Bridging cultural studies and learning science: An investigation of social media use for Holocaust memory and education in the digital age

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Abstract

Along with advances in communication technology that are making new forms of historical memorialization and education available, social media are researched as valuable tools for supporting forms of digital memory and for engaging students and teachers about historical knowledge and moral education. This study aims to map the current state of Holocaust remembrance and Holocaust education and to identify main topics of research in the two areas. It adopts a mixed-method approach that combines qualitative analysis with bibliometric approaches to review publications that use social media for digital memory and history education about the Holocaust. Results based on 28 publications reveal several research topics and that, despite some common theoretical references, the two subfields mostly rely on separate conceptual backgrounds. While Holocaust remembrance is a well-established research field, there are few studies and a lack of theoretical elaboration about social media use for teaching and learning about the Holocaust.

Keywords: Social media, Holocaust remembrance, Holocaust education, cultural studies, education studies, digital memory

Introduction

Scholarly research has produced an astonishing number of studies that investigate social media use in many disciplinary sectors (Wilson et al., 2012; McCrory et al., 2020). According to a recent article, the vast majority of publications on social media are being conducted in the domains of medicine and health care, applied science, management, information sciences, psychology, and social sciences (Rehm et al., 2019). Other relevant areas regarding cultural studies are civic and citizen engagement

(Skoric et al., 2016), political and organization communication (Diehl et al., 2016), and museum user experience (Wight, 2020).

In the research subfield of social media memory studies (Birkner and Donk, 2020), digital memory of relevant historical events has its own scholarship and avenues of publication (e.g., Garde-Hansen et al., 2009; Hoskins, 2011). As for the specific area of Holocaust studies, with the passing of the generation that witnessed and experienced the Holocaust (Wieviorka, 2006), scholars have stressed that learning about the Holocaust will progressively rely less on public speakers and more on audio-visual testimonies and second and third generation accounts (Hirsch, 2012; Gross and Stevick, 2015). Scholars have advanced the idea of a 'virtual Holocaust memory' to consider both digital and non-digital memory projects related to the Holocaust that draw attention to the pervasive nature of the virtuality of memory (Walden, 2019). If today there seems to be a convergence on the fact that "the cosmopolitan Holocaust memory of the new millennium is synonymous with digital technology" (Kansteiner, 2017: 331), for some time now, visual culture has become predominant in the younger generations and in particular among those of post-memory (Hirsch, 2012).

Today, thanks to digital technologies, more opportunities to witness accounts and survivor testimonies are preserved, such as digitized Holocaust survivor testimonies in the New Dimensions in Testimony project, which gathers a collection of 3D interactive survivor testimonies in order to safeguard the conversational experience of asking survivors questions about their life and hearing their responses in real time (Frosh, 2018). Another example is the 'Anne Frank House VR' app[1] that provides a carefully built and modelled in 3D reconstruction of the Secret Annex where Anne Frank and the seven other people hid during WWII. More recent projects have been designed and implemented specifically for social media, such as Eva.Stories on Instagram (https://www.instagram.com/eva.stories/) and the Anne Frank video diary on YouTube (https://www.youtube.com/annefrank). Although reactions to these have given rise to controversy, these projects attest an interest in involving new generations of youth via alternative accounts and perspectives (Henig and Ebbrecht-Hartmann, 2020).

Nonetheless, despite the pace at which technology has advanced and become woven into the fabric of youths' lives, it is still unclear how "the internet and in particular social media impact on students' knowledge and understanding of the Holocaust" (Gray, 2014: 105). Moreover, scholars argue that for contemporary digital users, there is a need to 'resurrect' Holocaust commemoration through the creation of immersive and more engaging memories as mass media such as cinema and television may be no longer suitable (Kansteiner, 2017). This study provides a review of social media use for Holocaust remembrance and for teaching and learning about the Holocaust. The aim is to identify the

main topics of research and potential connections between the two fields, and to provide indications for further research.

Theoretical background

Digital memory and Holocaust remembrance

Mediatized memory is a form of collective memory with a specific meaning-making potential, which intertwines the strands of past, present and future into significant patterns that shape identities and help people make sense of their world (O'Connor, 2019). Collective memories are associated with a specific 'lieu de memoire' which is "any significant entity, whether material or non-material in nature, which by dint of human will or the work of time has become a symbolic element of the memorial heritage of any community" (Nora, 1989: 7). However, memory has become progressively 'unanchored' from localized contexts, due to technological transformation and the transcultural dimensions of memory and its growing mediation (O'Connor, 2019). In a mediatized world, memory is already transcultural as media "undermines the biological, social and cultural divisions and distinctions of memory" (Hoskins, 2011: 21), and makes collective and individual memory timeless and spaceless.

While various communication genres on the internet, mostly social media, are contributing to the construction of new kinds of historical memories (Uffelmann, 2014), the key characteristics of digital memories is their capacity of being permanently overwritten and reconstructed (Assmann, 2011). This 'deterritorialization of memory' (Erll, 2011) attests to the progressive erosion of the traditional territorial and social boundaries of mass media and digital technologies (Garde-Hansen et al., 2009; Hoskins, 2011). Despite the formation of transnational and transcultural memories, such as in the case of the Holocaust memory (Levy and Sznaider, 2006), cultural memory continues to be ever instantiated locally within specific local and cultural frameworks (Radstone, 2011).

In the field of collective memories related to historical events, technologies are gaining momentum and becoming influential in enhancing the general public's knowledge and understanding of recent historical events that affected billions of people, such as the two world wars. In this scenario, memory of the Holocaust is considered one of the 'founding myths' of contemporary European political identity and one of the strongest Western collective memories (Probst, 2003). In this sense, "the Holocaust has become a principal part of civic moral education in liberal Western and Westernizing nation states, particularly in Europe since 2000" (Allwork, 2015: 288). As stressed first by Levy and Sznaider (2006), while there is a tendency today to consider the Holocaust part of the development of a collective transnational European memory culture, global media representations contribute to

create new 'cosmopolitan' memories and emerging moral-political interdependencies (Goldberg and Hazan, 2015; Kansteiner and Presner, 2016).

However, if until recently the centrality of the Holocaust in Western European identity and memory seemed secure, today we are witnessing a memory crisis resulting from conflicting perceptions of the Holocaust in Western and Central Europe. On the one side, there is a strong tendency to acknowledge the universal meaning of the Holocaust, and related UN and EU resolutions and declarations. On the other, the process of globalizing the Holocaust discourse is often considered as another mechanism to further strengthen Western cultural domination (Van der Poel, 2019). The supposed limits of the universalization of Holocaust memory are also at the forefront of how the Holocaust memory sites are commemorated as 'lieux de mémoire' that can be physical (memorials sites and museums) or cyberspaces (Katz, 2016). In Eastern Europe, memory of the Holocaust as an archetype of genocide has the crimes of Communism as a rival memory framework (Kovács, 2018), and 'memory wars' are detectable on social media when the same historical event is recollected by diverse national and ethnic groups (De Smale, 2020).

Among the agencies gaining momentum in conveying mediated memories of the Holocaust are Holocaust museums, whose educational departments offer valuable, high-quality resources for remembrance and historical knowledge (Cowan and Maitles, 2017). Despite having a dual mandate of commemoration and engaging/educating visitors, museums can shape the public's understanding of the past, and create, strengthen, or challenge a historical narrative (Pennington, 2018). Museums use and produce diverse media to transmit and communicate memorial content, including print, multimedia productions, hands-on info stations, interactive software and web-based presence (Brown and Waterhouse-Watson, 2014; Wight, 2020). While it is true that the phenomenon of Holocaust distortion and trivialisation (Rosenfeld, 2013; Bauer, 2020) has become more and more pervasive on Internet sites and social media, at the same time social web pages relating to the historical contexts of National Socialism and the Holocaust reach millions of people and have the power to reposition the Holocaust and transform engrained memory paradigms (Burkhardt, 2015). From this perspective, Holocaust museums are located at the intersection between commemorative memory – as physical monuments – and mediated memory – as mediated and virtual spaces (O'Connor, 2019).

Teaching and learning about the Holocaust

A pedagogical problem of how to teach and learn remembrance of historical traumas (Simon, Rosenberg and Eppert, 2000) today also faces issues of 'Holocaust fatigue' that that might have resulted from over-exposure to Holocaust education in schools during the last decades (Short, 2003; Stein, 2014). In this sense, social media might help overcome the stereotypes associated to teaching and learning history as a monotonous presentation of endless facts still persisting in popular

imagination (Farley, 2007), or to bend history teaching of contemporary crimes to a list of moral lessons or a pedagogy of identification (Bos, 2014). As recently stressed (Foster, Pearce and Pettigrew, 2020), notwithstanding Holocaust education has become a principal conduit for the transmission of its memory, the intertwining of memory and knowledge is still problematic, and representations of social traumas in curriculum and the individual's encounters with them in pedagogy remains a 'difficult knowledge' to co-construct (Britzman, 1998).

However, in order to confront issues of memory loss and contemporary trivialisation of the Holocaust, according to recent studies, visual media such as Instagram, for example, may contribute to understand Holocaust cultures through the lens of adolescence or young adulthood and help dispel some anxieties about the erosion of Holocaust memory in the twenty-first century (Lundrigan, 2020). Unlike social media use in formal learning, which takes place in schools and higher education settings and has been investigated in a large number of studies (Tang and Hew, 2017; Manca, 2020; Greenhow et al., 2020), research on informal modes of learning in social media is still in its infancy (Greenhow and Lewin, 2015; Haythornthwaite et al., 2018). Learning on and through social media is becoming a cornerstone of informal learning, with increasing opportunities to access information and find self-motivated learners who share resources, or engage in conversations with others (Haythornthwaite, 2015). This type of grassroots learning, which has also been called 'learning in the wild' (Haythornthwaite et al., 2018), encompasses the Learning Ecology perspective. Defined as "an open, complex, adaptive system comprising elements that are dynamic and interdependent" (Brown, 2000: 19), the Learning Ecology represents a broad semantic space for characterizing innovative ways of learning that occur across several learning contexts and are mediated by digital technologies (Sangrá et al., 2019).

With school usually perceived as a major socialization agent for Holocaust memory, formal, lecture-style classroom lessons are still the dominant educational approach. By contrast, scholars have stressed that teaching about the Holocaust in a non-formal manner creates symmetry between teachers and students and a special educational atmosphere which enables discussion and the honing of sensitive and complex issues that may arise (Gross, 2010). Some programs emphasize the importance of relying on students' ability to structure their knowledge in a constructivist and interdisciplinary manner that suits their cognitive abilities and emotional traits (Eckmann et al., 2017). Scholars of Holocaust education also focus on the growing role of informal or experiential activities such as ceremonies, field trips, presentations and testimonies of survivors, and access to the Internet (Foster, 2020).

In this light, research has also shown that people learn about the history of the Holocaust from a variety of sources, such as movies, literature, popular and digital media (Popescu and Schult, 2015;

Burkhardt, 2019). Indeed, advances in communication technology and the ongoing expansion of the Internet are making available new forms of history learning and teaching and learning about the Holocaust, presenting a new range of opportunities and challenges (Gray, 2014). As recently stressed by the International Holocaust Remembrance Alliance (2019), social media play an important role in contemporary education and may pave the way to engaging forms of teaching and learning about the Holocaust.

Methodology

Research aims

The aim of this study is to analyse current research about social media use for Holocaust remembrance and for teaching and learning about the Holocaust (aka Holocaust education[2]) with the purpose of identifying the main topics of research, areas of intersection between the two fields and theoretical references in common. The ultimate aim is to prospect potential bridging between the two areas. To achieve this aim, a systematic review of the literature was conducted employing a mixed-method approach that uses qualitative analysis and data-driven methods to map the state-of-the-art and identify gaps and trends in research (Zawacki-Richter et al., 2020). Mixed methods is a research approach where "a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (Johnson et al., 2007: 123). In a mixed-method approach, a study should provide evidence that quantitative and qualitative methods need to be integrated, either concurrently or sequentially, at one or more stages of the research process to provide support of empirical evidence and counter possible research biases.

In addition to qualitative analysis of literature, bibliometric analysis is considered an important methodological tool "to map the state of the art in a given area of scientific knowledge and identify essential information for various purposes, such as prospecting research opportunities and substantiating scientific researches" (De Oliveira et al., 2019: 1).

Methods and procedures

The aim of this review is to provide a theoretically-founded analysis of publications that specifically investigate the topic of social media in Holocaust-related studies. Since we are interested in how current research conceives this topic from the theoretical and experimental perspectives, we consider studies embodying either pursuit. As we expected to find few publications on these topics, a

methodological choice was also made to consider any type of publication that was made available in the selected databases including journal articles, conference proceedings, reviews, and book chapters written in any language. It was decided to limit the search to the Web of Science, Scopus and EBSCO databases as the broad search criteria adopted were expected to produce a substantial number of results. Additionally, no selection criteria like subject areas or categories were applied.

We adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta–Analyses) standards for systematic literature reviews (Moher et al., 2009), which informed the process of publication identification, description of eligibility criteria, identification of information sources, the data collection process, data items, and synthesis of results. Moreover, indications to control researcher bias in data collection and analysis were adopted (Petticrew and Roberts, 2006).

The pool of publications was gathered by systematically searching the three above mentioned research database using keywords such as 'Holocaust', 'social media', 'Internet', 'Facebook', 'Twitter', 'Instagram', and 'YouTube'. No specific time span was applied.

The search was performed on the 12th of March 2020 and yielded articles distributed as follows: (1) Web of Science: 40; (2) Scopus: 72; (3) EBSCO: 85. After applying inclusion and exclusion criteria, a sample of 23 publications was selected. Their references and citations on Scopus and Web of Science were inspected to identify further publications. This additional search yielded five more publications, so the final corpus comprised 28 studies (Fig. 1).

[insert Figure 1 here]

Procedure and data analysis

Through an iterative process of qualitative content analysis (Hsieh and Shannon, 2005), the 28 publications were coded according to the following criteria:

- Year of publication
- Publication typology (journal article; book chapter; conference proceedings)
- Study typology (theoretical/conceptual; experimental study; literature review)
- Language of the publication
- Aims of the study
- Subject typology (Holocaust remembrance; Holocaust denial or distortion; Holocaust education)
- Geographical area of the research performed
- Social media platform(s)

In the context of this study, bibliometric analyses provided a macro-level perspective that determines the underlying social network pattern among reciprocal citations and references (Perianes-Rodriguez et al., 2016). A first analysis is on mapping the references structures based on which study uses the other studies to support or to disagree with its claims and concerns the creation of a matrix of cross-references among the 28 studies. Cross-citation, also called author direct citation analysis (ADCA) or inter-citation, is a bibliometric method which can provide reliable linkages to illustrate relationships between studies and academics. Compared with co-citation and bibliographic coupling, a direct citation is a citing relationship without a third-party publication that may serve to understand the evolution of theory and practice (Yang and Wang, 2015). In our study, the aim was to discover popular scholars and their work as means to cross-fertilise two distinct field of research that relies on separate academic traditions.

The second analysis adopts co-citation networking. In co-citation, two papers share an indirect bibliographic coupling relationship, that is the relationship is established by third-party documents. This technique focuses on references and uses pairs of documents which often appear together in reference lists and may serve to explore the pillars of a specific research stream (Small, 1973). This analysis identifies clusters of study that share a theoretical background considering the topical authors that are cited at least by four studies. Both analyses were conducted with Cyram NetMiner 4.0 software.

To corroborate the results of qualitative analysis, we also use Latent Semantic Analysis (LSA), i.e. specifically distributional semantics, which analyses relationships between words (Deerwester et al., 1990). As a measure to counteract possible research biases in conducting qualitative analysis, LSA is a method that permits to extract topical terms based on their frequency. In our study, it is employed to determine what words or strings of words are most frequently used in the abstracts of the studies to determine the topical structure of the themes researched. Given the strictly linguistic nature of the analysis, the choice to analyse only abstracts was based on the use of different languages within the body of articles, while all articles also had an abstract in English. This analysis was conducted with MonkeyLearn (https://monkeylearn.com/word-cloud/).

Results

Study characteristics

As reported in Table 1, the studies were all published in the 2010–2019 timespan, with peak level reached in 2017 (N=7; 25.0%). Most of the studies were published in academic journals (N=23; 82.1%), and three quarters were experimental studies (N= 21; 75.0%). More than half the studies

were focused on research about Holocaust remembrance (N=19; 67.9%), while only five (17.9%) investigated Holocaust education and four centred on Holocaust denial or distortion (14.3%).

As for publication language, most of the studies were written in English (N=24; 85.7%), with two in German (7.1%), one in Spanish (3.6%) and one in Italian (3.6%).

Finally, regarding social media platforms, the studies were conducted about Facebook (N=9; 32.1%), social media as a broad category (N=8; 28.6%), Instagram (N=5; 17.9%), YouTube (N=4; 14.3%), Wikipedia (N=4; 14.3%), Twitter (N=2; 7.1%), Yahoo! Answers (N=1; 3.6%) and Lurkmore[3] (N=1; 3.6%).

Finally, in terms of geographical scope of the research conducted, 17 of the 28 publications researched social media use in one specific country, with a prevalence of studies focused on Eastern Europe (N=13; 46.4%): eight studies were about Poland (28.6%), four were about Ukraine (14.3%) and one was about Russia (3.6%).

[insert Table 1 here]

Topic analysis

Holocaust remembrance

1. Use of pictures and videos of heritage sites

A first group of studies research the controversial use of pictures and videos taken at the Auschwitz-Birkenau Memorial and Museum. One of the most fiercely debated digital experiences was 'Dancing Auschwitz from summer 2010', a YouTube video of a Jewish family dancing at various Holocaust remembrance sites. Gibson and Jones's study (2012) of this analysed role switching, redefinition, and disassociation as forms of remediation that allow survivors and their descendants to re-mediate their identities and find a way to endure their tragic and painful past. In another study, Dalziel (2016) investigates visitors' reasons and motivations for taking photographs, to understand the ways in which the Holocaust is being memorialized and commemorated, especially by younger generations: they range from aesthetics and good photography to educational and commemoration aims. The theme of 'selfies' at Auschwitz is also the subject of Zalewska's study (2017), which analyses how the Auschwitz Museum reacts and engages online with new media content visitor posted on Instagram. In overcoming the rigid binary between the 'pre-digital institutional authority' and 'digital online freedom', the author analyses the problematic nexus of individual and institutional entanglements between off- and online memory practices.

In a different vein, Carter-White (2018) shows that, while photographs taken at Auschwitz are incorporated into contexts well beyond the control of museum authorities, it is questionable whether they result in an active and imaginative 'democratization' of memory because of the highly ritualized conventions of content expressed in the pictures. From a different perspective, Commane and Potton (2019) investigate various ways young people engage around Holocaust remembrance on Instagram, specifically using the *#Auschwitz* hashtag. The study shows that Instagram can give young people voice and place in debates, stimulating discussion and remembrance, despite the multiple and inconsistent ways in which users appropriate Auschwitz-related images.

2. Commemoration projects

A second group of publications investigates the dynamics of Holocaust commemoration projects on social media. Rodríguez Serrano (2011) discusses a number of these in the light of media studies and sociology theories, and the new genres contributing to memory building. In a study of two Polish examples of World War II and Holocaust commemoration on Facebook, De Bruyn (2010) focuses on the processual character of remembering individual life stories and shared past experiences of a distinct community, showing digital memory as a performative process embedded in social media's socio-technical practices. Remediation is also the focus of Menyhért's study (2017), which investigates two Facebook projects that deal with Hungarian Holocaust memories. In this research, the focus is on collective historical trauma processed through the digital sharing of memories of trauma, which helps unblock obstructed avenues to the past and contributes to the transformation of identities. A last publication is focused on how a Facebook page and a YouTube channel act as alternative public spheres for remembering Thessaloniki's past and its Jewish heritage (Mylonas, 2017). The study analyses how the photography-orientated project deals with the city's neglected past to function as alternative public spheres for remembering marginalized traumatic events in the national public sphere.

3. Memory wars and counter-memories

Memory wars and counter-memories are the focus of a group of studies conducted in Eastern Europe. Through the example of a Facebook group dedicated to family memories, Fritz (2016) investigates new forms of private counter-memory in Hungary as a form of resistance against politically-motivated interpretations of the past. The research highlights how social media can contribute to the emergence of transgenerational and transnational commemorative communities, leading to a pluralization of the culture of remembrance.

Wikipedia is investigated in two further studies. The first (Wolniewicz-Slomka, 2016) investigates how three Holocaust topics (the Auschwitz-Birkenau camp, the pogrom in Jedwabne, and Righteous

Among Nations) are presented in Polish, Hebrew, and English. Although each version is supposed to follow mainstream collective Holocaust memory in its respective country, there is some convergence on explanations and interpretations provided in the different languages that do not necessarily follow the respective collective historical narratives. In the second study, Makhortykh (2017a) analyses how the Babi Yar massacres of 1941-1943 are investigated by Russian and Ukrainian users employing different strategies to promote their vision of those events, dealing with the complex interplay between hegemonic and polyphonic tendencies in the online discourse about construction and transmission of traumatic memories.

Another study conducted on post-Socialist countries (Makhortykh, 2019) investigates the Lviv pogrom of 1941 and how Russophone and Ukrainophone users engage with the topic via YouTube's audio-visual tributes. While challenging hegemonic historical narratives, social media do not necessarily lead to more pluralist views of the past. On the contrary, the use of racist hate speech can also lead to the propagation of views of the past that result in nurturing pain.

A specific case of counter-memory is related to the practices of controversial remembering, which are at the heart of Friesem's study (2018). The author analyses a case of a "battle against the hegemonic Holocaust discourse" on Twitter conducted by oppositional decoding. Users engage in an act of resistance against the 'Holocaustization' of Israeli life and the dominant Holocaust discourse implemented by the state and its educational and political agencies. These subversive practices serve to anchor the Holocaust in Israeli experience as a parallel memory route, complementary to official acts of remembering.

4. Museum and memorial use of social media

A further group of studies analyse social media use by Holocaust museums and memorials. Wong (2011) examines the case of the USHMM to discuss the professionalization of museum work using social media. Tensions and synergies between traditional and modern museum practice are analysed in the perspective of addressing ethical issues of transparency, censorship, respect for constituencies, with the loss of control museums' media content. Presenting examples taken from Facebook and Wikipedia, Pfanzelter (2015) discusses how social media technologies, digital memory and their new media representations are fluidly interrelated and may provide controversial forms of commemoration of the Holocaust. In a subsequent study, Pfanzelter (2016) shows how the internet is not only influencing the discourse as a means of acceleration but is also a central instrument of public history, which in future will progressively mediate, shape, and continue the memory of the Holocaust. Finally, a recent study (Manca, 2019) provides a first analysis of how a sample of memorials use Facebook and Twitter to engage their public both at content and relational levels. Results show that there is great variance among their use of the various social media services, with many showing

limited activity and diverse levels of engagement of their public in terms of generated content, interactivity, and popularity.

Holocaust education

Three theoretical studies and two empirical investigations comprise the small group of publications about Holocaust education. The former are centred on the potential of social media for Holocaust education. Gray (2014) demands more empirical research about methods for fostering youth knowledge and understanding of the Holocaust, while warning about possible distortion and abuse. Klevan and Lincoln (2016) provide guidelines addressed to educators who want to use the Internet to teach about the Holocaust and give some examples of best practices of social media use. Finally, also Pohl and Schwabe (2018) provide diverse examples of Internet use in teaching and learning about the Holocaust, including social media.

Out of the two empirical studies, one was conducted on how an important episode in Ukrainian history - the capture of Lviv by the Germans on 30 June 1941 – is represented in different language versions of Wikipedia (Makhortykh, 2017b). With a specific focus on the Lviv pogrom, it provides one of the first attempts at analysing how different interpretations may have impact on teaching and remembering the Second World War in post-Soviet countries. In the second study, Lazar and Hirsch (2015) investigate how the Yahoo! Answers community reacts to questions posted by students who seek help with their homework assignments. Despite answers were in most cases based upon the respondents' own views and reflected common notions, the authors provide some recommendations about approaching a medium capable of shaping the ways students approach Holocaust-related issues.

Holocaust denial or distortion

The final broad topic, Holocaust denial or distortion, is investigated in a small number of studies. Ziccardi (2017) outlines the history of Holocaust denial and distortion on the Internet and identifies some measures to counter these, such as the use of counter speech, the application of the law, and advanced use of natural language processing technology to detect and automatically manage online contents.

In a study that investigates historical internet memes related to World War II which are associated with a historical event or a personality, Makhortykh (2015) analyses how users of the online encyclopaedia of Russian web folklore, Lurkomore, shape historical memes for supporting or to countering official narratives. The study analyses memes aimed at emphasizing the notion of Jewish responsibility for the Shoah: by criticizing Holocaust commemoration, these memes tend to mix antisemitism with resentment against assumed Western ignorance of Russian suffering during the war.

Miller (2017) discusses the integrative review of select themes associated with the Holocaust to show that, despite the potential of social media to spread Holocaust-related pictures to a wide audience, the same means is also used to denigrate the Holocaust, its victims and survivors. When investigating YouTube comment postings to analyse how users evaluate and interpret videos containing explicit and graphic imagery connected to themes of evil, Miller (2019) finds that for videos associated with higher levels of evil, such as depictions of the Holocaust, more racist views and expressions that the event was 'fake' were noted.

Finally, Zhukhova (2019) researches how images representing the Ukrainian famine of 1932–1933, that were circulated on Instagram under the tag *#holodomor* between 2012–2018, also included appropriation of images of the Holocaust to support anti-communist and antisemitic narratives, thus constituting a re-writing of Holocaust history that overshadows previously established narratives.

Keywords map

In addition to qualitative analysis, a word cloud was created to determine what words or strings of words are most frequently used in the abstracts of the studies. Figure 2 shows the 50 most relevant ($0 \leq X \leq 1$) of these, with the most frequent words being "Holocaust" (71 times, Relevance 0.671), "memory" (33 times, Relevance 0.155) and "social media" (26 times, Relevance 0.996). In terms of data about the two broad areas investigated in this study, it was found that the term "holocaust remembrance" (10 times, Relevance 0.498) is much more frequent than "holocaust education" (2 times, Relevance 0.166).

[insert Figure 2 here]

Cross-citation analysis

A network was built by using the set of 28 papers as nodes and the cross-citations between them as links. Figure 3 shows the whole network of all cross-cited papers. Different colours were used to represent publications classified as belonging to Holocaust remembrance (blue), Holocaust denial or distortion (red) and Holocaust education (green). The link between any two papers is ordered, and it is possible to distinguish between citing and cited studies.

Overall, the network is populated by a high percentage of articles bereft of cross-citation, and a large portion of nine isolated studies that do not receive or give cross-citations. The other two clusters represent 1) a small network of Holocaust remembrance studies in which Carter-White (2018) cites three other references, but is not cited by others, and 2) a larger network which includes fifteen

publications that belong to the different categories. In particular, one of the main nodes, Pfanzelter (2015), features the highest number of cross-citations (N=5), all regarding studies classified as Holocaust remembrance, while De Bruyn (2010) is cross-cited with three Holocaust remembrance studies and Holocaust denial or distortion paper. The five Holocaust education studies show little cross-citing, although Gray (2014) is cited by two Holocaust remembrance studies. In terms of the most cited publications, Makhortykh (2017a), Makhortykh (2019) and Manca (2019) are cross-cited with four publications. These three studies are also those that tend to cite publications of a diverse macro-category.

[insert Figure 3 here]

Co-citation analysis

Co-citation analysis investigated the references of the 28 papers and identified authors who are cited by at least four studies. Table 2 provides the details of the authors and the citing studies, while the network of the top 13 topical authors (in blue) is represented in Figure 4. These are the authors that constitute the theoretical background of the studies and compose a multidisciplinary plethora of scholarship in Social sciences and Arts and Humanities. Except for a small group of six publications, most of the 28 studies (in red) are represented as part of some subnetworks (Figure 4), attesting to the inter-disciplinary, cross-disciplinary, and trans-disciplinary nature of the network.

[insert Table 2 here]

[insert Figure 4 here]

Discussion

This literature review has sought to provide a theoretically-founded analysis of publications that investigate the topic of social media in Holocaust-related studies. Using a mixed-method approach, we attempted to analyse research topics and interconnections between the two fields of study to provide indications for prospective research opportunities. Across the sample of 28 studies published over the past decade, there are a few valuable discussion points, among which the scarcity of research on Holocaust education. Despite the general availability of empirical research, most of the studies

have been published in the area of Holocaust remembrance, while very few focused on Holocaust education. When inspecting cross-citation and co-citation networks, we also saw that the two fields of study are loosely connected, although they do share some common theoretical references. In particular, it appears that major scholars of Holocaust remembrance occupy the central position of this loosely connected network, while authors of Holocaust education tend to use those references in their research. This demonstrates that there is no stringent conceptual or theoretical contamination between the two fields, where one tends to superimpose over the other. There is a confirmation of this situation also in the keyword map, which shows that the relevance of topics associated to Holocaust education is marginal.

In the following, the discussion focuses on the interpretation of topic analysis and provides indications for further research.

Much remembrance…

An important result concerns the articulation of topic analysis. Analysis of the sharing of pictures (e.g., 'selfies') and videos taken at heritage site was restricted to a small number of platforms. We noticed that Facebook and Instagram were the most popular platforms investigated, probably because they provide a better channel for audio-visual and multimedia material, which is not surprisingly as the Holocaust is one of the most comprehensively documented events (Hirsch, 2012). This topic also raises ethical dilemmas associated to the use of selfies in 'austere' places as out-of-place acts. As stressed by Nunes (2017), 'selfies' are acts of self-witnessing that blurs the line between tourism photography and civic or social action. Crossing the line may lead to complicated acts such as those documented in Yolocaust (https://yolocaust.de/), a recent web art project aimed at showing disturbing images created with people's selfies and pictures from extermination camps. In addition to this, there is currently no consensus about how original users exploit the potential of social media to 'democratize' existing memory practices from heritage at grassroots level. Also, when challenging hegemonic historical narratives, in some cases users tend to produce obvious and superficial acts of remediation that do not question established narratives.

The several studies classified as Holocaust remembrance projects, which report national and micro-national memorialisation experiences, show the importance of recovering long removed and marginalised memories to heal the wounds of the past. In this sense, social media seem to act as powerful means for remediation and vernacular memories that, despite their ephemeral nature, may support the agency of commemorative communities (Hess, 2007).

The subgroup of studies classified under the topic "Memory wars and counter-memories" points out the complementary of transnational memories and nationally divisive memory cultures. As stressed

by Erll (2011), assumed, relatively clear-cut social formations as containers of cultural memory must leave room for an approach based instead on 'travelling memory' and the continuous movement of memories and symbols across time and space, together with their social, linguistic and cultural transformations. In this sense, 'multidirectional memory' represents what happens when confronting histories of genocide or other extreme events that occupy the public sphere (Rothberg, 2009). As most of these studies deal with memories in post-Soviet countries, they constitute significant cases of rival memories regarding Nazi and Communist crimes perpetrated by different national and ethnic groups (De Smale, 2020).

In the topics summarised above, there are at least a few factors that need to be stressed. First of all, unlike other studies that have reported a prevalence of 'Auschwitz' discourse at the expense of other topics related to the so-called Final Solution (Pettigrew and Karayianni, 2019), in this cohort of studies there is a balance of 'Auschwitz' discourse and other global discourses of the Holocaust such as the 'Holocaust by bullets' (Vice, 2019). However, what distinguishes many of these studies is a focus on local languages, which reflects the typically Eastern European milieu of 'national intimacy' (Imre, 2009) that strengthens community bonds between users and 'counters' alternative memories dealt with by other groups. This is especially reflected in the post-Socialist space and is characterised by a disproportionate politicisation of conflicting memories of the past and sometimes by 'micronational' virtual networks of users (Van der Poel, 2019).

Finally, when approaching the topic of social media use in memorials and museums, the results especially emphasise the challenges associated to the blurring of boundaries between official and grassroots commemoration occupying the same digital places. In this sense, as highlighted by O'Connor (2019), today Holocaust museums are not only mediated and virtual spaces, but also the place of convergence for popular participative practices. However, ethical dilemmas arise when museums engage with their audience, both acting with the aim of dealing with digital commemorative activities. These latter need to be accommodated in a multidirectional perspective comprising diverse practices of remediation (Rothberg, 2009). If museums' power as official providers of authoritative content is not diminishing (Cowan and Maitles, 2017), more research is needed to investigate how the internet, in general, and social media in particular, are blurring the boundaries between private and public and altering 'interpersonal negotiation processes' regarding the history of the Holocaust (Burckhardt, 2015).

... and little distortion and education

Although Holocaust denial and distortion is a topical phenomenon and the potential virality of content that social media allows (and often encourages) is considered a major tool in the dissemination of

hateful content and spread of incitement and intolerance (Wetzel, 2017), we found very few academic studies about this topic. The sophisticated revisionist model known as Double Genocide, which posits the 'equality' of Nazi and Soviet crimes and sometimes includes attempts to rehabilitate perpetrators and discredit survivors (Katz, 2016; Radonić, 2018), lies at the centre of these studies. The widespread phenomenon of fake news that still blames the Jews for the Holocaust or diminishes the suffering caused in order to emphasize that resulting from Communist atrocities in post-Soviet countries is also connected with Holocaust education and the measures that may be taken to counter antisemitism in programs. As recently stressed by Foster et al. (2020), despite the generally accepted principle that teaching and learning about the Holocaust is the primary bulwark against antisemitism, it is important to question the belief that Holocaust education offers a way out, a one-dimensional approach to opposing any case of prejudice and hate. In this light, educators and policymakers are invited to reconsider and re-evaluate current Holocaust education practices and many of the core ideas and principles that currently underpin teaching and learning about the Holocaust.

Unfortunately, the very few empirical studies investigated in this review does not permit deep evaluation of social media potential for Holocaust education. Although deriving from only a single study, one of the indications regards the challenges posed by different interpretations of Holocaust events when they are provided in multicultural classrooms with students of diverse linguistic and cultural backgrounds. As also recommended by IHRA (2019), if social media can be a valuable tool for education and research, students and teachers are invited to use recommended authoritative sites and to develop tools and training to critically assess any sources, and to evaluate the agenda of the sites. In this light, Holocaust museums and memorials have the potential to address informal and seamless learning and offer especially young people agency to explore complex responses to and participation with cultural and historical content (Russo et al., 2009). However, much more research is needed to investigate this potential.

Conclusion

Although the limited sample of studies in this review does not allow many generalised conclusions to be drawn, overall, there is an abundance of theoretical and conceptual elaborations about digital memory concerning the Holocaust. On the contrary, research about social media use in Holocaust education is still at an early stage of research. Overall, the limited number of the studies investigated demonstrates the need for more empirical research about how social media are changing remembrance and educational practices. One further indication is to consider social media as socio-technical-cultural systems which are now part of our daily socio-cultural practices, enabling the

permanent addition, modification, deletion and reconstruction of private and public content. Such consideration is a vector for some important research perspectives.

Firstly, as stressed by Pfanzelter (2016), while the sustainable archiving of digital data still depends on institutional preferences and archiving practices, it is the users that determine which parts of our cultural legacies will ultimately be archived and preserved. These considerations have profound implications for how we conceive the creation, archive, retrieval, and reuse of data in terms of critical digital literacy applied to social media. This means that future studies should also investigate the influence of platform-specific norms and policies on digital memory and Holocaust knowledge.

Secondly, as the diversity of platform-specific formats and practices results in the formation of distinct digital memory genres, future research should also investigate how specific "technical conditions as well as rhetorical rules and cultural particularities" determine how users interact with digital mementos (Makhortykh, 2019).

Thirdly, there are also some implications for the development of social media literacies within general media studies. In this sense, it is suggested a combined perspective that considers social media skills as a combination of global skills (transversal across different social media) and local skills (pertaining to a specific social media platform), which need to be intertwined with an examination of practices that may be decontextualized or situated and context-dependent (Manca, Bocconi and Gleason, 2021). Future research should consider how ecosystems of digital and media content could be accommodated to support students in building complex and multiperspective representations of collective memory of the Holocaust.

Data accessibility

The datasets generated during the current study are available in the Zenodo repository, https://zenodo.org/record/3950522#.X3XNP2gzaUl

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Short biographical note

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		#	%
Year	2010	1	3.6
	2011	2	7.1
	2012	1	3.6
	2013	0	0.0
	2014	1	3.6
	2015	3	10.7
	2016	5	17.9
	2017	7	25.0
	2018	3	10.7
	2019	5	17.9
Publication typology	journal article	23	82.1
	book chapter	4	14.3
	conference proceeding	1	3.6
Study typology	experimental study	21	75.0
	theoretical/conceptual	7	25.0
	literature review	0	0.0
Subject typology	Holocaust remembrance	19	67.9
	Holocaust education	5	17.9
	Holocaust denial or distortion	4	14.3
Language of the publication	English	24	85.7
	German	2	7.1
	Spanish	1	3.6
	Italian	1	3.6
Social media platform(s)*	Facebook	9	32.1
	Social media	8	28.6
	Instagram	5	17.9
	YouTube	4	14.3
	Wikipedia	4	14.3
	Twitter	2	7.1
	Yahoo! Answers	1	3.6
	Lurkmore	1	3.6
Country of the research subject	Poland	8	28.6
	Ukraine	4	14.3
	Hungary	2	7.1
	Germany	1	3.6
	France	1	3.6
	The Netherlands	1	3.6
	Czech Republic	1	3.6
	Israel	1	3.6
	Greece	1	3.6
	Russia	1	3.6
	NA	11	39.3

Table 1. Study characteristics

*The total number is more than 28 as the studies could have been investigated more than one social media platform.

Top 13 authors	# of citing studies	Citing publications
Hannah Arendt	4	Gibson and Jones (2012), Miller (2017), Miller (2019), Zhukhova (2019)
Aleida Assmann	7	Fritz (2016), Gibson and Jones (2012), Makhortykh (2017a), Menyhért (2017), Pfanzelter (2015), Pohl and Schwabe (2018), Wolniewicz-Slomka (2016)
Astrid Erll	6	de Bruyn (2010), Makhortykh (2017a), Mylonas (2017), Pfanzelter (2015), Pfanzelter (2016), Pohl and Schwabe (2018)
Michela Ferron and Paolo Massa	4	Makhortykh (2015), Makhortykh (2017a), Makhortykh (2017b), Pfanzelter (2016)
Joanne Garde-Hansen	6	Carter-White (2018), de Bruyn (2010), Makhortykh (2019), Menyhért (2017), Pfanzelter (2015), Zalewska (2017)
Marianne Hirsch	9	Carter-White (2018), de Bruyn (2010), Gibson and Jones (2012), Makhortykh (2015), Makhortykh (2019), Menyhért (2017), Pfanzelter (2015), Pfanzelter (2016), Wong (2011)
Andrew Hoskins	9	Carter-White (2018), de Bruyn (2010), Fritz (2016), Gibson and Jones (2012), Makhortykh (2017a), Makhortykh (2019), Mylonas (2017), Pfanzelter (2016), Wong (2011)
Andreas Huyssen	5	de Bruyn (2010), Makhortykh (2015), Makhortykh (2019), Mylonas (2017), Zalewska (2017)
Henry Jenkins	4	Makhortykh (2015), Makhortykh (2019), Pfanzelter (2016), Wong (2011)
Alison Landsberg	4	de Bruyn (2010), Gibson and Jones (2012), Pfanzelter (2015), Pfanzelter (2016)
Daniel Levy and Natan Sznaider	5	Fritz (2016), Lazar and Hirsch (2015), Makhortykh (2019), Pfanzelter (2016), Pohl and Schwabe (2018)
Susan Sontag	6	Commane & Potton (2019), Dalziel (2016), Gibson and Jones (2012), Makhortykh (2019), Wong (2011), Zalewska (2017)
José van Dijck	6	Gibson and Jones (2012), Makhortykh (2015), Menyhért (2017), Mylonas (2017), Pfanzelter (2015), Pfanzelter (2016)

Table 2. The top cited authors
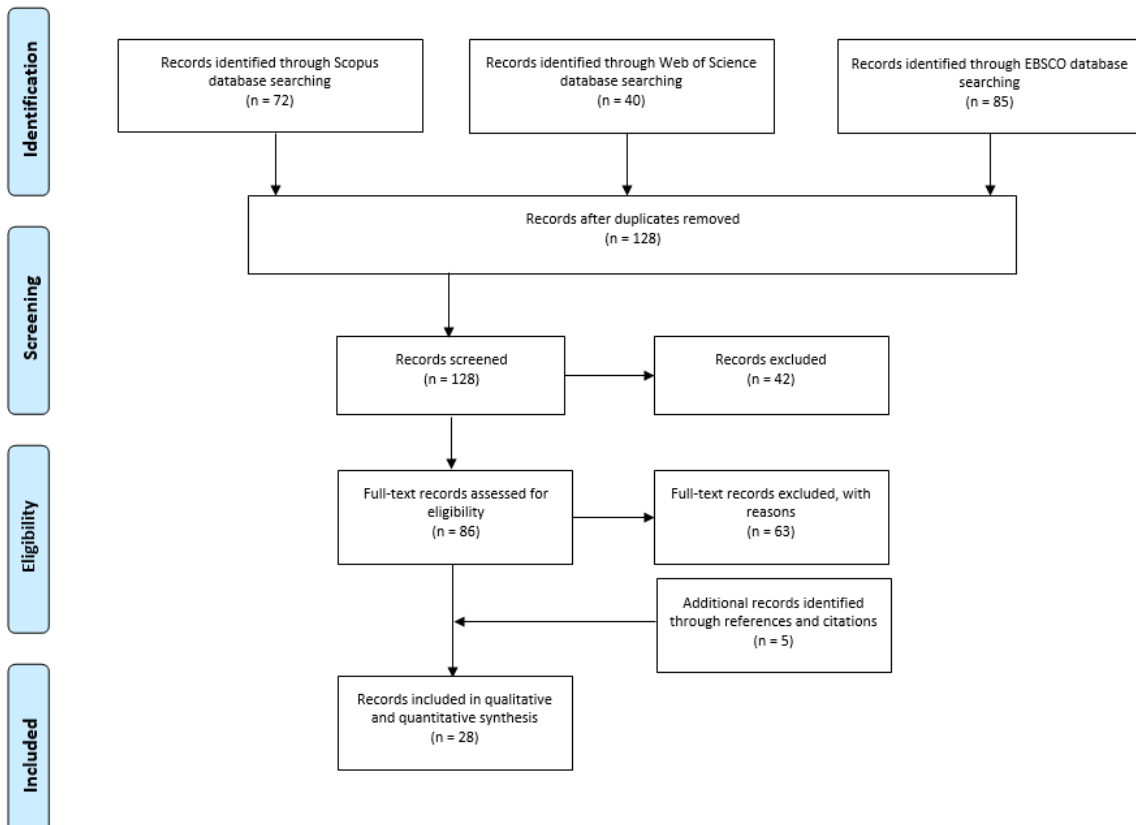
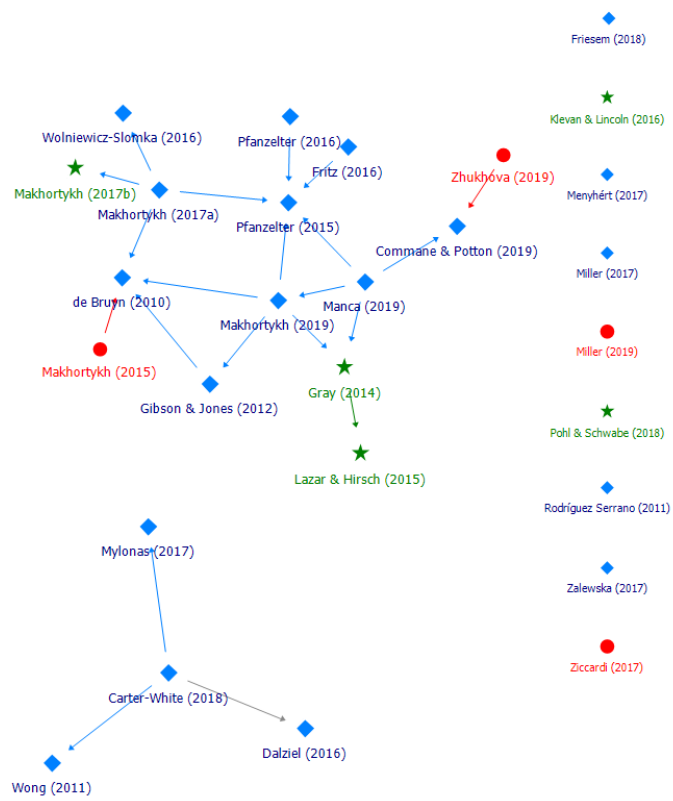Figure 1. The PRISMA flowchart
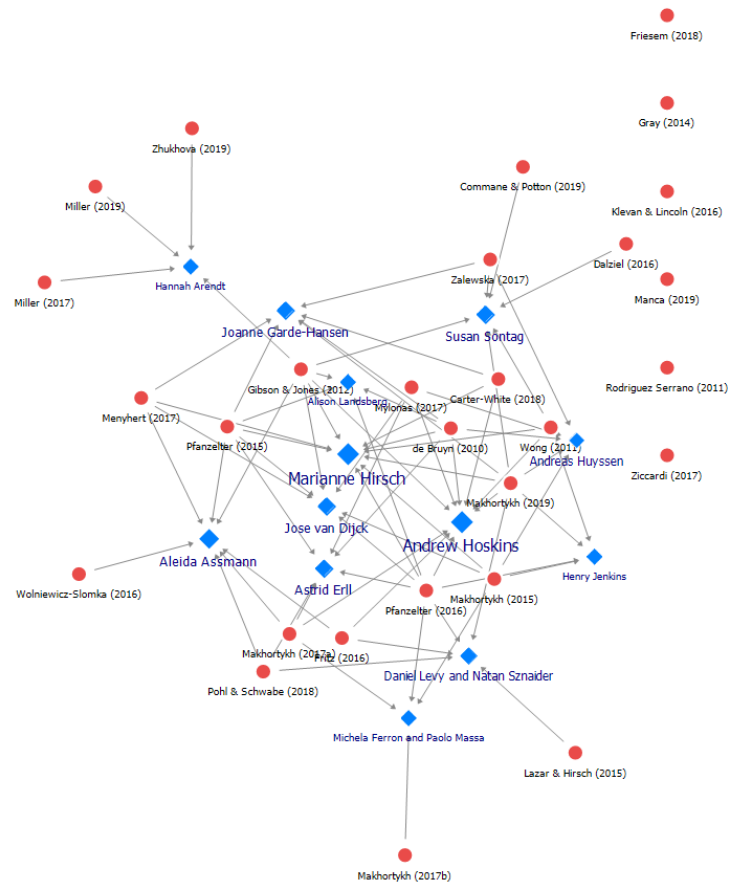
Figure 2. Word cloud

Figure 3. Cross-citation network

Figure 4. Co-citation network