

MEMES AS CULTURE REPOSITORIES - SOCIAL EMOTIONS DURING “STAY AT HOME” PHASE IN POLAND FROM PUBLIC HEALTH PERSPECTIVE

MONIKA WÓJTA-KEMPA

Department of Health Humanities and Social Sciences
Wrocław Medical University
ul. Bartla 5, 51-618 Wrocław, Poland

E-mail address: monika.wojta-kempa@umw.edu.pl

ORCID: <https://orcid.org/0000-0002-0027-1033>

IRENA WOLSKA-ZOGATA

Institute of Sociology, Wrocław University
ul. Koszarowa 3, 51-149 Wrocław, Poland
E-mail address: irena.wolska-zogata@uwr.edu.pl
ORCID: <https://orcid.org/0000-0001-7896-5935>

ANDRZEJ JARYNOWSKI

Institute for Veterinary Epidemiology and Biostatistics, Freie Universität Berlin,
Königsweg 67, 14163 Berlin, Germany
Interdisciplinary Research Institute
Oriona 15/8, 67-200 Głogów, Poland
E-mail address: a.jarynowski@fu-berlin.de
ORCID: <https://orcid.org/0000-0003-0949-6674>

ABSTRACT

Aim. The main goal of the article is to obtain a socio-medical picture of COVID-19 pandemic from Polish Internet memes. Memes are part of a collective memory and could help one understand the ongoing social processes during the pandemic.

Methodology. We perform qualitative analysis of the selected memes shared on the Polish Internet. Among over 2000 gathered memes, 25 examples of memes were dedicated to #stayathome phase (18 March 2020 until 7 April 2020).

Results. We have distinguished three main topics, areas and functions: uncertainty and anxiety in everyday life; managing isolation and making sense of the safety measures; building support community and solidarity with medical staff. We found a relatively high number of supportive, pro-health memes during the

stay-at-home phase in comparison to prepandemic era as well as other phases of the pandemic.

Conclusions. Memes go beyond the humorous function, as they also carry new information and give context to new situations or events. Thus, memospheres should be monitored and used in public health awareness campaigns helping people who are coping with uncertainty, facilitating the internalization process of acceptance as well as promoting help-giving attitudes. Memes could be utilised as health communication techniques to influence Internet users.

Keywords: Memes, culture, COVID-19, stay-at-home, health communication

INTRODUCTION

The purpose of this article is to explore coronavirus memes, specifically reflecting social changes and attitudes during the stay-at-home phase of the pandemic. The analysis of the memes in the context of COVID-19 pandemics became a new way to describe and understand social attitudes. Memes can be a repository of emotional reactions in the face of a new health threat and also the illustration of change in social definitions and behaviours. However, until 2021/2022 there were no studies attempting the role of memes as tools to face the COVID-19 pandemic (Moya-Salazar et al., 2021). In the Polish media, the first attempt to recognise and analyse the memes in the pandemic was published by Dojwa-Turczyńska & Wolska-Zogata (2020).

The aim of the article is to present some representations of social emotions and vivid mechanisms of coping with the new health threat during the “stay at home phase” in Poland (March-April 2020). Our proposition should be treated as a follow-up study, supplementing the knowledge of social consequences of the SARS-CoV-2 pandemic.

Theoretical framework of memes. Communication research, including online, has used the concept of memes as a form of expression or communication that is useful/significant to members of a community in a particular situation (Lievrouw, 2012). Memes as a genre are characterised by their form and purpose, i.e., that they have typical material features or follow conventions, and at the same time enable people to express their own views or feelings in order to achieve their intended goals (Lievrouw, 2012). Genres facilitate communication between members of a given community (McQuail, 2005). Memes as interpretive frames define the problem, diagnose causes, impose moral judgements and suggest ways to solve problems (Gitlin, 1989).

Memes as a genre are not so much a carrier of new information as they are the ones that give context to a given situation or event. They are a way of creating a community in which members can understand each other, genres can act as boundaries or signs that exclude outsiders from the community and reinforce the power of those who are members by building a sense of community (Lievrouw, 2012). Memes are ‘units of culture dissemination’ - graphic characters which connect and disseminate ideas, threads of culture,

subjects of discussion that otherwise could remain only local, rooted in a limited context.

According to Kamińska (2011; 2017), Polish internet researcher and the founder of “cyber cultural studies” project, memetic production can be also interpreted as a form contributing record of important moments of social life on the Internet, and the memes themselves are the testimony of phenomena and events that anonymous users are concerned with and felt important enough to write down their thoughts in a form determined by specific cultural and technological factors. The Internet community confirmed this ‘diagnosis’ by ‘viralizing’ texts, as well as disseminating, duplicating and processing them. In this perspective, we should memes’ transmission treat as a form of collective consent to their form and content. Some of memes’ contents, found as improper, low-quality or lacking approval of scientists, live as a kind of “memetic epidemics”, without control of media concerns (Kamińska, 2017).

Genres are not static; as dynamic modes of communication and expression, they evolve under the influence of users’ life circumstances and interests (Lievrouw, 2012). Internet memes fit into a genre that Leah A. Lievrouw calls culture jamming, which uses images, sounds, and popular culture texts to critique culture or as political commentary. This recombination of cultural texts would not be possible were it not for the availability of easy-to-use digital media technologies (Manovich, 2007). Thanks to digitisation, it is possible to choose any element from the stock of cultural traditions, which, thanks to the creative potential, multimedia can transform into one’s own works of art and other cultural products. Multimedia encourages users to create various kinds of collages, arranging them into new wholes. “To use a metaphor, we can say that before the multimedia era, genres were like stalactites, whereas now they are a pyrotechnic show” (Gumkowska, 2015, p. 213).

Polish cultural context

Research conducted in 2016 by GFK Polonia and Clue PR shows that as many as 95% of Internet users know what memes are, and 41% like to watch and share them online. For 67%, sharing memes is a form of expressing views (Bierca & Wsycka-Światała, 2016). Respondents share memes because they: make people laugh, allow them to share opinions, and build a sense of community around a given subject or opinion. According to 69% of respondents, memes are funny, and 67% believe that they make fun of serious topics, which allows them to get a new perspective on a topic. Memes are timeless for Internet users, they refer to universal codes and they do not require high competence from their recipients, and at the same time they positively affect integration and community. For 64% of respondents, sharing memes is also a form of good fun and relaxation. Most common topics for memes include: politics (64% survey participants), male-female relations (51%), phenomena in social groups (51%), and topics referring to the labour market and professional life (42%). Memes may serve as an opinion-forming function, and they also make it possible to learn about social moods. 67% of respondents share memes as a form of expressing opinions, and for 64% memes are used to express emotions such as frustration, irritation, and anger.

Internet memes, despite their availability and ubiquity, attract the attention of users with similar political identities, for whom the frame used seems obvious. Internet communities and interest groups form filter bubbles focused around shared views, including political ones. Thus, some views are considered obvious and natural and others are considered completely irrational and nonsensical for those outside the given echo chamber (Malewska-Szałygin, 2017), which could lead to further polarisation.

In 2017, Havas Story Plantation conducted research on Poles' preferences for consuming media content. Analysis of meme appeal across audience groups showed that there is a significant difference between memes that get liked and those that get shared on social media. This variation is particularly visible in younger age groups, where respondents, in the search of approval from their peers, are much more selective in choosing the content they publish. Observation of online behaviour has shown that the content that is genuinely attractive to a specific audience is not that which is published on social media channels (Havas Media, 2017). This is an important remark to take into account when discussing memes from both social and traditional Internet media.

Socio-medical context

It has been revealed that media use is functional, as people use media to satisfy their own psychological needs (Wright, 1960). Research in the tradition of the uses-and-gratifications approach (Katz et al., 1973) identified a set of basic needs users attempt to gratify via media, including diversion and entertainment, as well as information and influence. These needs are shaped by individual predispositions as well as social and sociological pressures (Katz et al., 1973). Over decades, research has established large groups or clusters of uses and gratifications, including social-integrative gratifications (such as feelings of relatedness toward media characters or other media users), cognitive or information-related gratifications (such as surveillance), self-related motives (such as exploring or displaying identity aspects via media use), as well as emotional gratifications (such as escapism (Ruggiero, 2020)). Media content may provide feelings of competence and security, by giving access to relevant information or problem-solving strategies; foster feelings of connectedness in situations where media users feel stressed or isolated; and facilitate mood regulation and distraction from stress-inducing events and cognitions.

Social perception of health issues (as infectious diseases) deals with the complex relationship between mass culture and medical knowledge. For this reason, there is no direct translation between scientific evidence (e.g. the question of the effectiveness or protective masks in infection prevention) and colloquial knowledge describing these information needs (Freidson, 1988). People's perception of such risks affected their response which can be traced in cultural digital traits identified during this pandemic (Van Bavel et al., 2020). At a specific moment in time, Poland started a hard lockdown (Jarynowski, Wójta-Kempa et al., 2020) with stay-at-home recommendations were given as well as dispositional groups and healthcare workers have been overwhelmed

with preparation for the upcoming wave of infections. Surveys showed that 42–70% of Poles were obtaining their COVID-19 information from social media (during the first wave of the epidemic), which indicated that the online sources were more popular than the local and government sources or health professionals (Wójta-Kempa et al., 2020).

Most social media research around COVID-19 revolved around the medical or epidemiological aspects as disease surveillance (Ibrahim, 2020; Salathé, 2018) or psychological issues such as stress or anxiety (Li et al., 2020). However, they were but a small part of all topics that came with Coronavirus, whose coverage was done predominantly with the social aspects in mind (Jarynowski & Wójta-Kempa, 2021).

Around mid-March, anxiety would begin to spread in the population due to the stepwise introduction of lockdown (from closing schools and borders to remote work orders and limits in transportation). People thus had more time to use the Internet, causing memes and other forms of social activity to appear more frequently in social media (Jarynowski, Czopek et al., 2021). These quickly became the only safe channel of social communication. Social mobilisation in the mediasphere was concentrated on altruistic and, generally, positive issues, building the atmosphere of compassion and support for those who suffered (elderly, unable to self-care) or professionals fighting the virus head-on (medical staff).

We would like to refer to a concept from the social medicine area: *Lay-referral framing system* (Freidson, 1988), where opinions and beliefs of the general public are something different from medical knowledge. Social media can offer not only participation and engagement, but also co-creation for health-related-knowledge and preventive behaviour patterns (Payton, 2016). Social understanding of the disease was therefore created through the presence of memes and then spread in the social network. Many recent studies provide evidence for the important role that media consumption can play in supporting coping processes in ways both unique from more basic emotional regulation and beyond techniques typically recommended by health professionals. Results of the study by Grady et al. (2022) show that generally, an increase was observed in television viewing and computer-mediated interpersonal communication early on in the pandemic, with users overwhelmingly avoiding the news at the onset of social distancing. In terms of affective responses, participants reported mixed experiences with social media, with some platforms associated with positive affect (TikTok, YouTube) while others were generally a source of stress (Facebook, Twitter, news content) (Grady et al., 2022). According to Myrick et al. (2021), COVID-19 meme viewing (in comparison to non-meme content) was related to deeper information processing and lower levels of COVID-19-related stress and indirectly associated with increased COVID-19 coping efficacy.

Internet Memes are information units which can be transmitted from sender to recipient through traditional and social media. Memes, just like genes, are inherited (communicated); they also undergo modification and rapid selection depending on the social context. Memes produced during the pandemic, especially during the ‘stay at home’ phase, may be characterised as:

- vernacular, as, to a high extent, reader must know the cultural code of the information, however during ‘stay-at-home’ phase memes seemed to be inclusive and speciation into selected social categories were observed in further phases of pandemic (i.e. among teenagers (Będkowska-Kopczyk, Łaziński, 2021));
- emotional, (expressing convictions, views and emotions of the sender): they may have negative, positive or ambivalent load;
- humorous, which is a necessary condition for each meme, whose aim is to amuse the recipients, to mock social norms or antisocial behaviours (satiric/ludic);
- repositioning of social emotions, behaviours, norms (or attitudes): usually memes criticise the social order (norms, governmental decisions), but during the ‘Stay at home’ phase they would also encourage people to follow the sanitary restrictions;
- informational within the context of interpretation of current events (intersubjectivity), which was achieved by referring to the ongoing events of the epidemic, such as “physical distancing” order, cancelling mobilities, helping the more fragile individuals (for instance elderly), situation of the affected healthcare workers;
- not understandable without knowledge of the social context, for instance how the Polish healthcare system worked at the time, the level of polarization, etc;
- viral, as memes must be shareable or spreadable, so content must focus on the social logics (i.e. fear of infection) and cultural practices (i.e. self-isolation).

These characteristics make memes a dynamic and strongly involving component of ‘lolcontent’. Memes, using mental shortcuts, surprising associations and bold jokes are more attractive than professional information, which is in contrast secondary-informative, prudent and considerate, which makes it rather boring for Internet users (Kamińska, 2017).

MATERIALS

Perhaps no other event before the COVID-19 pandemic singlehandedly gathered such an assembly of memes created and distributed on the Polish Internet. The culmination of social creativity was observed in the so-called ‘stay-at-home’ phase according to media activity analysis (Jarynowski, Semenov et al., 2021). Moreover, this phase was characterised with the highest depolarization as well as high positive emotional load with focus on social topics. Thus, we have selected this particular time frame (18 March 2020 until 7 April 2020).

About 2000 memes directly or indirectly (contextually) referring to coronavirus were obtained from the following websites: www.memy.pl, www.kwejk.pl, www.demotywatory.pl between March and August 2020. 1324 mems were chosen for analyses, and 23 of them could be assigned to the ‘stay-at-home’ phase (Dojwa-Turczyńska & Wolska-Zogata, 2020). Another 2 examples were taken

from other sources; thus 25 memes were analysed. The memes were selected in relation to three important social phenomena that occurred at the beginning of the pandemic. These phenomena constitute peculiar “filters” of selection and, at the same time, interpretative frames. Moreover, the social representations paradigm (de Saint Laurent et. al, 2022) allows us to conduct an empirical reflective analysis on the obtained material. Qualitative research methodology with a constructivist paradigm provides a set of procedures analysing data’s “digital trace” that is particularly useful in studying relatively under-recognised phenomena as role of memes in medical communication during pandemic. Memes are thus at the same time a “repository” of social emotions, an illustration of social moods and a “unit of information” about the ongoing events.

The analysed materials were approached as the examples representing the subjects of memes created during the deep lockdown in Poland in 2020. Taking the knowledge of social circumstances in the first period of the pandemic in Poland, we seek the illustrations of the social activity in the online context, assuming that memes were not only social repositories but also the way to cope with difficulties appearing at that time. The content of the memes can be read as important social issues.

Our study has several limitations. First of all, the choice of the memes is limited. It is possible that the authors did not reach for other memes that appeared in virtual reality. Secondly, our description is a surface qualitative view in the content rather than regular systematic qualitative review with a strong methodological background. It should be treated as a proposition for linking the field of mass media study and public health priorities.

RESULTS AND DISCUSSION

After recognizing the memes that appeared during the ‘stay at home’ phase, we distinguished three main categories of memes with examples given below.

Black humour as a mirror of anxiety and uncertainty [Fig. 1]

Memes could primarily play a role in reducing the level of stress caused by the scarcity of information about the pandemic by sharing the conviction that “It is ok to be anxious”. People were getting used to the new situation, trying to continue living their lives; seeking for normality by ridiculing the pandemic. Other researchers also concluded that uncertainty was a main topic of memes in 2020 (Hodalska, 2020; Jezierska, 2020). Thus, memes may tentatively serve as a coping mechanism for anxiety (Akram et al., 2021) in populations fighting with the new health threat. Protection measures such as protective equipment (i.e. masks and gloves) or reducing infectious contacts (i.e. physical distancing) and the transmission (i.e. via coughing or talking/singing) routes were most often depicted in memes in the English-speaking world during the first wave of infections (de Saint Laurent et. al, 2022). Moreover, in the same study, during the USA’s equivalent of stay-at-home phase, which took place a few weeks earlier (Jarynowski, Semenov

et al., 2021), there was an important reduction of political oriented memes as well as an increased number of parody of misinformation type of memes. A study has shown that the Americans who viewed pandemic memes felt less stress than those who did not (Myrick et al., 2021). Claims have also been made that memes could speed up the process of familiarization with something previously unknown (SARS-CoV-2) and decrease anxiety load (Główny & de Saint Laurent, 2021).

Figure 1
Uncertainty and internalization of habits



Sources: <https://m.demotywatory.pl/4983400/>; <https://paczaizm.pl/tato-co-robiles-w-trakcie-wielkiej-pandemii-2020-siedzialem-w-domu-i-szerowalem-memy-o-tym-ze-inni-tez-powinni-siedziec-w-domu/>

New situations require new competences - memes as the behaviour instruction [Fig. 2]

While most people felt anxiety and loneliness, introverts, usually ashamed because of their avoidance of people, had the opportunity for a “coming-out” of sorts and show themselves in positive terms. Formerly disparaged attitudes that were referred to as anti-social became an important resource in coping with new situations in the pandemic context. They visualised the need for different competencies in a visibly different situation. Memes showed the power of diversity in society, pointing to the accuracy of protective behaviour.

Figure 2*Making sense of measures*

Sources: <https://besty.pl/tag/izolacja/strona/10>; <https://paczaizm.pl/zapalki-jesli-mozesz-zostan-w-domu-jedna-zapalka-wysunieta-koronawirus/>; <https://kwejk.pl/tag/unikac>; <https://demotywatory.pl/4984137/Unikalismy-ludzi-zanim-to-bylo-modne>

Presented illustrations represent adequate behaviours, i.e., adhering to public health recommendations. Internet users who experienced loneliness could use social media to cope with lacking social contact (Cauberghe et al., 2021) and engage in creation of memes and their distribution. Internet memes remain a central item in the digital space of the democratic society and allow to criticise government's decisions; they also negotiate the point of measures being taken. Making light of a negative experience (positive reappraisal) can be an element of emotional regulation (Akram et al., 2021). Moreover, memes promoting health are found to be more credible and persuasive than anti-health memes (Wasike, 2022).

Solidarity and support led to a temporary community [Fig. 3]

Before the pandemic, strong political polarization was observed within Polish society (Jarynowski, Semenov et al., 2021). The pandemic, as a shared experience, temporarily directed the social attention towards the new danger. People shared similar experiences and emotions and memes were the confirmation of these similarities, also carrying instructions on proper behaviours in the face of new

situations. The perception of peer-support through affiliation with others could increase the well-being of Internet users (Akram et al., 2021). Despite physical distance (fewer physical contacts among people), the temporal solidarity focusing on safety behaviours, as well as solidarity with medical staff were observed partially due to Internet memes (Jarynowski, Semenov et al., 2021).

Figure 3

Sense of community and social support



Source: <https://dziennikpolski24.pl/memy-o-kwarantannie-zobacz-najlepsze-memy-o-epidemii-koronawirusa/ga/c15-14929164/zd/43009278>; <https://memy.jeja.pl/609360,zostan-w-domu.html>; <https://demotywatory.pl/4983776/Oni-dla-ciebie-zostali-w-pracy-Ty-dla-nich-zostan-w-domu>; <https://joemonster.org/art/49678>; <https://nowosci.com.pl/janusz-nosacz-memy-zartobliwie-o-przywarach-polakow-zobacz/ga/c2-15398804/zd/47556814>

Exchanging optimistic memes results in co-creation of supportive social networks, strengthening of social bonds, building a sense of solidarity and user involvement in civic society for the common good (Stochmal, 2019).

To summarise, memes are a dynamic way of social communication and may be used both for emotional expression and disseminating information (Dynel, 2021). They are vernacular, emotional, often humorous and cannot be understood without the social context. The production and consumption of memes are related to the ongoing events that are recombined in the mechanism of meme-sharing. Re-combining leads to emotional re-loading and change of the symbolic meaning of a given item. Fear of being infected is recombined into the black humour, sense of isolation and loneliness coming from national lockdown – into approval of introversion and polarization into (temporal) solidarity. In the presented article, we endeavoured to show the alteration of social emotions made *via the Internet* in the spring 2020, in the “stay at home” phase.

CONCLUSIONS

The COVID-19 pandemic has had widespread implications on the mental wellbeing and redefinition of cultural traits in the Polish population. Interpretive frameworks of memes (defining the problem, diagnosing causes, imposing moral judgements and suggesting ways to solve problems) make individuals capable of handling information (Gitlin, 1989). Topics of memes are evolving in time and are

driven by fashions and cultural traits (Kamińska, 2011). Understanding what kind of memes were popular in traditional and social media (Dyner, 2021) could tell us how society reacted to the new threat during a particular phase of the pandemic. In our scoping study we described that memes may express social conditions and play a role as a norm-making communication.

We reached the following conclusions:

1. Memes expressed uncertainty and fear of upcoming danger, which could help to tame those emotions and face the problems; memes made emotions visible and shared. This “it’s ok to feel fear” norm was functional and useful for memes’ users (both producers and receivers);
2. Epidemic-related memes revealed positive aspects of the new situation, pointing to the behaviours (characteristics, abilities) that were sufficient to avoid being harmed (infected): being the introvert person for a while, locating the sense of isolation and loneliness as a choice;
3. Meme users formed a short-lasting community of support for those at the frontline of the pandemic (medical staff, dispositional/uniformed groups).

Thus, memes can be used as a tool to mobilise people (Kostygina et al., 2020) in supporting their and others’ behaviour in the times of crisis (as epidemic). However, this process is supposed to be bottom-up, starting from initiatives of local communities and only moderated by health communication professionals in their information campaigns. Optimal selection of memes can facilitate communication between members of a given community and structuring the relationship between sender and recipient and allows the form of production to be adapted to the expectations of the audience (McQuail, 2005). On the other hand, it seems essential to find out anti-health campaigns in Internet memes and minimise the harm of their spread (Jarynowski, Skawina, 2021). At the time of writing this article we see how memes could be used as a PSYOP in a military conflict between Russia and Ukraine, and so Ukrainian social media seems to take a good lesson from the pandemic in creating and distributing memes (Wolska-Zogata, 2012).

Acknowledgements. The authors should like to acknowledge the support of the *E-methodology* community. AJ was partly supported by a German Research Foundation (DFG) grant (458528774).

REFERENCES

- Akram, U., Irvine, K., Allen, S. F., Stevenson, J. C., Ellis, J. G., & Drabble, J. (2021). Internet memes related to the COVID-19 pandemic as a potential coping mechanism for anxiety. *Scientific reports*, 11(1), 1–8. <https://doi.org/10.1038/s41598-021-00857-8>
- Będkowska-Kopczyk, A., & Łaziński, M. (2021). COVID-19 Vocabulary in Slavic. In: M. L. Greenberg (Eds.), *Encyclopedia of Slavic Languages and Linguistics Online*. http://dx.doi.org/10.1163/2589-6229_ESLO_COM_036254
- Bierca, M., & Wsycka-Światała, A. (2016). *Obrazkowa Polski w memach i szerach* [Pictorial Poland in memes and sheets]. <https://admonkey.pl/barometr-nastrojow-polakow-czyli-najpopularniejsze-memy-i-ich-odbiorcy/>

- Caubergerhe, V., Van Wesenbeeck, I., De Jans, S., Hudders, L., & Ponnet, K. (2021). How adolescents use social media to cope with feelings of loneliness and anxiety during COVID-19 lockdown. *Cyberpsychology, Behavior, and Social Networking*, 24(4), 250-257. <https://doi.org/10.1089/cyber.2020.0478>
- Dojwa-Turczyńska, K., & Wolska-Zogata, I. (2020). *Obrazy początku pandemii w Polsce. Analiza jakościowa cybermemów* [Pictures of the beginning of the pandemic in Poland. Qualitative analysis of cybermemes]. ATUT.
- Dynel, M. (2021). COVID-19 memes going viral: On the multiple multimodal voices behind face masks. *Discourse & Society*, 32(2), 175-195. <https://doi.org/10.1177%2F0957926520970385>
- Freidson, E. (1988) *Profession of medicine: A study of the sociology of applied knowledge*. University of Chicago Press.
- Glăveanu, V. P., & de Saint Laurent, C. (2021). Social media responses to the pandemic: What makes a coronavirus meme creative. *Frontiers in Psychology*, 12, 569987. <https://doi.org/10.3389%2Ffpsyg.2021.569987>
- Gitlin, T. (1989). *The Whole World is Watching: Mass Media in the Making and Unmaking of tin-New Left*. University of California Press.
- Grady, S. M., Eden, A., Johnson, B. K., & Reinecke, L. (2022). Media Use and Avoidance Experiences During Social Distancing. *Technology, Mind, and Behavior*, 3(1: Spring 2022). <https://doi.org/10.1037/tmb0000041>
- Gumkowska, A. (2015). Mem - nowa forma gatunkowo-komunikacyjna w sieci [Mem - a new species-communication form in the network], *Teksty Drugie*, 4, 213-235.
- Havas Media. (2017). Consuming media content. www.havasmg.com
- Hodalska, M. (2020). Internetowe żarty z pandemii koronawirusa w „zbiorowej pamięci zarazy” [Online jokes about the coronavirus pandemic in ‘plague collective memory’]. *Kultura-Media-Teologia*, 41, 7-37. <https://doi.org/10.21697/kmt.41.1>
- Ibrahim, N. K. (2020). Epidemiologic surveillance for controlling COVID-19 pandemic: challenges and implications. *Journal of infection and public health*; 13(11), 1630-1638. <https://doi.org/10.1016/j.jiph.2020.07.019>
- Jarynowski, A., Wójta-Kempa, M., & Belik, V. (2020). Trends in interest of COVID-19 on Polish Internet. *Epidemiol Rev*, 74, 258-275. <https://doi.org/10.32394/pe.74.20>
- Jarynowski, A., & Wójta-Kempa M. (2021). Exploring the link between risk perception in Internet media and COVID-19 prevalence in Europe. *International Journal of Infectious Diseases*, 103, 450-451. <https://doi.org/10.1016/j.ijid.2020.12.001>
- Jarynowski, A., & Skawina, I. (2021). Attempt at profiling and regionalisation of COVID-19 vaccine campaigns in Poland-preliminary results. *Eur J Transl Clin Med*, 4(1), 13-21. <https://doi.org/10.31373/ejtc/134674>
- Jarynowski, A., Czopek, K., & Paradowski, M. B. (2021). “Keep your friends close”: Przystawianie języka obcego poprzez interakcje rówieśnicze a edukacja zdalna w dobie pandemii [“Keep your friends close”: interactions facilitate second language acquisition. Corollaries for the times of the pandemic]. *Acta Neophilologica*, 2(XXIII), 115-132. <https://doi.org/10.31648/an.6660>
- Jarynowski, A., Semenov, A., Wójta-Kempa, M., & Belik, V. (2021). Social Cohesion During the Stay-at-Home Phase of the First Wave of the COVID-19 Pandemic on Polish-Speaking Twitter. In D. Mohaisen & R. Jin (Eds.), *Computational Data and Social Networks* (Vol. 13116, pp. 361-370). Springer International Publishing. https://doi.org/10.1007/978-3-030-91434-9_31
- Jezińska, Z. (2020). Poznawcze i emocjonalne charakterystyki memów tworzonych w początkowym etapie pandemii koronawirusa w roku 2020 [Cognitive and emotional characteristics of memes formed in the early stages of the 2020 coronavirus pandemic]. *Fabrica Societatis*, 3, 190-200. <https://doi.org/10.34616/129172>
- Kamińska, M. (2011). *Nieczne memy. Dwanaście wykładów o kulturze internetu* [Dirty memes. Twelve lectures on Internet culture], Galeria Miejska Arsenał, Poznań.
- Kamińska, M. (2017). *Memosfera. Wprowadzenie do cyberkulturoznawstwa* [Memosphere. Introduction to cybercultural studies], Galeria Miejska Arsenał, Poznań.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly*, 37, 509-523. <https://doi.org/10.1086/268109>
- Kostygina, G., Tran, H., Binns, S., Szczypka, G., Emery, S., Vallone, D., & Hair, E. (2020). Boosting health campaign reach and engagement through use of social media influencers and memes. *Social Media+ Society*, 6(2), 2056305120912475. <https://doi.org/10.1177%2F2056305120912475>

- Li, D., Chaudhary, H., Zhang, Z. (2020). Modeling spatiotemporal pattern of depressive symptoms caused by COVID-19 using social media data mining. *International Journal of Environmental Research and Public Health*, 17(14), 4988. <https://doi.org/10.3390/ijerph17144988>
- Lievrouw, L. A. (2012). The next decade in Internet time: Ways ahead for new media studies. *Information, Communication & Society*, 15(5), 616–638. <https://doi.org/10.1080/1369118X.2012.675691>
- Manovich, L. (2007). *What comes after remix?* http://manovich.net/DOCS/remix_2007_2.doc
- Malewska-Szałygin, A. (2017). Memy – nowa forma wiedzy potocznej [Memes Memy – a new form of everyday knowledge]. In: T. Gackowski, K. Brylska, M. Patera (Eds.), *Memy czyli życie społeczne w czasach kultury obrazu* [Memes or social life in the times of image culture] (pp. 11–24). ASPRA-JA.
- McQuail, D. (2005). Section Three Policy and Politics. *Communication Theory & Research*, 15, 89–124.
- Moya-Salazar, J., Cañari, B., Gomez-Saenz, L., & Contreras-Pulache, H. (2021). Other ways of communicating the pandemic-memes and stickers against COVID-19: a systematic review. *F1000Research*, 10, 287. <https://doi.org/10.12688/f1000research.51541.1>
- Myrick, J. G., Nabi, R. L., & Eng, N. J. (2021). Consuming memes during the COVID pandemic: Effects of memes and meme type on COVID-related stress and coping efficacy. *Psychology of Popular Media*, 11(3), 316–323. <https://doi.org/10.1037/ppm0000371>
- Payton, F. C. (2016) Cultures of participation – for students, by students. *Information Systems Journal*, 26(4), 319–338.
- Ruggiero, T. E. (2020). Uses and gratifications. In: J. Van den Bulck (Ed.), *The international encyclopedia of media psychology*. Wiley. <https://doi.org/10.1002/9781119011071.iemp0256>
- Salathé, M. (2018). Digital epidemiology: what is it, and where is it going? *Life sciences, society and policy*, 14(1), 1. <https://doi.org/10.1186/s40504-017-0065-7>
- de Saint Laurent, C., Glăveanu, V. P., & Literat, I. (2022). Mimetic representations of the COVID-19 pandemic: An analysis of objectification, anchoring, and identification processes in coronavirus memes. *Psychology of Popular Media*. Advance online publication. <https://doi.org/10.1037/ppm0000370>
- Stochmal, M. (2019). Caringly subjective agency of Volunteer Fire Brigade members expressing the benefits of gifts and sacrifice for local communities. *Forum Socjologiczne*, 10, 177–199. <https://doi.org/10.19195/2083-7763.10.14>
- Van Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature human behaviour*, 4(5), 460–471. <https://doi.org/10.1038/s41562-020-0884-z>
- Wasike, B. (2022). Memes, Memes, Everywhere, nor Any Meme to Trust: Examining the Credibility and Persuasiveness of COVID-19-Related Memes. *Journal of Computer-Mediated Communication*, 27(2), zmab024. <https://doi.org/10.1093/jcmc/zmab024>
- Wolska-Zogata, I. (2012). Media i wojna. Między informacją a propagandą [Media and war. Between information and propaganda]. *Zeszyty Naukowe/Wyższa Szkoła Oficerska Wojsk Lądowych im. gen. T. Kościuszki*, 35–47.
- Wójta-Kempa, M., Jarynowski, A. Wolska-Zogata, I., Grzebiuch, J. (2020). Ocena poziomu poinformowania na temat przebiegu i skutków pandemii covid-19 [Assessment of the level of information on the course and consequences of the COVID-19 pandemic]. *Uniwersytet Wrocławski*. https://drive.google.com/file/d/1WijPJLCEmEwaJf06e8ZudvamNn0_D3K/view
- Wright, C. R. (1960). Functional analysis and mass communication. *Public Opinion Quarterly*, 24, 605–620. <https://doi.org/10.1086/266976>