

Research on the Sentiments Towards LGBTQ+Group on Social Media Pre and Post-same-sex Marriage Was Legalized

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Abstract: Following the LGBTQ+-themed performance at the Opening Ceremony of the 33rd Olympic Games in Paris on July 27, 2024, there has been a heated debate on social media about the LGBTQ+ group and same-sex marriage. Although it has been nearly a decade since the U.S. Supreme Court ruled on June 26, 2015, that same-sex marriage should be permitted, views and acceptance of this issue still vary widely. In order to examine the changes in public opinion before and after the legalization of same-sex marriage, this research paper took the U.S. Supreme Court's Ruling on June 26, 2015, to allow same-sex marriage as the timeline, collected a large number of comments on this issue in social media before and after the legalization, and conducted in-depth analysis on these comments. The findings show that although there is a slight increase in public approval of same-sex marriage after the legalization of same-sex marriage, the difference is not statistically significant. Therefore, there is a need for greater publicity to shape and promote changes in people's beliefs and customs and ensure equal rights for minority groups.

Keywords: LGBTQ+ group, same-sex marriage, sentiments, social media.

1. Introduction

The act of same-sex marriage means significant progress in the enhancement of the rights of minorities or those who embrace sexual and gender preferences. In the last twenty years, several countries of the world have extended legal rights to homosexuals to marry. Before mid-2015, same-sex couples in the U. S. were able to marry legally in 37 out of the 50 states that are in the country. On June 26, 2015, through the Obergefell v Hodges case, the U. S. Supreme Court made a ruling that legalized same-sex marriage, requiring all the states in the U.S. to recognize such marriages. As of October 2019, the rights of people in same-sex marriage were expanded in 30 countries and jurisdictions [1]. Same-sex marriage legalization, whether at the national level of laws and policies reporting on such power, grants an indication of the lowered rate of systematized homophobic discrimination. Hence, it can potentially enhance the health and general well-being of sexual minorities massively[2].

Structural stigma fits the social, institutional, and cultural framework that, in one way or another, cuts the welfare, accessibility, and chances of a class of individuals [3]. Legalized structural stigma, which encompasses issues like same-sex marriages, mirrors societal structurally imposed stigma onto sexual minorities at the individual, interpersonal, and community levels [4]. In their study, Hatzenbuehler and Link said that structural stigma, which is hardly acknowledged, plays an integral part in health inequality across stigmatized groups. There is evidence that supports the belief that

when structural stigma is reduced, sexual minority populations experience better health statuses[3]. The issue of marriage is an essential one in all communities, and allowing people, including those of sexual minorities, to marry can also contribute to reducing the discrimination against these people as they will be made to form an integral part of society [5]. Same-sex marriage provides such people with numerous tangible benefits and social opportunities associated with marriage [6]. However, despite the benefits of marriage laws, sexual minorities continue to bear hormonal or stigma-related pressures such as rejection from family or community as well as employment discrimination and other facets of life [2].

Additionally, reactions towards same-sex marriage also appear to differ depending on the subjects who are minority sexual in orientation and may encompass favorable to the uncertain [2]. Issuing marriage rights to S.S.M. also responds to but one kind of systematic oppression. Although society and politics have changed for the better by legalizing gay and lesbian marriage, the stigma that is in society might continue to have negative impacts on such couples [7]. The current literature shows the gap as the existing studies focus on people's perceptions of same-sex marriages or the social media use of L.G.B.T. people. The studies did not focus on people's opinions or views before and after same-sex marriage legalization on social media platforms. Hence, the current study aims to explore how people's views of the LGBT-Q group changed on social media before and after same-sex marriage was legalized.

2. Methodology

2.1. Research design

The research method adopted in the study was quantitative and descriptive because it was based on a significant socio-political event and assessed the public sentiment toward it. The hypothesis was that the population's opinion on the topics related to the LGBTQ+ community, as presented in the comments to the videos published on YouTube, would change after the trial of the Supreme Court. A qualitative approach was adopted to assess the main themes and determine people's opinions on LGBTQ+. The two YouTube videos chosen for analysis were:

Presidential Candidates on Same-Sex Marriage (posted before the Ruling)

Today America Legalized Same-Sex Marriage (posted after the Ruling)

The above two videos were considered according to the subject, and the ratings were based on the number of comments submitted by the viewers. Altogether, the two offered thousands of comments as a source for quantitative analysis in equal measure.

2.2. Data collection

The empirical and data source selection was based on the two YouTube videos. The aim was to capture user comments through this social media by comparing the differences in sentiment before and after the Supreme Court decision. Qualitative data were collected by exploring the comments before and after the Ruling to identify themes. The quantitative data were calculated using the following steps.

2.2.1. YouTube API for web scraping

The study employed YouTube Data API V3 as a web scraping tool to gather the comments efficiently. YouTube API provides a way to fetch much information from YouTube in a structured and searchable manner, including comments on videos. It formally surpasses conventional web scraping approaches as this method queries YouTube's back end directly, thus providing a faster and more efficient way

of collecting data. The following steps outline the process of using the YouTube API for data extraction:

API Key Generation: The first process involved signing up for a Google Developer account, which enables one to acquire an API key that allows one to access services provided by YouTube Data API. This key enabled the researcher to make authorized comment requests.

Data Extraction Scripting: Python was employed to interact with the desired YouTube API. Due to the dynamic structure of YouTube comments, a Python script extracted from GitHub aimed at extracting all the comments associated with the two selected YouTube videos.

Data Storage: This data was saved in well-structured file formats such as CSV, including comment text, author details, time stamps, and replies. Such a structure made it easier to codify and analyze the data later in the study.

2.2.2. Data cleaning

Following data extraction, a comprehensive data cleaning process was undertaken to ensure the dataset's quality:

Duplicate Removal: Comments were replicated and then collaborated to reduce sample redundancy of the same sentiments or themes.

Spam and Irrelevance Filtering: In this step, all the comments considered spam, advertisement, or irrelevant to the topic of discussion and experiences of the LGBTQ+ community were removed.

Language Filtering: It should also be noted that peculiar to this study, comments in other languages were not considered.

Anonymization: To maintain anonymity, all the users' identifying information, such as usernames and other profile details, was kept hidden while the findings were being analyzed. This left the final original dataset with about 5,000 to 6,000 comments relative to each video, which the study used in subsequent analyses.

2.3. Data analysis

The sentiment analysis of the collected data was done using Excel, and so was the statistical testing. In the context of the sentiment analysis, Azure Machine Learning add-ins were used to categorize the comments according to the sentiment analysis. Besides, Azure Machine Learning add-ins in Excel were incorporated into the analysis to improve sentiment classification accuracy. It is accomplished by using pre-trained machine learning models to classify the sentiment of text data with far higher effectiveness than typical lexicon-based methods. Azure Machine Learning tool could automatically classify sentiment based on a significantly more extensive set of over-linguistic features and contextual cues in the comments. Machine learning was incorporated to employ Natural Language Processing (N.L.P.), a more refined sentiment analysis.

The comments that were received as input were processed with the help of Azure add-ins into the machine learning model. The model assessed each comment and gave a positive, negative, or neutral sentiment class. The comments were classified accordingly into positive, negative, or neutral sentiments based on the net sentiment value. Specifically, the analysis attempted to contrast sentiment distribution differences between the pre-and post-ruling scenarios.

Also, to check whether there were more significant absolute differences in the average sentiment before and after the specific ruling moments, a t-test was conducted using Excel's data analysis tools. These included the comments regarding various issues posted before the Supreme Court ruling and comments posted after the Ruling. Since the population variances of the two samples were assumed to be equal, a two-tailed t-test with Welch's correction was done. This test explained whether there was a change in the trend of public opinion after the Supreme Court ruling was made. In addition,

qualitative data were analyzed utilizing a thematic approach. The first form of coding was open coding, to which comments were subjected, emphasizing grouping them according to the majority. For instance, comments were tagged as Pro same-sex marriage, con same-sex marriage, religious pro, religious con, legal pro, legal con, and neutral. After the initial codes were developed, they were aggregated into broader categories, which included legal discourse, religious rationalization, political consequences, and subjective Testimonials.

2.4. Results

The analysis of the comments given before the decision by the U. S. Supreme Court to legalize same-sex marriage provides information on how the public felt about issues relating to LGBTQ+ at that time. The analysis categorized the comments into three sentiment groups: This type has been categorized into the following: negative, neutral, and positive.

Table 1: People's sentiments about same-sex marriages before legalized ruling

Row Labels	Average of Score	Count of Sentiment
negative	0.196299841	2503
neutral	0.532360824	1000
positive	0.74047244	2747
Grand Total	0.489711035	6250

The average sentiment score of all the comments made before the Ruling is 0.4897, thus suggesting that from one standard deviation below the mean to roughly half a standard deviation above the mean, public attitude could be described as moderately positive. Out of the total number of comments analyzed, 2,503 of the comments, or 40%, portrayed a negative attitude towards the rights of LGBTQ+. The average score of the negative assessment is 0.19, indicating that this group was comprised of people who had a negative view of the LGBTQ+ community or the possibility of the legalization of same-sex marriage. About 1 percent of the comments, 1,000, were considered neutral with a sentiment score of 0.5324. There was also the consideration of positive intent with 2,747 comments (44%) belonging to this comment category with an average score of 0.7405(see Table 1).

The result implies that most viewers positively reacted to the content supporting the LGBTQ+ community or the legalization of same-sex marriage. The higher average score in this category points to positive sentiments. The total of general comments results in an average rating of 0.4897 across 6,250 comments. This score, close to zero, indicates a relatively neutral trend with a slight bend towards the positive territories before the Supreme Court ruling. Table 1 also identified that even before the Ruling of the Supreme Court, people had positive comments toward same-sex marriages or LGBTQ+. However, before the Ruling, negative comments were in an upward direction.

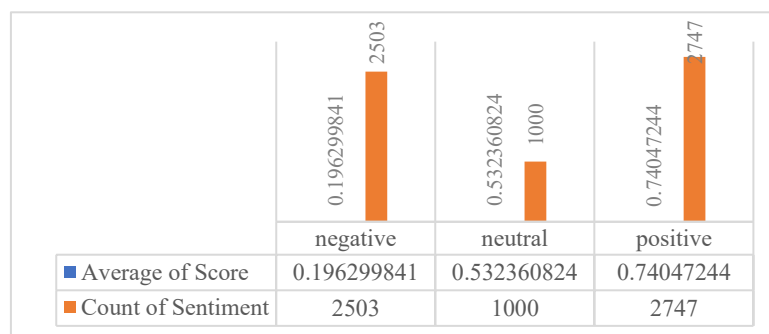


Figure 1: Number of YouTube comments vs average score of sentiments before ruling

Public opinion change can be seen through sentiment analysis of the comments made before the U.S. Supreme Court ruling on same-sex marriage. Figure 1 shows the sentiment distribution based on average sentiment scores and the number of comments for each category.

Table 2: People's sentiments about same-sex marriages after legalized ruling

Row Labels	Average of Score	Count of Sentiment
negative	0.194409659	1907
neutral	0.531226463	763
positive	0.76453141	2485
Grand Total	0.496722511	5155

The post-ruling score has an aggregate average of 0.4967. There has been a little increase in public sentiment following the verdict, as opposed to the research conducted before the Ruling, when the average score was 0.489. Around 37% of the comments conveyed a negative emotion, with an average score of 0.1944. The number of unfavorable remarks showed a minor decline compared to the time preceding the verdict, totaling 2,503. It indicates a reduction in resistance towards same-sex marriage, while it remains a substantial component of the overall discussion. The proportion of comments with a neutral sentiment was around 15%, and their average score was 0.5312 (see Table 2).

Although neutral comments are relatively low, they constitute a significant percentage of the conversation, where individuals are likely to express factual or disinterested opinions about the issue. The positive sentiment category had the most significant proportion, accounting for 48% of all comments, with an average score of 0.7645. It indicates a rise in the number of favorable comments and the mean score compared to the data before the verdict (2,747 positive comments and an average score of 0.740). Following the Supreme Court verdict, there was a surge in popular support and jubilation for LGBTQ+ rights, with several individuals voicing relentless endorsement of the decision. The overall mean sentiment score of 0.4967 suggests a predominantly favorable tone following the verdict, characterized by an uptick in positive sentiment and a slight decrease in negative sentiment. The total number of comments evaluated was 5,155, which is less than the initial amount of 6,250.

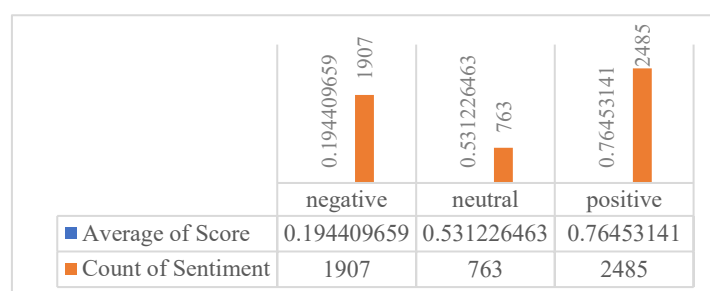


Figure 2: Number of YouTube comments vs average score of sentiments after ruling

Figure 2 shows a chart that supports the earlier sentiment analysis, which showed that public perception was mainly optimistic after the Supreme Court's judgment. The decreased number of negative comments and low average negative sentiment score shows that the level of opposition has decreased compared to the pre-ruling period. In contrast, neutral comments remain the least frequent in the discussion. The frequency and the sentiment analysis of public opinion also showed a shift towards the positive as well as celebratory discourse about queer rights after the Ruling.

2.5. T-Test to analyze sentiments before and after ruling

Table 3: T-Test

T-Test: Two-Sample Assuming Equal Variances		
	<i>after Ruling</i>	<i>before Ruling</i>
Mean	0.496722511	0.489711035
Variance	0.082152595	0.075395208
Observations	3	3
Pooled Variance	0.078773901	
Hypothesized Mean Difference	0	
df	4	
t Stat	0.030595945	
P(T<=t) one-tail	0.488528757	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.977057515	
t Critical two-tail	2.776445105	

The t-test findings comparing the mean sentiment scores before and after the Supreme Court judgment offer insights into whether the Ruling substantially influenced popular mood. The average sentiment ratings indicate a marginal rise from 0.4897 before the verdict to 0.4967 following the Ruling (see Table 3). This slight modification signifies a subtle transition towards a more optimistic attitude after the Supreme Court's Ruling. Nevertheless, the extent of this change is slight and must be evaluated to determine its statistical significance.

Following the verdict, there was a modest rise in the variation of emotion ratings, from 0.0754 to 0.0822. It indicates a tiny increase in the range of sentiment ratings following the verdict, indicating a slight growth in the diversity of public beliefs. Nevertheless, the rise in variance does not automatically result in a significant change in the overall opinion. The t-statistic of 0.0306 is close to zero, suggesting that the disparity in average sentiment ratings is negligible compared to the data's variability. The elevated p-values also reinforce this conclusion. The two-tail p-value of 0.9771 is much over the commonly used significance criteria (e.g. 0.05), indicating that the observed difference between the mean sentiment ratings is most likely a result of random fluctuation rather than a genuine impact. Put simply, the data does not offer compelling evidence that the Supreme Court verdict had a significant influence on popular opinion.

The t-critical values for both one-tail and two-tail tests significantly exceed the computed t-statistic, strengthening the conclusion that the disparity in means lacks statistical significance. Therefore, although there was a slight rise in favorable mood following the decision, there is insufficient proof to indicate that the verdict had a noteworthy impact on public opinion. Also, although the data indicates a slight rise in favorable attitudes after the Supreme Court decision, the t-test results suggest that this shift lacks statistical significance. The negligible effect size and significant p-values indicate that the verdict had no significant or quantifiable influence on popular opinion toward same-sex marriage. Analyzing the themes that emerged in the text, it was possible to identify several typical patterns of both times. However, their urgency and visibility have changed before and after the Ruling. Below are the main themes that emerged: Below are the main themes that emerged:

2.5.1. Legal and constitutional arguments

Pre-Ruling: The majority of the issues of concern raised revolved around whether gays and lesbians had the right to marry. Some people called upon the 14th Amendment and the principle of equal protection for gays and lesbians; others said that the Constitution did not protect marriage.

Post-Ruling: Subsequently, only a few legal arguments were made, and many comments centered on what the Ruling meant. A few people are still worried about the Supreme Court eradicating the laws of marriage, while the majority have shifted their focus to constitutional rights as Appellate.

2.5.2. Religious and moral objections

Pre-Ruling: One of the major topics addressed religious antagonism to same-sex marriages. Many commenters raised concerns about religious teachings and moral growth; terms such as 'sin,' 'unnatural,' and 'immoral' were standard in the dataset. Cultural treatment was most commonly used as religious advocacy for conservative marriage.

Post-Ruling: There were religious objections after the Ruling, but these were less frequent than before. Most anti-rule comments made their posts look like they were giving up or saying they would 'pray for the country.'

2.5.3. Self-narratives and sexual and gender minorities

Pre-Ruling: LGBTQ+ people engaged the public to post stories of their experiences with injustice and how the Ruling might help transform their lives. This theme needed to be more apparent as a topic of interest as a legal or religious discourse in the pre-ruling rights.

Post-Ruling: As expected, though, after the Ruling, there was an outpouring of personal stories; people from the LGBTQ+ community and supporters began posting happy comments. Those targeted could now talk about their weddings, recently received rights, and emotional feelings about the decision. These entries resulted in cheerful and encouraging responses, a vast departure from the legal and moral discursive themes presented earlier to discursive themes of the power of the self.

2.5.4. Equality and human rights

Pre-Ruling: The human rights theme was dominant, and many commenters framed the issue from a civil rights perspective. Civil partners also equated same-sex marriage to the issues of equality and non-discrimination.

Post-Ruling: After the Ruling, political discussions on human rights emerged as the main focus, which plays the role of oppression as equivalent to complete equality in the United States. Some worldwide commentaries also noted that it had started a precedent in other countries.

2.5.5. Social and political commentary

Pre-Ruling: The comments section contained a lot of political undertones, debating the role of government as well as the Supreme Court in the regulation of marriages. Haters considered the decision an extension of power by the government. At the same time, lovers of the law perceived it as the move the government needed to take towards passing pro-equality laws.

Post-Ruling: More informative comments were made only after the Ruling, whereby some comments were made on how the decision would affect future elections and policies. Nevertheless, individual and performatively inflected stories dominated political language.

There was a significant difference in themes before and after the given numerical Ruling. Before June 26, 2015, many arguments were exclusively legal and in religious terms, although, in principle, there was a considerable base of moral and ethical objections. However, as soon as the Ruling was

given, the talk changed to celebration, individual cases, and human rights victories. Personal experiences rose to the top as the Ruling resulted in positive emotional implications for individuals belonging to the LGBTQ+ community and supporters. The legal and political implications were no longer at the focal point of the conversation as the Ruling was made to end all the legal controversies. Negative opinions prevailed mainly due to religious and social concerns that surrounded same-sex marriage. There were positive sentiments about the increase, with most commenters praising the Ruling as a massive success for human rights.

3. Discussion

The judgment by the U. S. Supreme Court on June 26, 2015, to approve same-sex marriages all across the nation can be regarded as a significant event in the struggle for the rights of people of the LGBTQ+ community. These amendments, which were in the *Obergefell v. Hodges* case decision, provoked rather diverse responses from the people. To analyze the effect of this Ruling on people, sentiment analysis of user comments collected from YouTube videos, including those related to the topic, was carried out thoroughly. It compares sentiments perceived before the Ruling and those perceived after the Ruling to establish the change. Quantitative and qualitative data are available from the analysis on how societal attitudes toward rights for the LGBTQ+ population shifted in response to the decision.

The sentiment analysis carried out on comments before the Supreme Court decision gives a more detailed idea of the online citizens' opinions on the homosexuality issue and same-sex marriage in particular. The results are based on the comments pollution index, which divides comments into negative, neutral, and positive sentiments, providing an idea about the attitudes of the time. Comments before the Ruling gave an average sentiment score of 0.489, inclined towards a slightly positive semantic orientation.

Before the decision, 40% of comments were labeled negative, with an average sentiment of 0.196. This high percentage of defeatist attitude is indicative of high levels of resistance to Gay and Lesbian rights and the possible legalization of same-sex marriage. The strong negative feelings that have been felt can again be caused by culture, religion, and social beliefs. Some of the work done by Herek[8] and others reveal that heterosexism's causal factors include cultural norms and misconceptions concerning the sexual orientation of persons as well as marriage [9]. One of the first articles used is by Crosby, who pursued the issue from a more psychological angle, so the article's title is *The Psychology of Sexual Prejudice*.

In addition, 16% of the comments were neutral, and their average rating was 0.532. Such a small percentage indicated that a subgroup of the general public still had no strong opinion about the topic. Agnosism is common among people who may need to be upbeat about a story or event or feel like not engaging in the debate. Notably, they have a virtually equal share of positive and negative attitudes, with the neutral sentiment score slightly above 0.5, having a slight inclination towards the positive extreme but not as strongly inclined as to be considered positive.

The largest was the positive sentiment category, with the share of comments being 44%, and the average sentiment value was 0.741. It indicates that a large segment of the population favored what was good for gays and lesbians and marriages between people of the same gender. The average score is high, aligning with the opinion of high approval and advocacy of LGBTQ+, as has been revealed by various surveys that show support for same-sex marriage in the past years [10].

Following the Supreme Court decision, sentiment analysis showed a small 'glimpse of sunlight' concerning the change in public opinion. While the positive sentiment increased from 0.74 to 0.76, the negative sentiments reduced from 0.196 to 0.194, and the overall average sentiment score went up to 0.519, which shows that people's attitudes toward gay rights and same-sex marriage have shifted to positive. The decrease in negative attitudes shows that the Ruling helped decrease some opposition, but not all. It is possible to explain the continuity of negative attitudes by referencing

stable sociological factors such as social cleavage and low tolerance of change, highlighted by other empirical research [9].

The share of relatively neutral content to the total number of comments increased and fluctuated at the 15% level on average, with a score of zero being assigned 0.531. Overall, the reduction of the socially influential neutral sentiment in the aftermath of the Ruling shows that the Ruling has not significantly changed the attitude of the observers who were initially non-committal about the matter. This relative stability can be taken as evidence of the fact that the Ruling of the Supreme Court did not affect people who were indifferent or kept aloof from the issue. The rise of positive attitudes evident in the survey has captured the effect of the Ruling that has improved the rights of LGBTQ+ people, which agrees with other studies that have indicated an increase in the acceptance of same-sex marriage [11].

The independent t-test for sentiment scores, which measures the difference before and after the Ruling, points to the increase in the mean from 0.4897 to 0.4967. Nevertheless, the observed slight increase in the t-statistic was estimated to equal 0. It can be supported by the two-tailed 0.9771 p-values, which means there is no statistical difference in the sentiment scores. The high p-value implies that the observed difference is likely to have occurred by chance, and therefore, the shift in public opinion may not be statistically significant. In the statistical model, instead of appreciating a slight increase, the statistical test shows that the increase in positive sentiments is insignificant after the Ruling. Thus, the result indicates that the change in sentiment was relatively small, and the Supreme Court decision did not have as much influence on changing people's opinions as one might expect.

The analysis of the sentiment density reveals that the Supreme Court decision had a positive effect, yet it was relatively weak and short-term in nature. The enhancement of positive and reduction of negative tone reveal that the Ruling received numerous positive reception from many people. However, there was a stable percentage of negative sentiments and stable neutral sentiments, which indicates that the Ruling did not decentralize the social prejudices or alter the indecisive or negative attitude towards same-sex marriages among a significant part of society.

Thus, the results reveal the current and continuous societal discourses and polarisation about the rights of LGBTQ+ individuals. The meager sentiment score before the Ruling shows the general social distaste for same-sex marriage, while the shift to positive sentiment after the Ruling shows the increasing acceptance of the practice. The negative attitude is also present regarding legal concerns, which show that even legal changes are not enough to counter prejudices and cultural factors.

The results align with other studies about the public's perception of issues related to the rights of the LGBTQ+ community. The literature review in this study revealed that there has been a projection toward the acceptance of same-sex marriage as time as reforms and changes in society progress [8,10]. This minor, notwithstanding, change in positive attitude is in line with the gradual process of social change, which tends to experience legal victories before any substantive changes in attitudes are witnessed.

Earlier in the Supreme Court decision, it was possible to observe that comments were largely couched legally and constitutionally concerning same-sex marriage. This theme involved discourses on reform, legalization of marriage equality, the states' task in defining marriage laws, and the effects of federal decisions. A partial justification for this phenomenon is the findings of Flores et al. [12], according to which legalistic reasoning prevails in the popular discourse when the conflicts entail the rights of the LGBTQ+ community, as the population is most concerned with the possible legal implications of future verdicts. Likewise, this study showed that how the participants presented their affirmative or negative stance to the Ruling employed legalistic language borrowed from legal discourse, which agrees with the general legalistic tone of the comments posted on YouTube during this period.

The most substantial opposition was linked to the marriage of same-sex couples before the Ruling. Some comments cited religious proscriptions and ethical arguments against marriage equality. It was shameful to see that most of the comments echoed in society that marriage is between a man and a woman only. There has been much research into the relationship between religion and especially conservative religions with anti-LGBTQ+ views. Ratcliff et al. attempted to understand more about justification by moral and theological purity by focusing on how religious conservatives in the U. S. oppose same-sex marriage[13]. The study pointed out that religious values are more likely to appear in public discussion before court decisions, especially when a new standard is set. This explanation agrees with the trend identified in the pre-ruling comments, indicating a high level of religious rhetoric.

Sociological changes in the case of the legalization of same-sex marriage were another common concern that was echoed in most of the pre-ruling comments. Opponents claimed that the legalization of same-sex marriage would result in the unabrupt dissolution of traditional human families and the degradation of every moral standard. L Casillas et al. noted that appeal to threat has been topical to the public earlier due to shifts in socio-legal demographics. In their research focusing on the discursive construction of transgender rights in online debates, Casillas et al. identified the anxiety over cultural change before the courts' decisions similar to the same-sex marriage pre-ruling discourse[14].

After the Supreme Court rulings, there was also an increase in the number of times people celebrated the rulings as a win in the fight against discrimination targeting minorities. Most of the opinion writers reflected happiness. The choice of words painted the scene in terms of the emotional and symbolic importance of the decision on the rights of LGBTQ+ people. Mariani and Verge pointed out a similar observation in their study of Twitter posts after the legalization of same-sex marriage in the U.S.A. [15]. They also discovered that celebratory language prevails in post-ruling writing, in which users tend to categorize the Ruling as a victory in human rights and democracy. Therefore, this move from legal/ moral discourses to expressions of joy is not out of place in the general trend of post-decision discussions on social media platforms.

In a study by Hartley and McWilliam [16], the authors identified that commenters retrieved personal, relevant experiences and recounted them post-passing the anti-discrimination laws, showing how the changes in laws influenced their daily existence. It agrees with the post-ruling commentary section, which shifted the focus to personal anecdotes. However, there were many negative comments from people who were against the verdict too. Many comments concerned loss, anger, and ongoing antigay sentiments aligning with religion or directions in the country. Stiansen and Voeten provide evidence regarding backlash as a research report that covers the consequences of the decision-making process of the judicial system[17]. The study found that minorities of progressive rulings remain unyielding even when a decision has been made. A good example is the persistence of the ideological factions. The negativity that is evident in the post-ruling comments is in line with this trend, whereby several users express their disappointment and affirm their commitment to fighting gay rights.

Among the essential thematic shifts during the pre-ruling and post-ruling periods, one can mention the shift from the legal and constitutional discourses towards the more emotional and self-focused story. Before the Ruling, the issues had been discussed under legal permissibility, constitutionality, and religious decency. However, after the decision, people often express themselves with positive feelings such as happiness, relief, and empowerment. It is also well-documented that this transition from rational-legal language to emotional outcry has occurred.

Tava discovered a shift from legal language to emotive responses following the Ruling, particularly in matters of social justice[18]. Public emotions are often extremes and exceptionally high when a ruling entails a vulnerable group in society, as evidenced by the same-sex marriage ruling. Another notable genus shift was the reduction in religious opposition after the Ruling. In contrast,

pre-ruling comments contained religious arguments against same-sex marriage and the comments after the Ruling had fewer religious viewpoints but contained stories of inspiration or joy. The reduction in religious argumentation post-ruling is on par with the Pew Research Centre [19], which observed that while religious organizations uphold anti-same-sex marriage beliefs, they seldom display it after a ruling. It is so because although people used to oppose the legal change, especially on religious grounds, it is now seen as a standard affair. It requires stressing that, in contrast to such themes dominating the pre-ruling period, like abstract legal and moral argumentation, the post-ruling period became informed by personal experiences. Personal narratives surfaced with people telling their experiences and how they affected them and society. More emphasis is placed on personal stories, the research subject after resolving legal controversies, as Valverde pointed out in their healthcare reform article[20]. What Larson and Harrington discovered is that people tell their stories once the legal process is over and, therefore, tell closer and more personal accounts of the impact of the Ruling. This shift, however, was also observed in the post-ruling YouTube comments, where people shared personal experiences as the most recurring theme.

4. Limitations and future research

The sentiment analysis is quite functional, but there are factors to consider. The conclusion is made based on comments left under the videos posted on YouTube, which may only partially recall society's opinion. In the same way, the sentiment scores are partly dependent on the subjectivity of the analysis and may not admit variability in public opinion. First, future research could incorporate additional data not sourced from the companies in question. Secondly, there is a need to delve deeper into the reasons that shift sentiments.

5. Implications

The findings of the public opinion changes in the United States before and after the U. S. Supreme Court's decision on same-sex marriage have a few implications for studying social attitudes and further advocacy initiatives. The change of the general trend toward positive responses to the role applies once more importance to the role that legal accomplishments can play with the general population. Such a ruling also enhances approval and advocacy for protecting LGBTQ+ persons. It shows how the legal systems, through landmark decisions, can shape and foment the transformation processes of social values and mores. It also illustrates how legal changes can assume significant responsibility in social development and the formation of people's perceptions. Still, there are concerns that some people in society continue to have negative attitudes towards same-sex marriage. Such consistent resistance indicates that people's attitudes and perceptions are sometimes bound to change, even when legal reforms are implemented. It calls for more focus on educating people and disapproval of such negative attitudes towards LGBTQ+. Also, to overcome such barriers, strategies must involve and unmask the unwillingness.

A considerable amount of the comments were not in support or against homosexual marriage. Still, they were ambivalent, thus suggesting that some people have not yet decided about marriage equality. Such neutrality implies that legal opinions may change people's attitudes, but these changes may not necessarily inspire or actively influence all people. It highlights the need for relevant and effective working models to identify and engage those who are indifferent or passive. It can also be essential to identify and comprehend the causes of such neutrality that may contribute to broadening the support base.

The sentiment presumably got more variable after the Ruling, and there tended to be more positive or negative opinions. These shifting gender dynamics show that a wide range of legal and social change is possible and results in a broad spectrum of public response. It is conspicuous that as views

regarding same-sex marriages become more diametric, policymakers and advocates have to address this diversity thoughtfully. Approaches should be made with a view of minimizing differences and trying to achieve consensus in settling for a given course of action.

Thus, the study points to the need to continue advocating for gender equality and policies besides court cases. The remaining resistance should also be tackled systematically in the following endeavors and efforts to advance; the legal progress must also be noted. The media plays a crucial role in shaping public opinion about the L.G.B.T.Q. Still, negative attitudes remain stable, and the level of active involvement varies when it comes to advocacy for equal treatment of sexual minorities should be taken into consideration by policymakers and advocates.

6. Conclusion

The pre-and post-Supreme Court decision analysis of the sentiment is mired with certain complexities. There was a significant improvement in positive sentiment after the Ruling, but it was statistically insignificant. It is expressed in varied public attitudes towards the results, ranging from constant negative attitudes to more positive ones that have started appearing recently. These findings, therefore, bring into focus the fact that the perceived social attitudes toward the rights of LGBTQ+ persons remain somewhat nuanced and, thus, the need to continue trying to combat discrimination and increase acceptance for such persons. The study makes a theoretical contribution to literature to the body of knowledge concerning the effects of legal policies on perception. It creates a frame of reference for research on the rights of Sexual and Gender minorities and social liberation.

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