Media and Communication Review (MCR)
Volume 4 Issue 1, Spring 2024
ISSN (P): 2790-8356, ISSN (E): 2790-8364
Homepage: https://journals.umt.edu.pk/index.php/mcr

Article QR

Title:	**Visual Mandela Effect (VME): An Expository Study of Pakistan**
Author (s):	Fatima Rehaab Sikandar, Raza Waqas Ahmad, and Yasar Arafat
Affiliation (s):	[1]International Islamic University, Islamabad, Pakistan.
DOI:	https://doi.org/10.32350/mcr.41.07
History:	Received: January 16, 2024, Revised: May 25, 2024, Accepted: June 1, 2024, Published: June 30, 2024
Citation:	Sikandar, F. R., Ahmad, R. W., & Arafat, Y. (2024). Visual Mandela Effect (VME): An expository study of Pakistan. *Media and Communication Review*, *4*(1), 147–163. https://doi.org/10.32350/mcr.41.07
Copyright:	© The Authors
Licensing:	This article is open access and is distributed under the terms of Creative Commons Attribution 4.0 International License
Conflict of Interest:	Author(s) declared no conflict of interest

A publication of
The School of Media and Communication Studies
University of Management and Technology, Lahore, Pakistan

Visual Mandela Effect (VME): An Expository Study of Pakistan

Fatima Rehaab Sikandar*, Raza Waqas Ahmad, and Yasar Arafat

International Islamic University, Islamabad, Pakistan

Abstract

The Visual Mandela Effect (VME) depicts how a group's collective memory exists. This phenomenon occurs when different individuals believe in or share the same incorrect visual memory of a certain event, object, or detail. It underscores the malleability of shared memory and doubts the very nature of an unchanging or objective past. Moreover, VME represents how visuals can be perceived and interpreted uniquely by different people and studies how minds can manipulate visual data, resulting in common inaccurate memories. This research presents the results of a survey conducted in Pakistan to examine the extent of Visual Mandela Effect. The results from the assessment of memory recall validity across various categories showed that 40% experienced false memory, reflecting to the presence of Visual Mandela Effect. Moreover, there was no impact of gender, as both men and women had similar recall validity. The results proved that gender does not influence susceptibility to this phenomenon. The relationship between age and Visual Mandela Effect proved that older people have better visual recall than younger people. This research also studied the relationship between social media usage and susceptibility to the Visual Mandela Effect. Results showed that people with higher social media usage were more susceptible to inaccurate memory involving visuals than those whose social media usage was lower. These findings highlight the prevalence of VME in Pakistan and contributed to the enhanced understanding of inaccurate memories and their influence on perception and cognition.

***Keywords*:** false memories, Pakistan, Pakistani society, social media usage, Visual Mandela Effect (VME)

Introduction

The Mandela Effect is a phenomenon where a large group of people collectively misremember a fact, event, or graphic. This term was coined by Fiona Broome in 2010, who observed that a majority of people believed that

*Corresponding Author: fatimasikan+++dar1864@gmail.com

Nelson Mandela had died in prison in the 1980s, while in reality, he was released in 1990 and later passed away on December 5, 2013. This has since gained widespread attention as more examples of collective misremembering have emerged, such as the spelling of the Berenstain Bears books, the color of C-3PO's leg in Star Wars, and the placement of heart in the human body. This effect has been attributed to a variety of causes, including false memories, parallel universes, and even time travel. While this remains a topic of debate and speculation, it has sparked a fascination with memory, perception, and the nature of reality (Cuncic, 2024).

Every time the past is revive/redesign through a testimonial, ritual, remembrance, story, or painting, the dynamic process of collective remembering takes place. This strategy involves bringing the past into the present where the present can only be understood in the context of the past as it is brought into the present through the act of recollection (Arias & Del Campo, 2009)

False memories can be vivid and feel just as real as genuine memories, making it difficult for individuals to distinguish between reality and imagination (Lyle & Johnson, 2006). False memories can significantly impact a person's life, including affecting their perceptions of themselves, their relationships with others, and their decision-making processes. Similarly, the impact of the Visual Mandela Effect (VME) on a person can vary depending on several factors, including their level of attachment to the memory, their cognitive processes, and their beliefs about memory and reality. Discovering that a widely shared memory contradicts actual historical records or facts can lead to confusion and uncertainty. It tests individual's comprehension of their memory accuracy and retention. Cognitive dissonance, which is a psychological state of distress, results due to a conflict between personal memories and objective reality. Undergoing the Visual Mandela Effect might cause people to doubt their memories and the perception of certainty. They may also doubt their recollection and understanding of the world, questioning what is factual and what is not.

This research highlights the influence of alterations in memory in transforming personal memories into shared and eventually collective memories. Through an iterative and nascent methodology, people's memory is transformed into community memory (Brown et al., 2012). This phenomenon is commonly discussed among people that share the same communities and online platforms. Identifying through networking that

others share, the memory distortion can lead to the formation of a safe environment where individuals feel connected and validated. Individuals, when find themselves misunderstood with their memory, can feel isolated. Conversely, individuals who have experienced the Visual Mandela Effect, may look for explanations elsewhere, such as conspiracy theories or alternative stories to make sense of the discrepancies in their memories. They might indulge in exploring concepts like a parallel universe, time travel, or alteration of reality, leading to the differences of external forces rather than inaccurate memory.

The significance of the Visual Mandela Effect is principally a cognitive phenomenon and its effect on each individual can be subjective. Every individual may react differently, each reaction can range from inquisitiveness to a more profound emotional reaction. Essentially, the impact of this phenomenon depends on an individual's personal experiences, age, interests, and how they process and manage complex or disputing knowledge.

The Berenstain Bears is one of the most famous examples of the Visual Mandela Effect. People remember the name being spelled as "Berenstein" instead of "Berenstain," despite evidence to the contrary. This is a common occurrence in the Mandela Effect, where people collectively misremember a detail. Another famous example of the Mandela Effect is the dialogue from Star Wars where Darth Vader reveals to Luke Skywalker that he is his father. Many people remember the dialogue as "Luke, I am your father," when in reality, it is "No, I am your father" (Palma, 2022).

The confusion related to Nelson Mandela's death is an example of how collective memory can be inaccurate. Another detail that many people remember differently is the appearance of the Monopoly man. A lot of people remember him wearing a monocle when in reality, he does not wear one. This is another example of how collective memory can be influenced by cultural references and stereotypes (Jenni, 2023). Most people remember Pikachu's character having a black tip at the end of its tail, however, it actually has a yellow tail (Poe, 2024).

While memories are integral to our personal experiences and understanding of the world, they are susceptible to inaccuracies and distortions. Understanding the underlying mechanisms of memory storage is crucial in comprehending why individuals may experience phenomena

like the Mandela Effect, where collective misremembering of specific details occurs.

Mandela Effect may hold some objective truth, such as the absenteeism of Curious George's tail or the forgotten monocle of Uncle Pennybags, but the psychological origins of each of these memory alterations are exclusive and distinctive to each individual. By examining the multifaceted cognitive processes convoluted in memory storage and redemption, researchers can obtain knowledge regarding intricate methods that underscore false memory and its implications for perception of reality (Hernandez, 2022). Recognizing the importance of memory distortion and the need for more study to pinpoint the precise cognitive processes underlying the Mandela Effect

Although the mentioned details do not undermine the cognitive abilities of specific populations, they do not highlight that something intriguing is going on with how people recall events and details in their memory. Media greatly influences the perceptions of people in collecting memories and cultural narratives. It can present the visual representation of events, symbols, or historical figures, which may add to the Visual Mandela Effect's phenomenon.

It is not a massive conspiracy, but rather a natural human tendency to fill in gaps in our memories and to be influenced by external factors, such as suggestions and misinformation. It investigates how media narratives, imagery, and storytelling techniques influence people's memory recall and contribute to the formation of shared false memories.

There are several reasons for the Visual Mandela Effect listed as the following; having many general associations increases the likelihood of creating a false memory. The Visual Mandela Effect has multiple causes, some of which are as follows: having a large number of generic associations raises the possibility of fabricating a memory. During the 1990s, there were several twin films with similar concepts being released around the same time. The movie First Kid, starring Sinbad was based on the story of a hero who helped a wayward boy. Sinbad had previously starred in Houseguest, whose poster depicted his head emerging from a mailbox, a reminiscent of genie coming out of a lamp. The story of Sinbad the Sailor is often associated with genies. Therefore, Sinbad's (the actor) bald head and goatee resemble the typical portrayal of a genie in the media. Sinbad, once also

dressed up like a genie for a movie marathon he hosted in the 1990s, which likely contributed to the creation of a false memory of him playing a genie. Confabulation and suggestibility, as well as the aforementioned associations, are the main factors in the formation of this false memory.

Secondly, confabulation seems consistent and repetitive in every research, it refers to the memory disruption that involves the production of incorrect or false memories without the intention to mislead. This memory error exists when a person manipulates or alters details, events or experiences unintentionally to bridge the gaps in their memory. Third factor that impacts the phenomenon of the Visual Mandela Effect is suggestibility, which relates to the propensity to agree and accept information as real, what is suggested by others. When inaccurate information is presented, it can undermine the validity of a predominantly existing memory (Weintraub, 2017).

According to the above discussion, the Visual Mandela Effect depicts how a group's collective memory exists. This happens when different individuals believe in or share the same incorrect visual memory of a certain event, object, or detail. This phenomenon underscores the malleability of shared memory and doubts the very nature of an unchanging or objective past. It represents how visuals can be perceived and interpreted uniquely by different people and studies how minds can manipulate visual data, resulting in common inaccurate memories. This phenomenon is often linked with iconic and culturally significant visuals, including historical events, symbols, logos, or popular media. These photos represent a profound meaning and are deeply embedded in a society's shared cognition. When forgotten, they can challenge the already established concepts, narratives, cultural identities, and our comprehension of shared history.

Exploring the Visual Mandela Effect Model

This research examines the Visual Mandela Effect in Pakistani society, particularly in visuals. The goal is to determine whether memory distortion from this concept is impacted by different factors. Given the multifaceted nature and hypothetical ubiquity of the Visual Mandela Effect across gender, age, and media usage, this research aims to investigate the influence of these factors on memory retention and discernment. The age-related aspect provides insights into the development facets of memory, whereas the gender-related aspect focuses more on cognitive processing disruptions.

Moreover, the study reveals the influence of media stories on cultural myths and memory generation by exploring the relationship between media exposure and visual misperceptions. Understanding these concepts has significant importance and practical applications for education, media literacy, and cognitive interventions. It provides awareness regarding human cognition, memory processes, and perception distortion across different populations.

Problem Statement

The phenomenon of the Visual Mandela Effect represents a unique intersection of memory, perception, and societal influences, whereby individuals recall significant details of visual representations inaccurately. This cognitive discrepancy, noted as the Mandela Effect, has been observed globally, but its prevalence and characteristics in Pakistani society remain unexplored. This research aims to dissect the occurrence of the Visual Mandela Effect in Pakistan, examining how memory malleability influenced by this effect might be shaped by factors such as age, gender, and media exposure. The study seeks to elucidate whether these variables contribute to the differential susceptibility to visual memory distortions among the Pakistani populace.

Research Objectives

1. To investigate the prevalence and characteristics of the Visual Mandela Effect in Pakistani society.
2. To explore the influence of demographic variables on memory malleability related to the Visual Mandela Effect.
3. To examine the impact of media consumption on the incidence and perception of the Visual Mandela Effect.

Literature Review

The human memory is known to be imperfect, making it liable to mistakes and distractions. The brain retains the information regardless of its validity or accuracy (Vasu et al., 2018). Garry and Gerrie (2005), discovered through experimentation how memory is malleable and impressionable. The experiment comprised of showing the subjects 3 original photographs from their adolescence and one manipulated photo, over the course of two weeks it was concluded that the subjects showed detailed recollections of the altered photos proving that memory is subject to change.

Braun-LaTour et al. (2004) displayed the results of an experimental study that showed the influence of visual or photographic alteration in advertisements on pseudo-memory formation. The purpose of this study was to find whether could draw a difference between altered and unchanged advertisements and determine the extent to which false memory exists related with visual alteration in comparison with other communication channels. The goal of this research was to ascertain whether it was possible to distinguish between modified and unaltered advertisements and how much false memory was associated with visual alteration as compared to other communication channels. The research consisted of presenting the subjects with two advertisements, one original and the other tampered in order to evaluate their memory veracity. The results depicted that the visual alteration had a significantly higher rate of incorrect memory formation, with a 49% rate in comparison with other modes of communication, for instance, oral prompts or written information. These results reflect the potential impact of visual alteration in advertisements on peoples' memory and focus on the significance of comprehensive analysis of visual stimuli in media and advertising environment.

This research study highlights the phenomenon of VME, which reflects certain consistent false memories that people share regarding the same popular icons, characters, or logos. These items are intentionally crafted as such that they're visually and conspicuous and momentous, thereby resulting in frequent contact to their mainstream representation. However, a significant number of individuals report vividly remembering an alternative version that deviates from the canonical design. Intriguingly, this alternative version remains consistent across those who share this false memory. The existence of such specific and shared false memories suggests commonalities in experiences or intrinsic properties of such images that influence the occurrence of false memories. A deeper understanding of the Visual Mandela Effect contributes to our knowledge of human cognition, memory processes, and the malleability of our recollection of visual stimuli. Several factors might be responsible for causing VME. It may be influenced by schema-based perceptual information for some icons and by visual experience with the non-canonical version for others (Prasad & Bainbridge, 2022).

While social interactions typically involve the transmission of accurate information, they also present opportunities for the dissemination of false

information. Consequently, both true and false information discussed during exchanges possess the capacity to influence the accuracy of people's memories once they have concluded the interactions. Current study emphasizes the increasing significance of this phenomenon, particularly in light of the widespread use of media platforms where the transmission of misinformation has become a growing concern. The rise of misinformation on such platforms raises questions about the extent to which false information, shared and consumed through social media, can influence individuals' memories and subsequently shape their beliefs and behaviors. Examination of the intricate relationship between social exchanges, information transmission, and memory accuracy gave access to insights into the mechanisms underlying the formation of accurate and false memories (Maswood et al., 2022).

Bauste and Ferraro (2004), examined the concept of false memory, which refers to the phenomenon where individuals remember events that either never happened or remember them in a significantly different way than they occurred. Recent studies have specifically focused on exploring the influence of gender stereotypes on memory recall, investigating how individuals from different genders recall critical items associated with their respective genders. By examining the effects of gender stereotypes on memory processes, researchers aim to gain insights into the complex interplay among social constructs, memory formation, and the potential for memory distortions. Hence, the study concluded that gender has no impact on overall memory recollection.

Given their reconstructive nature, memory, cognition, and perception are all strong adaptive systems that are susceptible to mistakes and delusions. Faulty memories assist us in foreseeing the future as well as misremembering a history that makes the present possible (Howe, 2011).

A research study examined an intriguing prospect that arises from recent findings, suggesting that older adults with superior memory performance may be more susceptible to errors induced by misinformation compared to individuals with poorer memory abilities. Generally, advancing age is associated with an increased vulnerability to false memories (Devitt & Schacter, 2016).

According to three different research studies, it was consistently observed that individuals who refrained from using media devices had

better recall of their experiences compared to those who utilized media. The impact of media usage on subjective measures of experience remains inconclusive based on the available evidence. Collectively, these results imply that employing media may hinder individuals from effectively remembering the events they intend to preserve (Tamir et al., 2018).

Theoretical Framework

The False Memory Theory by Elizabeth F. Loftus is applied to explore VME. This theory claims that memories are not as reliable as credited to be. It is a common belief that once an event is experienced and is registered by the brain, the memories from said experience remain there forever. However, there is potential for those memories to be altered and even for false memories to be planted in their stead (Loftus, 2019). The theory further claims that memory is not infallible, so the recollection of past events is heavily susceptible to distortion of facts and reality of what happened. The concept by VME that people collectively misremember visual information of past events corresponds with Elizabeth Loftus' theory, while further solidifying the claim that memories are prone to distortion. Moreover, external factors that may influence memories could be misinformation, suggestion, and/or cultural nuances that may impact how a person recalls.

Loftus conducted a series of experiments, proving that memory is fragile and unreliable, while it has been treated as a viable source of correct information.

Hence, the False Memory Theory helps to explain the occurrence of collective misremembering, as well as highlights the broader implications for understanding memory, cognition, and the impact of media and cultural influences on perceptions and recollections. Therefore, phenomena of collective misremembering, such as VME, can be approached with a critical and scientifically informed perspective if memory's fallibility and the possibility of false memories are recognized.

Research Questions

RQ1. What is the extent to which individuals accurately recall specific topics examined in the study?

RQ2. What are the gender-based differences in the visual memory recall?

RQ3. What is the extent to which age impact the Visual Mandela Effect?

RQ4. What is the extent to which the duration of social media usage impact memory retention and recall abilities?

Research Methodology

This research employed a survey approach with manipulations to test participants' memory accuracy. The study utilized convenience sampling, a non-probability method deemed practical for achieving the study's goals. A total of 231 voluntary participants were administered through a meticulously crafted online survey, including screening questions to explore potential relationships among age, gender, and media usage along with the Visual Mandela Effect. The collected data underwent thorough analysis, incorporating statistical methods to examine the relationships. The research methodology provides a structured approach to understanding memory dynamics and contextual manipulations within the cultural context of Pakistani society, contributing valuable insights to the broader discourse on VME.

Results

A total of 231 participants completed the survey, facilitated through Google Forms and distributed across diverse platforms, such as Instagram, Facebook, and WhatsApp. Among these respondents, 97 identified as females, while 135 identified as males. The different ages reflected a diverse range, with 117 participants falling within the 19-25 years age group, a slightly larger majority of 97 falling into the 41-59 years age group, and the remaining respondents distributed among the 13-18 years, 30-40 years, and 60+ years age groups.

Table 1

Analysis of the Visual Mandela Effect by Gender

	Gender	*N*	Mean	*F* value	sig
Visual Mandela Effect	Male	133	.6029	3.464.	.064
	Female	97	.6297		

Examination of social media usage patterns among participants revealed varying trends. Notably, 117 respondents reported utilizing social media for 1-3 hours, followed by 83 participants indicating a usage duration of 4-6 hours. The remaining respondents were dispersed across usage

periods ranging from 7-11 hours to 12+ hours.

The findings highlight the prevalence of the Visual Mandela Effect among participants. Strikingly, 60% of respondents exhibited accurate memory recall across all examined categories, signifying a substantial number with correct recollection of the visual elements under scrutiny. However, it is essential to highlight that the remaining 40% displayed false recollections, pointing to the existence of the Visual Mandela Effect within this cohort.

Table 2

Mean Scores and Standard Deviations for Recall of Visuals across Different Categories

Categories	*N*	Mean	Std. Deviation
Food	231	.7481	.21035
Telecom	231	.6724	.19341
Banks	231	.5094	.29288
TV Channels	231	.6667	.25820
Social Media	231	.7049	.20818
Wearable	231	.5483	.24759
Cartoons	231	.4494	.22104
Overall Recall of Visuals	231	.6142	.10559

The above findings showed the malleability of visual memory and the susceptibility of individuals to collectively misremember specific visual details.

The following results indicated that there is no gender difference in recall accuracy as the value is more than 0.05, which shows there is no relationship between gender and memory recall. Hence, this suggested that the Visual Mandela Effect exists independent of gender influence.

Correlation between Gender and Visual Mandela Effect

According to the literature, above mentioned result is consistent with the study (Bauste & Ferraro, 2004), that gender has no impact on false memories and by extension the Visual Mandela Effect.

The analysis of the results indicated an inverse relationship between age and recall accuracy. Indicating that the more the age the less susceptible individuals are to the Visual Mandela Effect and the less the age the more susceptible they are to the phenomenon.

Age and Visual Mandela Effect

Table 3

Analysis of the Visual Mandela Effect by Age

	Visual Mandela Effect	Age
Visual Mandela Effect	1	-.217**
Sig. (2-tailed)		.001
N	231	231

Devitt and Schacter (2016), claimed memory deteriorates with age, while the above results show that older individuals have a more accurate visual recall than younger individuals. Thus, this result does not align with the literature.

Upon analyzing the results, it was revealed that there exists a direct relationship between the Visual Mandela Effect and social media usage. Participants who reported higher social media usage displayed higher susceptibility to the phenomenon. This indicated that they may experience false memories, in context of visual elements, to a much greater extent as compared to those who have less social media usage and displayed much lower susceptibility to the phenomenon, thus demonstrating better visual recall.

Media Usage and Visual Mandela Effect

Table 4

Analysis of the Visual Mandela Effect by Media Usage

	Visual Mandela Effect	Media Usage
Visual Mandela Effect	1	.282**
Sig. (2-tailed)		.001
N	231	231

The study by Tamir et al. (2018), showed that excessive media usage is linked to false recollection. As the above result indicates, increased social media usage increases the chances of susceptibility to the Visual Mandela Effect, hence, proven that these findings are consistent with the literature.

Conclusion

To conclude, the survey was conducted in Pakistan to examine the extent at which Visual Mandela Effect exists in the region. According to the findings,

a significant percentage of the participants had false recollection of the visual elements presented to them, confirming the presence and intensity of the phenomenon. Different dimensions of humans were also studied, such as gender and age, although no relationship was found between gender and VME. This resulted in deducing the fact that gender has no impact whereas an indirect relationship between age and VME is recorded, which declared that older individuals were less susceptible while younger individuals were more. The study also focused to explore the role of social media usage in the susceptibility of VME. The findings showed a direct relationship, which meant that participants with higher social media usage were more susceptible than participants with less usage. Despite this advanced research and its implications on the Pakistani society, further exploration into the underlying mechanisms and factors disseminating VME is required.

Recommendations

- Future researchers should consider conducting comparative analyses of the Visual Mandela Effect across various cultural contexts to discern universal versus culture-specific patterns in visual memory distortions. By examining how different societies experience and interpret the Mandela Effect, researchers can better understand the underlying cognitive and sociocultural factors that influence memory malleability.
- It is advisable to undertake longitudinal studies to observe changes in the prevalence and characteristics of the Visual Mandela Effect over time within the same population. Such studies would help in understanding how memory perceptions evolve with changing societal norms, technology advancements, and media landscapes.
- To rigorously test the causative factors associated with the Visual Mandela Effect, experimental designs could be employed. These studies could manipulate variables such as media exposure or misinformation to directly observe their impact on memory accuracy and the incidence of the Mandela Effect. This approach would allow for a more precise understanding of the mechanisms driving visual memory distortions.
- Integrating neuroscientific methodologies to explore the neural correlates of the Visual Mandela Effect could provide deeper insights into the cognitive processes involved in memory formation and perception. Research utilizing brain imaging and cognitive mapping

techniques could elucidate the neurological basis for why some individuals are more susceptible to this phenomenon than others.

- As digital and social media continue to permeate everyday life, further research is needed to examine how these platforms influence the Visual Mandela Effect. Studies could explore how digital manipulation, such as photo filters and altered images, affects memory accuracy and contributes to the proliferation of the Mandela Effect in modern digital contexts.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study will be provided by the corresponding author upon request.

References

Arias, A., & Del Campo, A. (2009). Introduction: Memory and popular culture. *Latin American Perspectives*, *36*(5), 3–20. https://doi.org/10.1177/0094582x09342850

Bauste, G., & Ferraro, F. R. (2004). Gender differences in false memory production. *Current Psychology*, *23*, 238–244. https://doi.org/10.1007/s12144-004-1023-0

Braun-LaTour, K. A., LaTour, M. S., Pickrell, J. E., & Loftus, E. F. (2004). How and when advertising can influence memory for consumer experience. *Journal of Advertising*, *33*(4), 7–25. https://doi.org/10.1080/00913367.2004.10639171

Brown, A. D., Kouri, N., & Hirst, W. (2012). Memory's malleability: Its role in shaping collective memory and social identity. *Frontiers in Psychology*, *3*, Article e257. https://doi.org/10.3389/fpsyg.2012.00257

Cuncic, A. (2024, January 3). *What is the Mandela effect?* VeryWellMind. https://www.verywellmind.com/what-is-the-mandela-effect-4589394

Devitt, A. L., & Schacter, D. L. (2016). False memories with age: Neural and cognitive underpinnings. *Neuropsychologia*, *91*, 346–359. https://doi.org/10.1016/j.neuropsychologia.2016.08.030

Garry, M., & Gerrie, M. P. (2005). When photographs create false memories. *Current Directions in Psychological Science*, *14*(6), 321–325. https://doi.org/10.1111/j.0963-7214.2005.00390.x

Hernandez, D. (2022, December 30). *The Science behind the reality-bending Mandela effect*. Popular Mechanics. https://www.popularmechanics.com/science/a38349974/mandela-effect/

Howe, M. L. (2011). The adaptive nature of memory and its illusions. *Current Directions in Psychological Science*, *20*(5), 312–315. https://doi.org/10.1177/0963721411416571

Jenni. (2023, May 1). *The monopoly man has no monocle–it's the Mandela effect*. Monopolyland. https://www.monopolyland.com/monopoly-man-monocle/

Loftus, E. F. (2019). *Speaking of Psychology: How memory can be manipulated, with Elizabeth Loftus, PhD*. American Psychological Association. https://www.apa.org/news/podcasts/speaking-of-psychology/memory-manipulated

Lyle, K., & Johnson, M. (2006). Importing perceived features into false memories. *Memory*, *14*(2), 197–213. https://doi.org/10.1080/09658210544000060

Maswood, R., Luhmann, C. C., & Rajaram, S. (2022). Persistence of false memories and emergence of collective false memory: Collaborative recall of DRM word lists. In Q. Wang (Ed.), *Memory online*. Routledge.

Palma, B. (2022, July 20). *No, Darth Vader didn't actually say 'Luke, I am your father'.* Snopes. https://www.snopes.com/fact-check/star-wars-luke-i-am-your-father/

Poe, A. S. (2024, January 16). *Pikachu's tail was never black! (Mandela effect explained).* Anime Horizon. https://fictionhorizon.com/pikachus-black-tail-explained/

Prasad, D., & Bainbridge, W. A. (2022). The visual Mandela effect as evidence for shared and specific false memories across people. *Psychological Science*, *33*(12), 1971–1988. https://doi.org/10.1177/09567976221108944

Tamir, D. I., Templeton, E. M., Ward, A. F., & Zaki, J. (2018). Media usage diminishes memory for experiences. *Journal of Experimental Social Psychology*, *76*, 161–168. https://doi.org/10.1016/j.jesp.2018.01.006

Vasu, N., Ang, B., Teo, T. A., Jayakumar, S., Raizal, M., & Ahuja, J. (2018). *Fake news: National security in the post-truth era*. Nanyang Technological University.

Weintraub, P. (2017, February 15). *On shared false memories: What lies behind the Mandela effect*. Aeon. https://aeon.co/ideas/on-shared-false-memories-what-lies-behind-the-mandela-effect