Project Title

Memes at Work: Realness, consistency, and technicity

Team Members

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Links

https://surfdrive.surf.nl/files/index.php/s/Kdwkho5CacV6aq1#pdfviewer

Contents

Summary of Key Findings

The findings are twofold. First, by comparing ChatGPT–generated hashtags of working memes and manually–generated ones, we discuss the realness and consistency of synthetic data. Second, through a color analysis, we highlight memes' nature of replication, which enables memes to stand throughout time and circulate across various socio-cultural contexts.

1. Introduction

Synthetic data has been defined as "information that is not generated by real-world occurrences but is artificially generated" (Turing, n.d.), designed to "mimic" real-world data. In this vein, how real can synthetic data be? Using working memes as a vehicle, we first explore the realness and relatedness of synthetic data. That is, whether the ChatGPT–generated hashtags for working memes appear in Instagram posts and whether they are relevant to the hashtags which are manually generated.

Shifting the focus to the memes themselves, we subsequently adopt color analysis to investigate the "technicity" (Rogers & Giorgi, 2023) of working memes. By looking carefully at the colors of the memes, we open up conversations on how meanings embedded in the memes are shaped (Bucher, 2012), re–mixed, and maintained in the digital environment.

2. Initial Data Sets

We have three data sets as follows.

Dataset 1. Co-tag Network of ChatGPT-generated Hashtags
We prompt ChatGPT to generate the related hashtags based on the provided hashtags related to memes at work (i.e., #work, #quietquitting, #quietquittinglife, #workworkworkworkwork, #antiworkmemes and #antiworkaholic), using the prompt below:

ChatGPT prompt
You are a media scholar studying social imaginaries through memes about work on Instagram. We have a list of hashtags that are about these imaginaries: #work, #quietquitting, #quietquittinglife, #workworkworkworkwork, #antiworkmemes and #antiworkaholic. Could you provide hashtags related to them that are relevant for the study

of social imaginaries created through memes about work on Instagram? Could you provide the reasons why you feel that they are related? Please provide a table with three columns where the first column is the hashtag we provided, the second column is the related hashtag and the third column is the reason for why they are related.

Based on the hashtags, we built the co-tag network where the nodes represent the hashtag, and the edges represent their relatedness.

Dataset 2. Co-tag Networks of Real-world Hashtags
Step 1. We used the Zeeschuimer extension in the Firefox browser to collect Instagram posts based on the provided hashtags. For each provided hashtag, we collected 100 posts.

Step 2. We connected Zeeschuimer to 4cat *(*https://4cat.digitalmethods.net). This tool helps to download the information from collected posts, including text, post links, and hashtags. We merged the information of the six provided hashtags. 4cat then generated the co-tag networks based on the merged data, whose nodes represent the hashtags and edges represent the concurrence of hashtags within the same post.

Dataset 3. Meme Images collected by the expert
We use the DownloadThemAll extension in the Firefox browser to download meme images using the post links collected in Dataset 2.

3. Research Questions

RQ1: How real is synthetic data?

RQ2: How analytically productive is synthetic data (when compared to manually produced analyses?)

RQ3: What are the features of working memes on Instagram and what are the implications of these features?

4. Methodology

We conducted both automated as well as manual (software-enabled) analyses of the synthetic and real-world hashtags, producing co-hashtag graphs, with automated as well as manual labels. We also conducted a colour analysis of the memes collected. The details are as follows.

4.1 Visualisation of Co-tag networks

Using Gephi, we visualised the co-tag networks generated by ChatGPT (Dataset 1) and the real-world co-tag networks (Dataset 2).

4.2 Hashtags clustering and labelling

For each co-tag network, we used Gephi to cluster the hashtags into six clusters based on modularity.

- For the clusters of ChatGPT-generated hashtags, we prompted ChatGPT to generate labels for each cluster.

> *ChatGPT prompt*
> *I want you to put hashtags in this table into 6 communities based on the common modularity class number. Then label the communities by interpreting the hashtags in the community in an expert way based on their common meanings and shared themes – and produce these labels of the 6 communities. Each label should contain more than 1 word but less than 10. Provide also an explanation on why you came up with certain labels.*

- For the clusters of real-world hashtags, we labeled them manually.

4.3 Color analysis of memes collected

We use the ImageSorter to sort the collected memes (Dataset 3) based on colour. We specifically examine how memes were repeatedly used or modified. When necessary, we tracked posts to learn more about the account names, posting time, and other information using the collected links.

5. Findings

5.1 Visualisation of the Co-tag Networks

The co-tag networks of ChatGPT-generated hashtags are shown in **Figure 1**, while those based on real-world hashtags are presented in **Figure 2**. The co-tag networks of hashtags generated by both team members' ChatGPT accounts are highly similar. However, the co-tag network based on Xiaoyun Huang's real-world data shows an uneven distribution across clusters, whereas Ruiwen Zhou's network has a more balanced distribution.

Figure 1

Co-tag Networks of Hashtags Generated by the Two Team Member's ChatGPT Accounts

a) By Xiaoyun Huang b) By Ruiwen Zhou

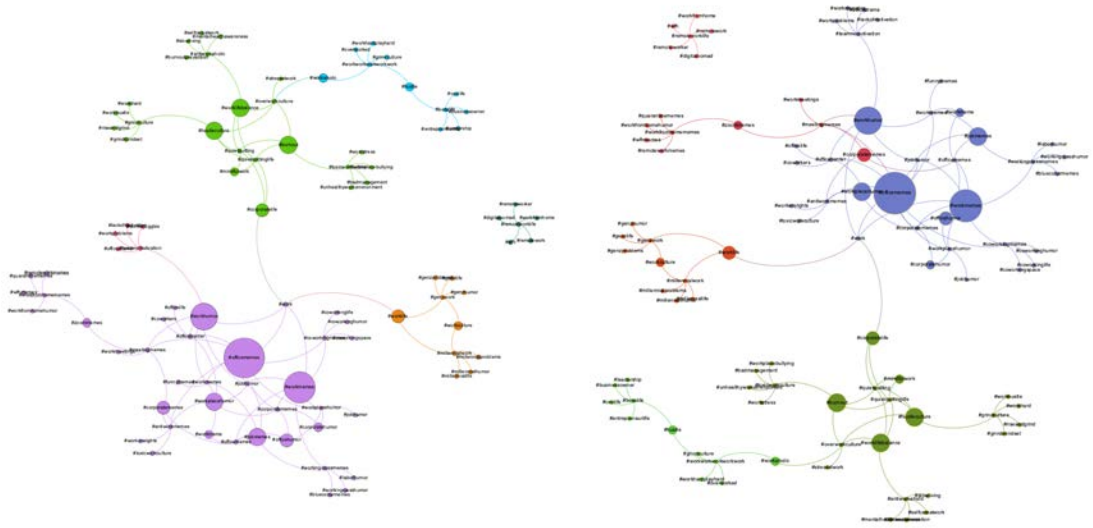
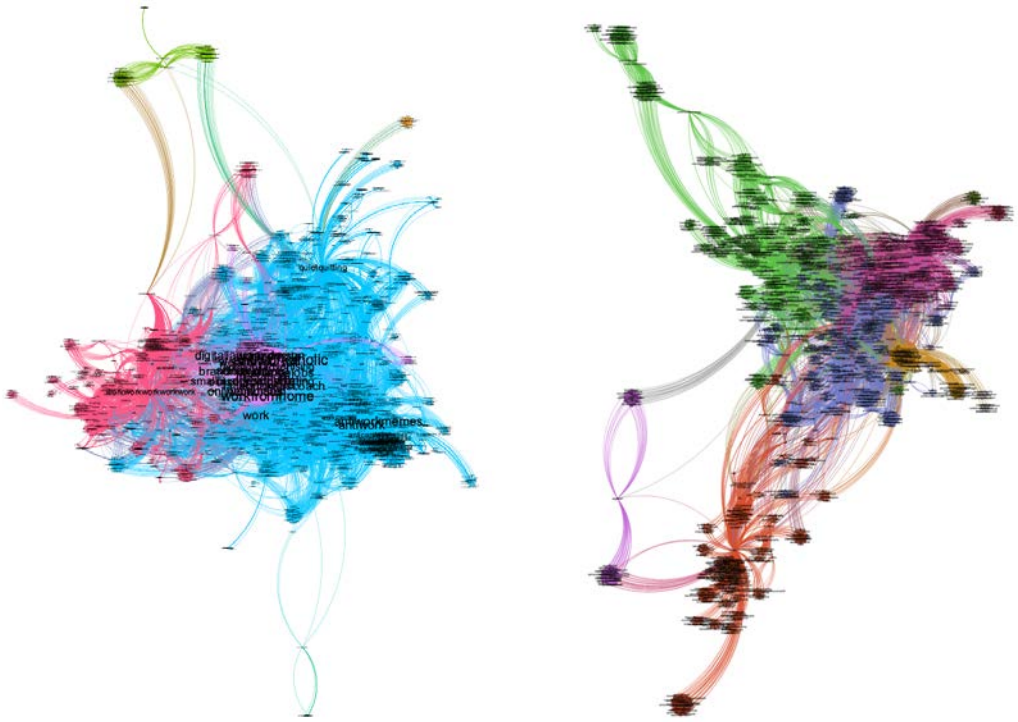


Figure 2

Co-tag Networks of Real-world Hashtags Collected by Two Team Members

b) By Xiaoyun Huang b) By Ruiwen Zhou



5.2 Comparison of Hashtag Communities Labelled by Team Members and ChatGPT

We compared the hashtag communities labelled by two team members and by ChatGPT. As shown in **Figure 3**, Xiaoyun's manual labels are used as the baseline, with matching hashtags highlighted in light yellow. The results show high consistency in

ChatGPT-generated labels across both team members' accounts, which align closely with Xiaoyun's manual labels. In contrast, Ruiwen's manual labels differ significantly.

Figure 3

Comparison of the Hashtag Communities labelled by Team Members and ChatGPT

Manual Labels (by Xiaoyun)	ChatGPT-generated Labels (by Xiaoyun's Chatgpt account)	Manual Labels (by Ruiwen)	ChatGPT-generated Labels (by Ruiwen's Chatgpt account)
Work Life Balance	Generational Work and Life Perspectives	Creative work (digital art)	Generational Work Perspectives
Antiwork Memes	Workplace Humor and Meme Culture	Lost in silence	Workplace Humour and Struggles
Corporate Culture	Work Culture Critiques and Alternatives	Personal growth	Work Culture and Well-Being
Mental Care	Workplace Struggles and Low Motivation	Work about beauty	Remote Work Humour and Challenges
Work from Home	Remote Work and Digital Nomadism	Work about writing	Remote Work Lifestyle
Work Hard and Motivation	Hustle and Leadership Culture	Negative attitudes to remote work	Entrepreneurial and Leadership Culture

Note. The manual labels are based on the real-world hashtags collected by two team members; the ChatGPT-generated labels are based on the ChatGPT-generated hashtags.

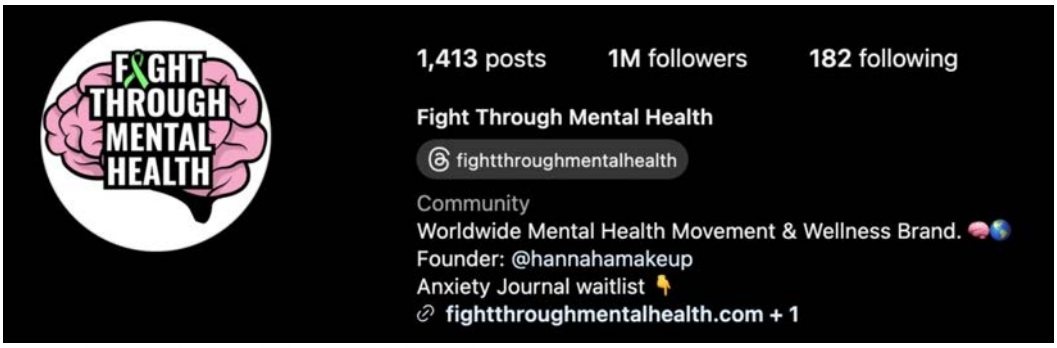
5.3 Color analysis of memes collected

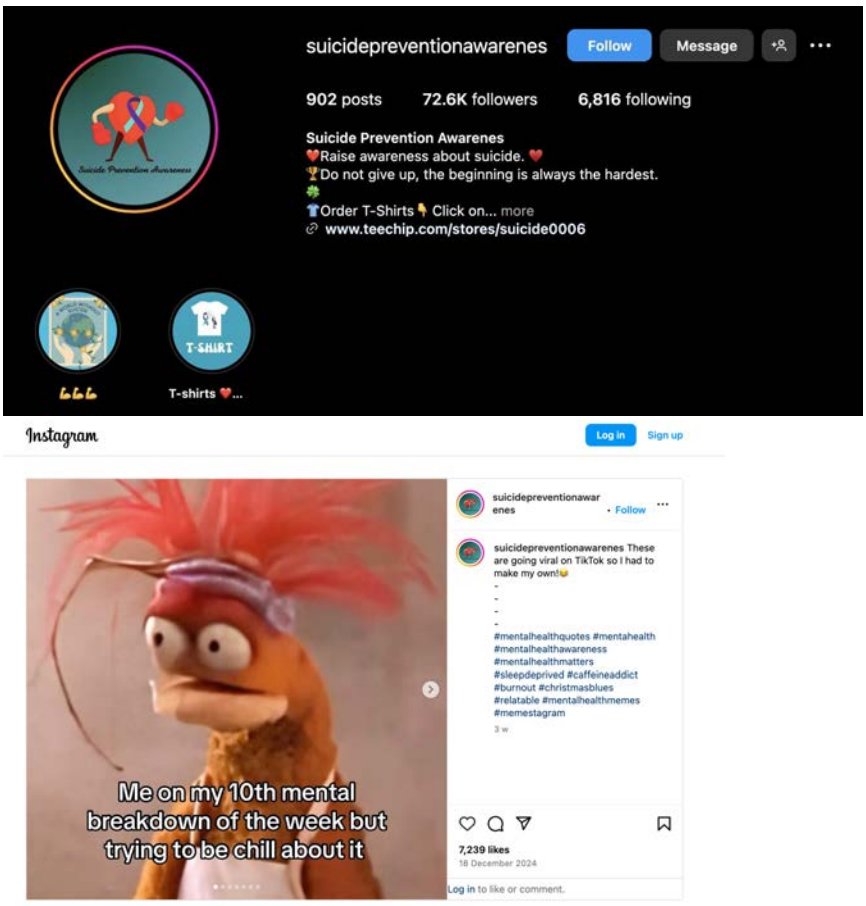
In **Figure 4** and **Figure 5**, we identified two groups of memes that were repeatedly used at different times and the accounts that posted them.

In **Figure 4**, the memes were posted by two accounts related to mental health on 16 December and 18 December 2024 respectively.

Figure 4

Repetitive Memes Group 1 and the accounts that posted them

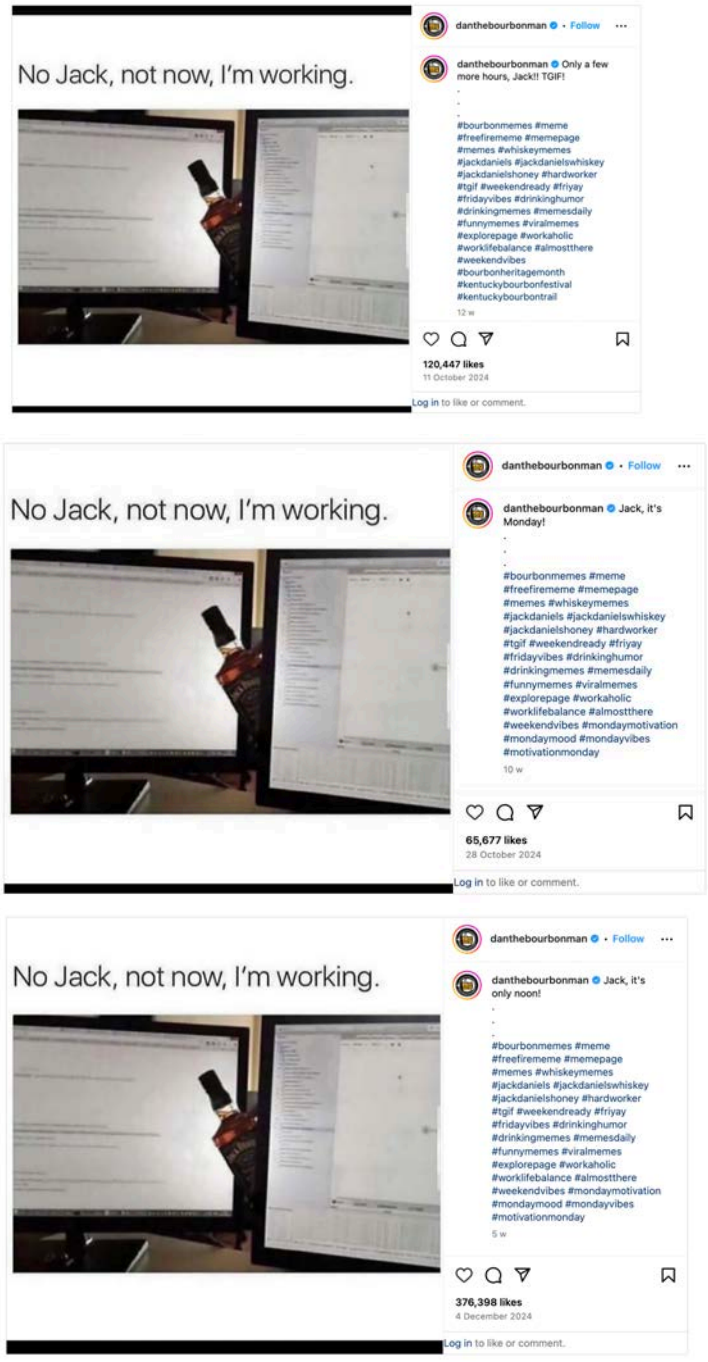




In **Figure 5**, the memes are used by the same Instagram account on different dates—on 11 October, 28 October, and 4 December 2024. This account mainly sells alcohol, which does not centre on work culture but uses working memes as a tool for product promotion.

Figure 5

Repetitive Memes Group 2 and the account that posted them



In **Figure 6**, we found a group of memes of Spongebob.

Figure 6
Spongebob Memes

6. Discussion

The realness of synthetic data

As presented above, the hashtags generated by ChatGPT follow a more semantic logic, showing a strong focus on the terms “memes” and “work”. However, hashtags on Instagram are not only developed by users with their interpretation on certain topics, but also mediated by platform logic such as the logic of algorithmic recommendation. As argued by Nick Seaver (2017), algorithms are “unstable objects, culturally enacted by the practices people use to engage with them” (p.5). Following this path, our findings suggest a rethink of synthetic data and its realness. In a time when ChatGPT–generated information is trying hard to get closer and closer to the “real”, offline world, what about the virtual space which has its own rights (e.g., Boellstorff, 2008) and digital platforms where online and offline experiences intertwined together as a “single albeit multifaceted, narrative of life” (Combell, 2004, cited in Boellstorff, 2008).

The consistency of synthetic data

According to the comparison between the clusters of manually–generated and ChatGPT–generated hashtags, we notice a strong similarity in both researchers’ ChatGPT–generated clusters but a noticeable difference between researchers’ manually–scraped ones. It seems that ChatGPT–generated hashtags are more consistent with the topics of “working memes” while manually–generated ones reveal the messiness of the real–world. As discussed before, ChatGPT seems to have a preference for semantic similarities, rather than actual relationships. However, from a real–life perspective, we perceive and understand the world through more than logical and rational paths; it also includes coincidence, mystifications, mistakes, accidents, and irrational decisions. How do synthetic data match the real world, and what is the meaning of consistency at this point?

The technicity of working memes

In line with Rogers and Giorgi (2023), the technological features of the working memes, such as templates for making memes, allow a certain degree of “stability and fixity for

replicative practice" (p.85). Furthermore, we argue that this nature of replication enables memes on Instagram to break the boundaries of different sociocultural domains, circulating across various contexts and standing throughout time. For instance, we noticed that the same meme can be used for expressing one's feelings, advertising relevant products, promoting organizations, and a host of other goals, within a variety of domains, including business, lifestyle, art and design, and of course, labor rights. Working memes here are more than content for sharing but an ongoing struggle, repeatedly reconfigured and re–fixed within new relations where their meanings are unmade and remade.

Elements from SpongeBob SquarePants, the cartoon series, stand out among the working memes. Indeed, SpongeBob enjoys a high memeability because its audience makes up the majority of today's internet culture and its continuous popularity among a broader range of people (Romano, 2019). However, why do not other animations which share similarities with SpongeBob SquarePants or created from other parts of the world work? Beyond the technological features crafted by digital environments and the sociocultural features shaped by offline society, what is the value of memes for themselves? Why do certain memes work well while others do not? We thus suggest another way of understanding memes by regarding them as a legitimate site of culture on their own terms.

7. Conclusion

1. Epistemology: We found there is something fundamentally and logically different between the synthetic data and the manual data. We emphasize the importance of taking the chaotic and messy aspects into consideration because they are crucial in how we as humans understand the world and practice.

2. The technicity of memes: We make a contribution to the literature on the technicity of memes by highlighting the memes' potential of floating across various sociocultural contexts while maintaining their technologically–mediated components

3. Future research: We suggest a step beyond to study memes not merely as content but as a lens, through which to understand how memes in return have an impact on technological and sociocultural landscapes.

8. References

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