Viral Memes: Exploring the Role of Internet Memes in Disseminating and Amplifying Misinformation – A Case Study Analysis in the Digital Age

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Abstract*:* This research paper studies the peculiarity of misinformation spread through memes in the digital age. Memes, as a prevailing online correspondence type, can quickly shape public discernment and scatter data. In any case, this power likewise makes them defenseless to abuse for spreading misinformation. Through a case study approach, this paper examines certain instances of misinformation-bearing memes, especially the COVID-19 vaccine, analyzing their content and implications for media literacy and information integrity. This paper will represent how they chose memes to broaden misinformation implanted in meme culture.

Keywords: *Viral memes, Internet memes, Misinformation in digital age*

1. Introduction

The rise of memes as a prominent form of communication in the digital age has introduced new challenges in misinformation. Memes are often humorous, relatable, and easily shareable, making them effective vehicles for the spread of information, whether accurate or false. This research paper aims to: Investigate the mechanisms of misinformation in memes. Explore case studies of selected memes that have been instrumental in disseminating false or misleading information and Discuss these memes' challenges to media literacy and information integrity.

1. 1 Memes and Misinformation: An Overview

Misinformation in memes refers to the deliberate or unintentional dissemination of false or misleading information through meme content, typically in images and accompanying text. Misinformation in memes can be a significant challenge in the digital age, as memes are widely shared on social media platforms and can potentially influence public perception and behavior.

Misinformation in Memes:

Fabrication: Creating entirely false information or quotes and presenting them as facts.

Decontextualization: Removing information from its original context to distort its meaning.

Misleading Statistics: Presenting statistics in a way that misrepresents a situation.

False Narratives: Constructing fictional or exaggerated stories to support a particular viewpoint.

Humorous or Satirical Misinformation: Some misinformation-bearing memes use humor or satire to convey false information. This can make it challenging for viewers to differentiate between spirit and factual claims.

Emotional Appeal: Misinformation memes may use emotional appeals to elicit strong reactions from viewers. Dynamic content is more likely to be shared widely.

Confirmation Bias: Misinformation memes often target confirmation bias by appealing to their audience's preexisting beliefs and prejudices, reinforcing existing worldviews.

Virality and Amplification: Social media platforms' algorithms prioritize engaging content, which can lead to the viral spread of misinformation-bearing memes.

Public Perception: Misinformation in memes can shape public perception, influence opinions, and impact decision-making, especially when widely shared and believed.

Challenges to Media Literacy: Recognizing and debunking misinformation in meme format requires media literacy skills. Memes often present information in a simplified, condensed, or humorous way, making it difficult to evaluate their accuracy. Fact-Checking and Debunking: Fact-checking organizations and online communities are crucial in identifying and debunking false information in memes. Ethical Considerations: Creating and sharing misinformation in memes raises ethical questions about the responsibility of content creators, the role of social media platforms, and the potential harm caused by false information.

Media Literacy Education: Promoting media literacy, including memetic literacy, is essential to help individuals critically assess the accuracy of information presented in memes.

Regulation and Moderation: Some advocate for increased regulation and content moderation on social media platforms to mitigate the spread of harmful misinformation memes.

Understanding the tactics used to spread misinformation through memes and the impact on public perception is crucial for promoting responsible online communication and media literacy in the digital age. It highlights the need for a vigilant and informed online community capable of discerning factual information from false claims presented in meme form.

2.1. Internet Memes

Definition and Characteristics

Internet memes are a cultural phenomenon integral to online communication and social media. They are a form of digital content that typically combines text and imagery to convey a humorous, satirical, or relatable message. Several key features characterize Internet memes:

Virality: Memes often spread rapidly across the internet. They have the potential to "go viral," meaning that they are widely shared and circulated on various social media platforms, email, forums, and other digital channels.

Cultural Relevance: Memes are deeply rooted in popular culture and are often based on references to current events, movies, TV shows, celebrities, and other aspects of contemporary culture. They resonate with the shared experiences and connections of their audience.

Simplicity: Memes are typically short and straightforward, consisting of a brief snippet of text overlaid on an image or video clip. This simplicity makes them easy to create and share.

Humor: Humor is a central element of many internet memes. They often aim to entertain and amuse the audience through satire, irony, absurdity, or clever wordplay.

Relatability: Memes often tap into relatable situations, feelings, or experiences many people can identify with. This relatability is one reason for their widespread appeal.

Amplification of Ideas: Memes can express ideas, opinions, or commentary on various subjects, from politics to daily life. They can amplify a particular viewpoint or message concisely and efficiently digestible.

User-Generated Content: Memes are primarily created by internet users, and their creation is democratized. Anyone with access to the internet and essential image editing tools can generate and share memes.

Evolution and Remix Culture: Memes often evolve and adapt over time. Users frequently modify memes to create new variations, adding to meme culture's cultural and creative aspects.

Social and Communicative: Memes serve as a form of online communication. They allow people to express themselves, engage in online conversations, and comment on current events lightheartedly or humorously.

Context-Dependent: The meaning and impact of a meme can be highly context-dependent. A meme may be understood differently in various cultural or online communities, and its interpretation may change over time. Internet memes play a significant role in shaping online culture, influencing discussions, and reflecting the collective consciousness of the internet community. They are not limited to humor; memes have been used for various purposes, including social and political commentary, activism, and marketing. Their ability to capture attention, convey messages, and spread rapidly has made them a unique and influential form of digital communication in the 21st century.

2.2 Misinformation

Misinformation: Misinformation refers to false or inaccurate information that is spread without the intent to deceive. Unlike disinformation, misinformation may be shared unintentionally, without malice or a deliberate desire to mislead. An article by Benjamin Barak titled How Memes are used Spread Misinformation" accepts that memes are an easy way to comment on current events or pop culture. However, they are an easy way to spread misinformation among people (Barrack, 2022).

Intent: The critical distinction between misinformation and disinformation is the absence of intent to deceive. Misinformation can result from errors, misunderstandings, or sharing outdated or incomplete information.

Sources: Misinformation can come from various sources, including well-meaning individuals, social media users, and even professional news outlets that inadvertently report incorrect information. It can spread through social media, word of mouth, or other communication channels.

Examples of misinformation include sharing false rumors, the propagation of urban legends, or the unintentional spread of incorrect statistics or data. Misinformation can also result from misinterpretation or miscommunication.

Impact: While misinformation may not be intentionally deceptive, it can still have negative consequences. It can spread false beliefs, influence public perceptions, and create confusion, particularly when accurate information is crucial, such as during health crises or emergencies.

2. Literature Review:

The proliferation of memes in the digital age has transformed the landscape of online communication, presenting both opportunities and challenges. This literature review examines the scholarly discussions surrounding the emergence of memes as vectors for misinformation within digital media. Andriani, 2019) reveals how social media memes construct the discourse of Setnov, what ideology is conveyed through the social media memes, and for whom the doctrine is delivered. As a case study (Bañuelos, 2019), we analyze the memes published within the framework of the performance of the Mexican soccer team at the 2018 FIFA World Cup-Russia, which allowed us to understand the so. The analysis suggests that the contemporary subject resorts to digital media affordances and the immediateness of internet communication to create/share memes in response to offline events (Azzari, 2019). (Trillo et. al., 2020) conceptualize memes as a meeting place between the values of the far-right and the values characterizing memetic communication on social media.

Memes and the Spread of Misinformation: Establishing the Importance of Media Literacy in the Era of Information Disorder. This research paper talks about the importance of media literacy for students during the pandemic. It explores students from different classes and reveals that media literacy should be taught to students to overcome misinformation.

Rick Pulos, in his paper, considered memes produced during a crisis like the COVID-19 pandemic crisis memes. Crisis memes are particularly intriguing and salient in the COVID-19 public discourse. Crisis memes are particularly fascinating and prominent aspects of the COVID-19 public conversation. They maintain the novelty and appeal of the language and data provided by public servants, businesses, media outlets, medical professionals, scientists, and other players. They also contribute to the public discourse on the situation by offering criticism in a participative way, sometimes taking the issue seriously and other times making lighthearted or sarcastic remarks ((Pulos, 2020). According to Miller (2012), memes are social and cultural objects with much potential for meaning-making within a discourse group. Because they are developed in a setting primarily linked to a particular crisis, crisis memes function differently than memes created during normal circumstances. These crisis memes can only be contextually understood by connecting each one to the original context in which they were developed once they have been created, tweeted, uploaded, shared, Facebook, and so on (Miller, 2012). An article in Pytoner (Barack, 2022) took one case of memes and showed how memes are used to spread misinformation among the masses. However, the misinformation is unintentional, but it has effects on people. Ben Wasike, in his research paper "Memes, Memes, Everywhere, nor Any Meme to Trust: Examining the Credibility and Persuasiveness of COVID-19-Related Memes" "through a scientific study done on more than 1,200 participants, reveals that memes with expert source attribution are more credible than those with non-source attribution.

The research paper "Memes and the Spread of Misinformation: Establishing the Importance of Media Literacy in the Era of Information Disorder" by S. Zidani & R. E. Moran discusses how media literacy can help people overcome misinformation. Media literacy can help people understand the information provided through memes on the internet in the best possible way (Zidani & Moran, 2021). Wardle and Derakhshan's (2017) framework for examining what they term Information Disorder, or false and harmful information disseminated online, helps look at misleading information. They describe the following three types of Information Disorder:

Mis-information: When incorrect information is shared, but no harm is meant (i.e., a breaking news scenario, where data is shared before all the facts have been proven). Dis-information [sic]: When

false information is knowingly shared to cause harm (i.e., false news articles making claims without factual basis). Mal-information. When genuine information is shared to cause harm, often by exposing information meant to be private (i.e., the dissemination of personal documents or photos that weren't meant to be public to cause harm to a person or group) (Wardle & Derakhshan, 2017, p. 20).

In the article "How memes become a major vehicle for misinformation," Sara Fischer and Alison Snyder say that since memes cannot be moderated by any A.I. software tool and are easier to produce on a large scale. So, they become a significant source of misinformation on the internet (Fischer and Snyder, 2021).

In their paper by Kouzy et al. (2020), "Coronavirus Goes Viral: Quantifying the COVID-19 Misinformation Epidemic on TwitterMedical", misinformation and unverifiable content about the global COVID-19 epidemic are being propagated at an alarming rate on social media. We provide an early quantification of the spread of misinformation and highlight the importance of early interventions to curb this phenomenon that endangers public safety when awareness and appropriate preventive actions are paramount.

3. Methodology

Purposeful sampling was utilized to select the individual memes used for analysis. Patton (2014) says that purposeful sampling "permits inquiry into and understanding of a phenomenon *in depth"* (p. 52). The criterion employed to make each selection was that the meme needed to adhere to the definitions set out in the meme section above, and they also had to be created during the ongoing crisis. Therefore, each meme needed to be a macro, shop, or a hybrid of these two. Other meme types were excluded. Memes with themes similar to those of the misinformation memes but created before or after the researcher prepared the final draft of this paper were excluded. For example, misinformation memes were popular before the problem and after the researcher prepared the final draft of this paper. The search terms were inspired by a glossary from Yale School of Medicine Katella, 2020. Google Images was used to search and find viral memes. The following misinformation memes were chosen to maximize in-depth analysis of modes and semiotic resources and to create a clear picture of the experience of living in the digital age. Special attention was given to memes in the selection process, demonstrating how actors and stakeholders talked to and about each other within the rhetorical arena.

3.1. Case Studies

Case Study 1: Misinformation
Context: During COVID-19, memes started circulating on social media platforms. These memes depicted false information about the vaccines and policies of different countries policies and big pharmacy companies. The memes were visually appealing, humorous, and designed to go viral quickly.
Mechanisms at Play:
Simplification and Emotional Appeal:
The memes simplified complex political issues into catchy and shareable visuals.
The emotional appeal was heightened using humor and satire to resonate with the audience's preexisting political beliefs.
Algorithmic Amplification:
Social media algorithms amplified the reach of these memes due to high engagement levels.

The rapid spread outpaced fact-checking efforts, leading to a wide dissemination of misinformation.
Confirmation Bias:
Individuals who shared the memes were likely influenced by confirmation bias, reinforcing their existing views. The memes served as echo chambers, further polarizing opinions.
Case Study 2: Health Misinformation
Context: Amid a global health crisis, memes began circulating on social media platforms, spreading misinformation about preventive measures, treatments, and the virus's origin. Some memes presented false cures, while others propagated conspiracy theories.
A set of representative memes known for carrying misinformation were selected for in-depth analysis.

3.1. Content Analysis
The selected memes will be subjected to content analysis to identify the presence of misinformation and the persuasive strategies employed.
4. Case Studies and analysis of Memes
Case Selection

4.1. Meme 1:

A viral meme was shared on Facebook, stating that COVID-19 cases are much higher now than before there was a vaccine. However, the meme lacks a lot of important context.

Source: pointer

Description and context of the meme: This viral meme was shared on Facebook, stating that COVID-19 cases are much higher now than before there was a vaccine. To some, it could sound like the vaccine is causing this high number of cases.

Analysis of the misinformation content:

Simplification and oversimplification: if we look at this meme, the information provided can be easily understood by the people who view those memes. Because knowledge is provided in simple and easily understandable language. Since the news about vaccines was not simple at the time of Covid 19 despite the fact the meme has made it simple for people. This led to the spread of misleading information among the public about the use of vaccines.

Emotional Misleading: Memes that elicit strong emotional reactions, such as anger, fear, or empathy, are more likely to be shared. Looking at the emotional aspects of the memes, the woman seems surprised while transmitting this information, and the text on the memes adds even more surprise to the meme. This strong emotion can quickly gas people's feelings and could lead them to accept misinformation.

Lack of context: Memes are usually brief and lack the context necessary to understand the subject thoroughly. An ordinary person with no information about COVID-19 cannot easily understand this meme: What is COVID-19, how does it spread, and what are the vaccines for COVID-19? So, this meme can easily be a source of misinformation among the public. Just because there are more COVID-19 cases now despite having a vaccine doesn't mean the vaccine *caused* an increase in patients, as many have claimed online. This is a good reminder: Numbers without context can be very deceiving. The best way to get context is to read what other sources are saying. Turning back to Google and using a keyword search with the words "Can the COVID vaccine give you the virus" brought up this Myths and Facts page from the Centers for Disease Control and Prevention — a great source when you're looking for medical information.

Visual Manipulation: Memes can use manipulated or de-contextualized images to support false claims. The above meme has been added using different photos, which means to sport your misleading information, the creator has added more visual elements like the picture of a woman who looks surprised and the teeth of an elephant, which can attract any internet user and can inspire him/he that the information provided is accurate. So, these three elements spread misinformation among the public through a meme.

False narratives: This meme was shared by a Facebook account called the Free Thought Project 4.0. According to their About page, the Free Thought Project is a "hub for free-thinking conversations about the promotion of liberty and the daunting task of government accountability." The About page included a link to their website, which featured several articles against vaccine mandates. When it comes to news websites you aren't familiar with, check if they have editorial standards. You want to ensure you get your news from sources with policies regarding their independence, accuracy, and transparency. We couldn't find any editorial standards on the website.

Fabricated content: According to the C.D.C., none of the COVID-19 vaccines in the U.S. contains the live COVID-19 virus. So you can't get sick with COVID-19 from getting a vaccine. The C.D.C. also states that the vaccines don't cause new variants. Tweaking our keywords a little and opening up a bunch of tabs, we also found a bunch of fact-checks that debunked the claim that vaccines are to blame for the spike in cases. The real culprit? The omicron variant in the U.S.A. Today debunked the idea that vaccinated people are more likely to get this new variant than the unvaccinated. Instead, according to experts and public health data, they wrote that the opposite is true. Reuters, a famous news agency of the world, cross-verified this meme. They reported that the meme is misleading and lacks context.

While it's true that the cases are higher now than before there was a vaccine, this is, again, because of the omicron variant, not vaccines.

We'll label this meme as NEEDS CONTEXT. Parts of the meme are authentic — like we are seeing more COVID-19 cases now than in 2020, but this meme could lead people to believe that it's the vaccines causing this to happen, which experts have repeatedly said is not the case.

4.2. Meme 2

Vaccines can be lethal or hazardous   source: informnapalm.org/

Description and context of the meme: COVID-19 fueled the anti-vax movement's expansion, while the unusual circumstances of the pandemic exposed a more significant segment of the population to additional untruths. The COVID-19 vaccine, the vaccination procedure, and other viral containment measures (such as masks and quarantine) have been the subjects of the most widespread memes on

the internet, with a notable increase in the fourth quarter of 2020 brought on by the start of the vaccination process.

While certain memes are amusing because they frequently reference imagery from popular culture, it does not exclude them from being misleading.

Analysis of the misinformation content and persuasive strategies employed:

The following meme shows how wrong information was spread about the vaccine when it was first used on different persons. The memes show two other pictures: one when the person got the vaccine dose, and the following picture shows the person's position now. The following images show that after taking the vaccine, the person falls ill, and his face becomes dull. If we compare both pictures, the meme creator shows two different scenarios. These memes show negative connotations of the vaccine awareness famous during the pandemic. Some ideology works behind those memes, which spread among the common masses.

Since COVID-19- was a time of fear, depression, anger, and anxiety, many memes became viral instantly on the internet as they quickly grabbed the attention of internet users.

Visual manipulation: The visual part of this meme shows how well the memes can be used to spread misinformation among the public. The manipulated photos of this picture show the public, or can say meme consumers, what their bodies will look like after getting the vaccine. This creates a negative message about vaccines among the public, and people are falling to this misinformed content quickly. This manipulation adds more fear among the public regarding vaccines.

Simplification and oversimplification: The memes contain straightforward content that people can easily understand. This meme talks about the vaccine reaction and, through different pictures, spreads this information.

Emotional Misleading: This meme spreads misinformation about the vaccines through different dynamic content humor, surprising the people with what their condition will be if they get vaccinated. On the one hand, big pharma companies tell people that they should trust us for the vaccines because our vaccine is enough to cure Covid 19, and after people get this vaccine, they feel bad, and their conditions worsen, which is shown in the following pictures.

Lack of context: This meme has used photo-shopped images and text to spread misinformation about vaccines among the people. Such pictures show before and after the vaccinated people. This can be an easy way to spread misinformation among the public.

4.3 Meme 3

Source: WhatsApp/screenshot

Description and context of the meme:

While in the past, we saw memes being used to spread disinformation and propaganda during the elections to legitimize homophobia, transphobia, racism, and sexism, they are also used to promote vaccine hesitancy and conspiracy theories amid the pandemic.

Analysis of the misinformation content and persuasive strategies employed:

Anti-vaxxer groups, like the Awaken India Movement, are using these memes to push their propaganda on Facebook and WhatsApp groups.

Lack of Context: This meme is trying to show vaccinated people negatively. The context is manipulated, and it influences people so that they will remain away from vaccination, which affects them and persuades them not to vaccinate themselves as this can lead to severe diseases or even death.
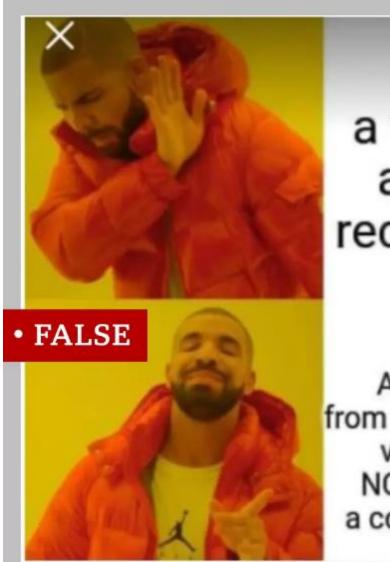
Visual Manipulation: This meme has been mostly manipulated through editing software by meme creators to persuade people to avoid vaccination. Visual manipulation is more effective than textual manipulation. It influences people to believe faster in information than through any other form of content manipulation.

Emotional Misleading: this meme contains one of the most essential elements, quickly spreading misinformation. The showing of different phases of life, such as your death, will occur upon vaccination, and if you do not vaccinate yourself, you can live a happy life. This provides an easy way of spreading misinformation among the public. The meme has solid emotional elements that can easily persuade ordinary people to believe in fake information.

Simplification and oversimplification: This meme contains a text that the ordinary person can easily understand. However, vaccination is not a simple, quickly understanding topic. But this meme has projected this topic with its text as efficiently as possible to know an ordinary person. Considering the images, the meme easily distorts the facts about the vaccination. How much can the spread of COVID-19 be prevented, though the idea of this meme distorts vaccination? This shows misinformed content about the complex informant.

Selective editing: This meme has been created to spread a particular point of view: people should avoid using vaccines. Selective editing with text and images is added to memes to ensure that an ordinary person understands that vaccines harm us. A particular narrative is built around the vaccines in this meme. This is a significant part of misinformation for people as it is easily understood and spreads specific points of view about vaccines. However, it may not be accurate in the long term.

4.4. Meme 4: Chance a virus with a 99.97 recovery rate

Source: BBC

Description and context of the meme: This week, a widely shared meme that featured pictures from rapper Drake's Hotline Bling music video appeared in several local and community online forums in the U.S. and U.K., spreading the myth that vaccinations will change our D.N.A.

Analysis of the misinformation content and persuasive strategies employed:

Lack of context: This meme shows how an intended meaning is created by using text on the meme. The meaning is out of context that if you take vaccines, your D.N.A. will be changed. The fact is that this information was not accurate. As such, no side effects were seen after taking the vaccine.

Emotional Misleading: this meme, from its look to the addition of a music video, creates a credible source of information for its audiences. Since any celebrity added to meme content increases its credibility and attracts its readers, it is easy to spread information about COVID-19 through such misleading emotional content. Emotions are attached to celebrities from audiences. That is why they thought their looks, movie style, and fashion talks could create immense joy and happiness among their audiences. This meme has effectively created such fear among the people.

Out of Context content: The information given through this meme is out of context with the actual details on COVID-19. It states that 99.97% of people recover from the disease, indicating that contracting the illness rather than receiving a vaccination is safer. Similar objections to the COVID-19 vaccine have been made on social media, with people questioning why one is necessary given the remote likelihood of contracting the virus.

First, the number that the meme refers to as the "recovery rate"—which suggests that these individuals contracted the virus—is untrue. As per the findings of Jason Oke, Senior Statistician at the University of Oxford, 99.0% of those who contract Covid survive it. This means that contrary to the meme's suggestion of three deaths per 10,000, about 100 people will die. In the absence of a vaccine, many more illnesses and deaths will occur before enough individuals develop immunity to halt the spread. When a particular percentage of the population has contracted the virus, this is called herd immunity.

It goes beyond merely surviving. For every person who passes away, there are two more who survive it but require extensive medical attention, as well as others who experience long-lasting health problems. This may result in a health service overloaded with COVID-19 patients, making it more difficult for hospitals to handle patients with other ailments and injuries due to a lack of resources. According to Prof. Liam Smeeth of the London School of Hygiene, focusing on the total fatality rate or reducing receiving a vaccination to a single act ignores the purpose of immunizations.

Simplification and oversimplification: If we look at this meme, the text and the images added are easily understandable for an ordinary person. For if we take the text of this meme as "chance a virus with a 99.9 recovery rate alter my D.N.A. from an experimental vaccine, with no liability corrupt industry". It simply gives readers the idea that if you take the vaccine, you will be 99.9 percent protected from the virus, but it can change your D.N.A., a significant side effect of vaccines. It can quickly create fear in a typical person's mind. It is easy to understand the impact of this vaccine. So naturally, they cannot take these vaccines. On the other hand, if we talk about the oversimplification of this text meme, it hides the actual information from the audience. It thus leaves them to judge the vaccine on the information given in the form of text and images.

Selective editing: editing is essential to a meme's overall distribution, virality, and influence. Without editing, a meme cannot become an internet meme. Creators mainly use a selective editing to ensure their memes reach the maximum audience and spread their particular narrative. This meme has done this, as the creator wants to spread misinformation about COVID-19.

4.5 Meme 5

Source: B.B.C.

Description and context of the meme: Posts with captions indicating the shot "didn't even hurt" or featuring the "first person to receive the vaccine" are shared with images of deformed humans or animals.

Analysis of the misinformation content and persuasive strategies employed:

Out of Context content: Although it may seem clear that these pictures are not meant to be taken literally, groups who are vehemently against vaccines frequently post them. While side effects from vaccinations are possible, they are often minor and include arm soreness, headaches, and temporarily elevated fever. Vaccines must pass stringent safety testing before being given to the general population, and any adverse effects are constantly monitored. After months of seeing these erroneous or ludicrous statements on social media feeds, some individuals wonder if there's any truth to these memes.

These kinds of memes can be deceiving as they play on our shared concerns about side effects from medications and our ability to trust scientists, according to Harvard University lecturer and misinformation specialist Joan Donovan.

Visual manipulation: Visual manipulation is a prominent technique to bring invalid ideas and narratives to an audience. Images are added with memes and presented to audiences by meme secretors to validate the particular point of view. This meme has been edited and posted on the

internet to illustrate a specific point of view. They make more impact on the audience than the text as these memes show two sides of the same story, like how a person looks before and after the vaccine. Before vaccination, the person was very average, and he was completely fit and fine, looking happy and enjoying life. After taking the vaccine, his health condition becomes worse, and his face looks like a dead person. "Tying together negative messaging to pop culture can be especially memorable and drive people to share because the meme is funny, outrageous, or sticky (memorable)."

Simplification and oversimplification: The information provided through this meme is obvious, and an ordinary person can understand it. The text states, "I feel fine next is two minutes after receiving the vaccine." It is clear, concise, and easily understood information about the vaccine. But if we look at the meme, its context is oversimplified. It hides some truth from the audience about COVID-19, which is why it has become a pure source of misinformation online.

Emotional Misleading: This meme, through its surprise effects on the faces of two images before and after the condition of taking the vaccine, led to misleading through dynamic elements such as terrible health conditions and good conditions of the persons included in the meme. This is an easy way of spreading misinformation to the audience through emotional content, which they absorb quickly.

Selective editing: This is a crucial tool to mislead people and deceive them from the actual information. It is a form of gatekeeping in this meme. Some parts or information in text and images are added to make it a complete meme. I feel fine two minutes after getting the vaccine. These texts about the vaccine focus only on the information the meme creator wants to present to the audience. The image editing has been done in such a way that it adds more credibility to the text. So, this meme manipulates ordinary people and injects them with the wrong information.

Out of Context content: The information provided in this meme lacks context, leading to misinformed content for people. The text and images together lack how the data should be provided to people.

5. Discussion

5.1. Mechanisms of Misinformation in Memes

Analysis of misinformation is embedded in memes and was prominent during the COVID crisis. The main topics trending during the COVID-19 pandemic and included by meme creators were vaccines and precautions. The paper looks at the exact mechanism of how these memes spread misinformation. Furthermore, it analyses whether they threaten media literacy, memetics literacy, and information integrality. Memes and the Spread of Misinformation: Establishing the Importance of Media Literacy in the Era of Information Disorder

Analysis of memes collected by researchers shows a high risk to media literacy and the dissemination of information among ordinary people. Misinformation stops genuine information from reaching familiar people and poses after-effects that can occur due to this misinformation. The different mechanism tools show that almost all memes collected by the researcher using the purpose sampling method of data collection offer evidence that they contain at least one manipulation element of misinformation in the form of text, visual images, photos, etc., including content fabrication, emotional appeal, and other tactics.

From case first to last, the main tactics used in these memes to persuade people are humor, visual rhetoric, manipulated content, agenda setting, and framing of content, which were the primary tools involved in these memes for spreading misinformation among the people.

Impact: The spread of health misinformation in memes during COVID-19, including individuals adopting ineffective or harmful practices of curing themselves to protect from diseases, had severe consequences. Public health efforts were hampered by the widespread belief in false cures and conspiracy theories, complicating crisis management.

These case studies highlight the multifaceted nature of misinformation in memes, showcasing how visual content, emotional appeal, and algorithmic amplification contribute to the challenges of countering false information in the digital age.

5.3. Challenges to Media Literacy

Explore how memes challenge media literacy efforts, including the role of cognitive biases and echo chambers. Media literacy is a crucial skill for navigating the complex and information-rich landscape of the internet, but it faces several challenges when it comes to internet memes. While memes can be entertaining and informative, they also present unique obstacles to media literacy.

Analysis of memes in this paper highlights the following key challenges to media literacy posed by misinformed memes.

Here are some of the challenges:

Speed and Virality: Memes often spread rapidly and can "go viral" within hours or even minutes. The speed at which they circulate makes it challenging for individuals to critically assess their accuracy, source, or veracity before sharing them.

Context Dependency: Memes often rely on cultural references and context to convey meaning. Understanding a meme may require familiarity with specific internet subcultures, historical events, or popular media. This context dependence can create a barrier for those not well-versed in online culture.

Satire and Parody: Many memes use humor, humor, or parody to make a point. Distinguishing between satirical content and genuine information can be challenging, especially when the intent behind a meme is not communicated.

Manipulation and Deep Flakes: Memes can be manipulated to distort reality. Deep fake technology can be used to create convincing fake videos or images. This can make it difficult for individuals to discern between authentic content and manipulated media.

Misinformation and Disinformation: Memes are frequently used to spread misinformation and disinformation. While some may be created and shared innocently, others are part of disinformation campaigns. It can be challenging for individuals to differentiate between factually accurate memes and those intended to deceive.

Confirmation Bias: People tend to share and engage with content that aligns with their preexisting beliefs and opinions. Memes that confirm these biases may spread more widely, contributing to echo chambers and polarization.

Short Attention Spans: Memes are often consumed in a matter of seconds. This short attention span may discourage individuals from critically evaluating the information presented in the meme or conducting further research.

Information Overload: The internet is inundated with memes, and people are constantly bombarded with new content. This overload can make it challenging to discern what is reliable and what is not.

Lack of Sourcing: Memes typically do not include citations or references, making it difficult to trace the source of information. This lack of sourcing can hinder efforts to fact-check or verify the data presented in the meme.

Emotional Appeal: Memes often rely on emotional appeal to convey their message. This emotional engagement can cloud critical thinking, making individuals more likely to share content without assessing its accuracy.

Addressing these challenges to media literacy in the context of internet memes requires a multifaceted approach. It involves educating individuals about critical thinking, source verification, and the potential for deception within the meme culture. Promoting media literacy in schools, workplaces, and online communities is essential to help people responsibly navigate the meme-driven digital landscape and discern fact from fiction. Additionally, developing tools and platforms that promote accurate information and fact-checking alongside memes can be part of the solution to these challenges.

How media literacy can help to overcome misinformation

Media literacy is essential to media studies, particularly for the general masses. It helps check and evaluate whether the coming information is true or false. Media literate people can provide insights into various aspects of communication, whether online or offline. As per Brains Bushel's thesis, Internet memes are a means of communication. An example of different memes available online and offline is given. Since memes are not in the hands of one author or do not have a proper source like their forms of communication. Different people create and disseminate memes at the same time. They become viral and read faster on the internet than offline. No one moderates them. So, they become readily available tools for misinformation.

The sample of six memes shows that most information demotivates a person from living a happy life. It fabricates already available information and disseminates it among the common masses as crystal clear information. Therefore, it poses a severe threat to distributing and controlling the data.

6. Conclusion

This research paper aims to comprehensively examine the intersection between memes and misinformation. Through case studies, it illuminates how memes can be conduits for misinformation, with implications for media literacy, information integrity, and the broader digital landscape. Summarize the findings from the case studies, discussions, and recommendations. Emphasize the need for proactive measures to address misinformation through memes in the age of digital media. Misinformation through memes is a pressing issue in the contemporary digital landscape. Memes, as powerful communicative tools, can both inform and misinform. Understanding the mechanisms of misinformation in memes, their impact on public perception, and their challenges to media literacy is crucial for addressing this issue. Combating misinformation through memetic literacy education and promoting responsible meme creation and sharing practices are steps toward a more informed digital society.

7. Recommendations

A limitation of this paper is its use of only a few meme types. Future studies may consider other memes, like video or stacked image memes. The study of memes as cultural artefacts is undoubtedly pertinent and salient in communication studies. Understanding crisis memes may also be helpful in

practice since organizations in crisis may find themselves working to respond to memes that attack their image, product, or effectiveness during a crisis response. At the time of this writing, the COVID-19 crisis is still in the crisis stage, but the hope is that soon, everyone will be moving towards a post-crisis life with what will inevitably be a new normal.

7.1. Promoting Memetic Literacy

Suggest strategies for enhancing critical thinking and fact-checking skills specific to meme consumption.

Memetic literacy, sometimes referred to as meme literacy, is a concept that extends beyond traditional media literacy. It focuses on the ability to understand, create, analyze, and critically evaluate internet memes in the context of digital culture. This form of literacy is essential in the age of social media and digital communication, where memes play a significant role in shaping public discourse, influencing opinions, and reflecting the cultural zeitgeist.

Critical aspects of memetic literacy include:

Understanding Memetic Language: Individuals with memetic literacy are proficient in the language of memes. They can decode the cultural references, symbols, and humor embedded within memes, allowing them to grasp the intended messages.

Contextual Awareness: Memes often derive their humor or impact from the cultural, social, or political context in which they are created. Memetic literacy involves an awareness of this context and identifying when memes are used to comment on specific events or issues.

Critical Analysis: Memetic literacy encourages individuals to evaluate memes critically. This includes assessing the accuracy of information in memes, recognizing when memes use satire or parody, and understanding the emotional or persuasive tactics employed in meme creation.

Ethical Considerations: Ethical memetic literacy emphasizes responsible meme creation and sharing. This includes refraining from creating or spreading misleading, offensive, or harmful memes.

Meme Creation Skills: People with memetic literacy can create memes effectively, conveying their ideas or messages. They possess digital literacy skills, such as image editing and understanding meme templates and formats.

Awareness of Cognitive Biases: Memetic literacy involves recognizing how cognitive biases can influence one's response to memes. Awareness of confirmation and availability biases helps individuals critically engage with meme content.

Cultural Sensitivity: Meme creators and consumers with memetic literacy understand the importance of cultural sensitivity and avoid using memes that perpetuate stereotypes or offend specific groups.

Media Literacy Integration: Memetic literacy can be integrated into broader media literacy education. This ensures that students and individuals have the skills to navigate the digital landscape effectively, critically assess information, and engage responsibly with memes.

Digital Citizenship: Memetic literacy promotes responsible digital citizenship, encouraging ethical online behavior, respectful communication, and accountable meme sharing. This helps create a more positive online environment.

As memes play a pivotal role in digital culture, memetic literacy becomes increasingly relevant. It empowers individuals to navigate the complex landscape of internet memes, engage in informed online discussions, and become responsible digital citizens. Moreover, memetic literacy contributes to the overall goal of media literacy by addressing the unique challenges and opportunities posed by the evolving nature of digital communication in the 21st century.

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Data Availability: The author has all the data employed in this research and is open to sharing it upon reasonable request.

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