not only

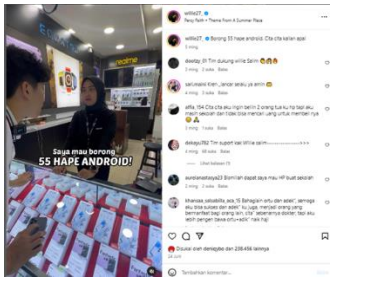
that, he also directly interacts with non-celebrities to share money through challenges. However, this seems to invite negative sentiment to rise and positive sentiment to fall relatively, even though @willie27_'s followers have increased drastically by around 1,403,000.

2023



In 2023, @siscakohl often creates content with her husband, @jessnolimit. They are also pregnant with their first child and often make this part of their money sharing content, of course with games first. Starting with content like @siscakohl who craves to bathe in money to guessing the gender of their baby, the nuance of @siscakohl this year is much more mature and motherly, but is still consistent with her flexing content. If in previous years she created food flexing content with her sister, then this year she is more often with her husband and the child in her womb. in 2023 @siscakohl got an increase in followers to 2,990,000, an increase in positive sentiment to 42%, an increase in neutral sentiment to 34.5%, and a reduction in negative sentiment to 23.5%. Meanwhile, @willie27_ in 2023 is increasingly aggressive in creating content to share money on a larger scale. He showed his consistency in sharing money from games to setting up free food stalls. In terms of romance, he also collaborates more often with his girlfriend with the account @vilmei. The name of the owner of this account is Meicy Villia, a content creator who started her career in early 2021. Initially, she created content such as making ant houses, unboxing toys, and also cooking simple food at home. However, the @vilmei suddenly became a lot of fans because it often created content sharing money with her followers. This year, there was a very large spike in the number of followers on the @willie27_ account, namely to 8,190,000. However, this does not seem to have increased the positive sentiment of @willie27_. In fact, it decreased to 38%, neutral sentiment increased to 33.8%, and negative sentiment also increased to 28.2%.

2024



This research was conducted in July 2024, meaning that the data collected in 2024 was only half compared to the data in the previous years. This year, @siscakohl tends to create content about her newborn baby. The proportion of flexing content decreased and the activities of her small family increased at least until July 2024. This appearance resulted in an increase in positive sentiment to 51.3%, neutral sentiment decreased to 26%, and negative sentiment also decreased to 22.7%. Moreover, some flexing content is still visible and is still become the post with the most comments this year. Meanwhile, @willie27_ is still consistent with his activities of giving away money. This time his reach is wider seeing that he often creates content distributing money directly to the poor, making video calls with those he feels need financial help, creating content that he builds a school in a remote place, he even shared photos of his activities with President Joko Widodo when they both visited the IKN. His activities in 2024 until July have increased his followers to 11,140,000, positive sentiment has increased to 38.7%, neutral sentiment has decreased to 28.3%, and negative sentiment increased to 33%.

This study is limited to using only two Instagram accounts (@siscakohl and @williesalim_) that represent gender, post comments from 2020 to 2024, and the results of SVM as a machine learning algorithm. Comments from the @siscakohl account are taken as representative data from women, while data from men are used as the @willie27_ account. Their travel content has been presented and explained in Table 2. When both accounts show the same flexing, changes in sentiment analysis also change. However, when the flexing content shifts, such as in @siscakohl, positive sentiment increases, neutral decreases, and negative sentiment decreases. The proportion of negative comments on @siscakohl in the last two years has tended to decrease by 0.8% - 7.3% since she uploaded more posts about her husband and baby. When she slightly

reduced the proportion of flexing, positive sentiment increased, neutral decreased, and negative sentiment decreased. Then, the money-sharing content created by @willie27_ which has a wider scope than before also influenced the difference. Public sentiment has changed. When @willie27_ consistently presents show-off content, positive sentiment decreases, neutral sentiment increases, and so does negative sentiment. But this is fluctuating, there are times when he gets a positive increase even though the difference is not much.

Provocative posts can invite negative sentiments from the public, while authentic posts tend to invite positive sentiments (Hu et al., 2014). Furthermore, it has been observed that male Instagram users are more likely to share content related to activities, gadgets, and fashion, while female users are more likely to share self-portraits, photos of friends, and food-related posts (Hu et al., 2014). The differences in the types of content shared by users of different genders may contribute to variations in the overall sentiment expressed on the platform. It appears that the gender of Instagram users can shape the sentiments conveyed through their posts. To better understand this relationship, a multimodal deep learning approach that considers both textual and visual elements of Instagram posts could be useful. This approach would allow for a more nuanced examination of how the different content preferences and social motivations underlying male and female users' Instagram usage patterns ultimately influence the sentiments expressed in the content they share on the platform. The sentiment results for the average daily user were found to be influenced by gender, with female users receiving more positive sentiments compared to male users [16]. However, it is different if the type of posts between women and men studied are the same, both creating flexing content. Through this study, it was revealed that the sentiment results on Gen Z celebrities who do flexing are not influenced by gender but by the flexing itself. There are times when flexing content creates an increase in positive comments, although an increase in negative sentiment occurs relatively more often, and this does not look at the gender of the account owner. The researcher suggests that this study be continued in order to obtain deeper information, especially on what type of flexing content actually influences public sentiment.

4 Conclusion

The results show that negative comments have increased since @siscakohl and @willie27_, as Gen Z Instagram users, consistently post flexing content. However, the proportion of negative comments in @siscakohl in the last two years has tended to decrease by 0.8% - 7.3% since she uploaded more posts about her husband and baby. In those two years, Sisca still made flexing content, but if previously she did flex with her sister, this time she did it with her husband and while pregnant. Content such as pregnant women craving to bathe in piles of money to gender reveal games have a significant influence. Apparently, this is what changes public sentiment. While @willie27_, who still focuses on distributing money and displaying his wealth, has tended to increase the negative sentiment by 3.8% - 4.8%. In fact, in some flexing content, he shows that he is increasingly helping people who he thinks are in financial trouble, but this does not have a big impact even though negative sentiment has decreased. He also once

showed a post of a pile of money in a pool with his girlfriend, like what Sisca did when she was pregnant, but it did not decrease negative sentiment. So, public sentiment towards flexing posts is not affected by gender, but rather the story in the flexing post. In other words, sentiment results on Gen Z celebrities who flex are not influenced by gender but by the existence of flexing itself.

Disclosure of Interests. It is now necessary to declare any competing interests or to specifically state that the authors have no competing interests.

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