Article

Quantified Nostalgia: Social Media, Metrics, and Memory

Benjamin N. Jacobsen [iD] **and David Beer**

Abstract

As social media platforms have developed over the past decade, they are no longer simply sites for interactions and networked sociality; they also now facilitate backwards glances to previous times, moments, and events. Users' past content is turned into definable objects that can be scored, rated, and resurfaced as "memories." There is, then, a need to understand how metrics have come to shape digital and social media memory practices, and how the relationship between memory, data, and metrics can be further understood. This article seeks to outline some of the relations between social media, metrics, and memory. It examines how metrics shape remembrance of the past within social media. Drawing on qualitative interviews as well as focus group data, the article examines the ways in which metrics are implicated in memory making and memory practices. This article explores the effect of social media "likes" on people's memory attachments and emotional associations with the past. The article then examines how memory features incentivize users to keep remembering through accumulation. It also examines how numerating engagements leads to a sense of competition in how the digital past is approached and experienced. Finally, the article explores the tensions that arise in quantifying people's engagements with their memories. This article proposes the notion of *quantified nostalgia* in order to examine how metrics are variously performative in memory making, and how regimes of ordinary measures can figure in the engagement and reconstruction of the digital past in multiple ways.

Keywords

social media, metrics, memory, Facebook, quantification

Introduction

Can memories be abstracted into metrics? The idea that memories can be turned into numbers is perhaps hard to fathom—they somehow seem too ethereal to be numerated. Yet, social media have opened up memories to just this kind of metrification. As is explored in this article, social media platforms turn memories into definable objects. Within social media's logic of engagement, past posts deemed to have the correct characteristics are relabelled as memories that can then be scored and rated. As such, this article explores how social media spaces facilitate the counting of memories. In broader terms, this article seeks to outline some of the effects that mundane metrics have on people's remembrance of the past and upon their sharing of those so-called memories. As a result of their ongoing and more than decade-long establishment, social media have moved into the domain of remembrance. They are memory devices as well as a means of networking and communication.

The role of digital media and social media platforms for memory making has received significant scholarly attention over the years (Blom et al., 2015; Garde-Hansen et al., 2009;

Hoskins, 2018; Neiger et al., 2011; Ozkul & Humphreys, 2015; van Dijck, 2007; and for a detailed exploration of the literature on social media and memory, see Jacobsen & Beer, 2021). Within these wide-ranging accounts and as the possibilities of social media continue to expand, our suggestion here is that the intersections of social media, metrics, and memory represent an area that has yet to be fully explored. This is particularly pressing as this is an area in which new developments are unfolding, especially as the reach of social media continues to stretch outwards and become more intense (a dual process identified by Lash, 2010). This article seeks to ask what happens when memory becomes a part of the embedded metricization processes of social media. As metrics have become an integral part of the logic of social media (Gillespie, 2010; van Dijck & Poell, 2013) and the

---

University of York, UK

Corresponding Author:
Benjamin N. Jacobsen, Department of Sociology, Wentworth College, University of York, York YO10 5NG, UK.
Email: benjamin.jacobsen@york.ac.uk

ways social media platforms seek to capture and mediate sociality (Bucher, 2012; Grosser, 2014), it is crucial to interrogate how metrics and digital memory practices intersect as well as the affective states these mundane metrics produce in relation to people's encounters with the digital past.

It is also crucial to examine how notions of identity and memory are interwoven with algorithmic systems and data. José van Dijck (2009), for instance, argued that memories and memory practices in the digital age should be conceptualized as "amalgamations" of complex interactions between brain, embodiment, culture, and emerging technologies such as social media platforms. Similarly, but with a broader remit, Deborah Lupton's (2020) book *Data Selves* explores how identity and selfhood are changed by the data assemblages in which individuals are now located. Lupton argues that the broader context of data extraction and harvesting plays out in very particular ways in the life of the individual. Lupton (2020, p. 12) claims for instance that "concepts of selfhood, identity and embodiment and how they are enacted with digital technologies as part of everyday life are central to understanding personal data experiences." Memories are clearly highly personal and so is the memory-scape with which each social media user is presented.

Memories and processes of memory making, it is argued in the following sections, are now an intimate part of these personal data experiences and of these "data selves." The question this then creates is how it is possible to understand this relationship between memory and data, or, more precisely here, between social media, memories, and metrics. Such a focus can allow us to see into the formation of what Lupton calls "data selves" and the way that metrics mediate content and selfhood. Lupton (2020) suggests that "we might think about how personal data not only cohabit with us but are part of us, co-evolving and growing together" (p. 27). In addition, this cohabitation, it is argued here, includes shared roles in memory making and memory sharing (see also Serafinelli, 2020). Memory is clearly a central part of selfhood, and in social media exists a set of relations in which data and metric interventions need to be unpicked to understand how memories are created and how they inform selfhood.

Focusing upon the role of ordinary metrics for memory practices, as will be explained further in a moment, this article draws upon interviews and focus groups to explore how the Timehop "streak" and Facebook "likes" afford and shape a metric-based approach to memory. As has already been argued, metrics can be understood as data through which value may be measured or in some form extracted or judged— metrics are essentially a form of data used to "ascertain value" (Beer, 2016, pp. 9–10). Informed by these interviews, we look at how metrics are implicated and performative in memory functions and memory making. The article's first section explores the effect that social media "likes" have on people's memory attachments and emotional associations with the past. The second section examines how memory features incentivize users to keep remembering through accumulation

and a sense of competition. The final section explores the tensions that arise in these attempts to quantify people's engagements with their memories. When we speak in this section of quantification, we have in mind Espeland and Stevens (2008, p. 402) approach toward this term, in which they point to "the production and communication of numbers" and the consequences they have on social life. As we will show, building upon our previous work that focused instead upon the classification and ranking of social media memories (Jacobsen & Beer, 2021), these forms of metricization and quantification directly impinge upon the way that memories come to circulate through collective and individual life. The findings demonstrate the heterogeneous yet affective qualities of quantification and how numbers can be felt (Kennedy & Hill, 2017) as well as the social power of metrics in everyday life (Beer, 2016). Moreover, they demonstrate the "intimate entanglements" (Latimer & López Gómez, 2019) between metrics and memory in social media spaces.

In response to our findings, this article proposes the notion of "quantified nostalgia" in order to examine how metrics are variously performative in memory making, and how regimes of ordinary measures can figure in the engagement and reconstruction of the digital past in multiple ways, shaping both how people engage with it in the present, how they remember it, and how they feel about those automated memories. Quantified nostalgia signifies the metrification and quantification of engagements with the past as well as their everyday implications and reception. The concept of quantified nostalgia does not presume that all of the memories metricized in social media are nostalgic, but is rather intended to suggest that the aim of the ideal-type *social media memory* is aimed at evoking such feelings in the recipient. These metrics are integrated into social media with the aim of generating ongoing attachments to past moments. As such, the quantification of nostalgia is part of the predictive frameworks of social media in which content is measured so that it can be targeted in ways that generate the maximum engagement, as is fitting with the logic of a social media platform. Quantified nostalgia is not always achieved, but we would suggest that creating this deeper type of attachment is the aim of the metric-based approach to memories, memory making, and memory sharing that occurs within social media spaces.

Memory Features and the Finding of Memories

Across devices and social media platforms, there exist many that have the purpose of resurfacing past content back to users at particular points in the present. Frequently, past content is now repackaged or resurfaced with the label "memories." Indeed, there have been calls for more critical research into the way memory is shaped by emerging technologies, platforms, and apps (Hoskins, 2018; van Dijck, 2007). There have also been calls for research into how apps and platforms "facilitate memory work through the reminding of previous

traces" (Ozkul & Humphreys, 2015, p. 363). Some of these memory features are dedicated apps designed to allow people to engage with their past social media content (Timehop is a prominent example of this), others are embedded in the operations of the platforms themselves (such as the widely used Facebook Memories feature), and others are embedded in smartphone software itself (such as Apple Memories). The project from which this article arises attempted to look across these different types of repackaged memories and to look at how different users engaged with them. These various features are algorithmic and are much more embedded into everyday interfacing, providing personalized memories from individual's data past (Jacobsen, 2020; Prey & Smit, 2019).

The remainder of this article focuses upon the quantification of memory within the mobile app Timehop and within Facebook's throwback feature called Memories. This combination gives insights into the practices of those with varying levels of engagement with these memories. Timehop is specifically designed with the sole purpose of resurfacing past data as "memories" in the present, usually on some form of anniversary. The app receives access to draw together data such as photos, videos, and tweets from various platforms including Facebook, Instagram, Twitter, and smartphone photo galleries. Unlike other features such as Facebook Memories, people must opt-in to use Timehop. The memories that resurface within the app, therefore, have been curated from various platforms. These are then resurfaced according to when it was first uploaded, documented, or stored (Timehop, 2019). The result of this is that an individual biography can be tracked across different social media platforms and content. Facebook Memories, however, is an integral feature of the social media platform and cannot be fully disabled by users. It enables users to revisit content from a given day in their Facebook history. Facebook Memories consists of content such as past posts and images, which it resurfaces on a user's News Feed at specific times, such as its annual anniversary (Facebook Help Centre, 2018). As opposed to Timehop, Facebook uses machine learning to predict what memories users would most like to see (as discussed in Jacobsen & Beer, 2021). Encountering resurfaced data as memories on Facebook, therefore, forms a more incidental, intermittent, and yet, integral part of the platform experience.

Researching Automated Memories

To explore the role of metrics in memory from the perspective of personal experiences of data processes, a combination of interviews and focus groups were used. This particular article draws upon 26 remote qualitative interviews conducted from January to March 2019 and four focus groups conducted from May to October 2019. The data were collected as part of a broader project that explored the effects of algorithmic systems on people's memory practices and remembrance of the past. The rationale for using mixed methods was in order to try and capture the diverse ways in which people experience, negotiate, and engage with the digital memory objects that they are shown on social media platforms and algorithmic media—and so would capture some specific instances of the types of algorithmic experiences described by Bucher (2018).

The qualitative interviews were conducted with people who use the popular memory app, Timehop. The app was selected not only because it remains highly popular, with over 21 million daily users (Lomas, 2018), but also because it was assumed that its user base comprised people using the app actively, intentionally, and voluntarily. The majority of the Timehop users that were interviewed used the memory app routinely, often on an everyday basis. The focus groups, however, were conducted with people who discussed their experiences of features such as Facebook Memories, Apple Memories, and Google Photos. The focus group participants had diverse degrees of familiarity with social media and memory applications, ranging from those unfamiliar with these features to those using them on a regular basis. The focus group interviews provided a better understanding of the implicit and passive ways in which people react to seeing "memories" resurfacing on diverse memory features. Using both qualitative interviews and focus groups, then, engendered a more comprehensive and nuanced insight into the various ways algorithms, social media platforms, metrics, and memory intersect in everyday life across a wide range of different types of social media users. As such, Timehop and Facebook Memories provided a focal point and prism through which to investigate these entangled intersections.

In terms of the qualitative interviews, from January to March 2019, the first named author made regular searches on Twitter for mentions of "Timehop" as well as user uploads of "Timehop memories." Potential participants were contacted directly on Twitter and invited to take part in an online interview about their use of the memory app. Twenty-six people agreed and were provided with an information sheet and a consent form through email. The sample was demographically varied and international. In terms of age, the sample ranged from 22 to 60. Most of the participants who were interviewed routinely visited the app as part of their own continual engagement with their own data pasts. Many of them also drew on their own experiences using other memory features such as Facebook Memories and Apple Memories. The sampling for the focus groups, however, occurred between May and October 2019, and involved a much broader sampling frame, built up through advertising and directly approaching social and community groups. The sample varied in age from 18 to late 70s. The focus groups lasted for around 1 hr, and at the start of the focus group discussion, it was explained how Facebook Memories functioned, using screenshots and images. The group discussion that followed was a dialogue about what the participants thought of the feature, with some also reflecting on their own use of memory applications. The interviews and focus groups were coded thematically, according to categories such as

"practices," "affects," "memories," "numbers," and "perceptions of the app". They provided insight into how people used features such as Timehop, Facebook Memories, but also other memory features.

Through this mixed methods approach, we were able to examine a variety of ways in which people respond to and used different memory features and how this allowed them to remember their data past. Among other things, the data provided insights into the ways everyday memory practices and metrics intersect. They also provided interesting juxtapositions and points of contrast between different memory features' use of metrics. The following sections look at two particular metric focused aspects of these social media memories with Facebook "likes" and Timehop "streaks." On the surface, these may potentially appear different processes, yet they share a similar metric-based rationality and both involve quantifying the past within the logic of social media engagement.

Social Media "Likes" and Memory Attachments

The starting point for our analysis is that with social media metrics, even a seemingly crude metric such as the number of Facebook likes can change how memories are understood and felt in everyday life. Counting memories through likes can appear quite superficial, but there is some suggestion that this has a direct and quite powerful influence over how people view and feel about moments from their own pasts. It can even change how people feel about those past moments. Take, for example, the following focus group exchange in which the participants reflect on the "liking" of social media memories:

Elijah: All that likes and stuff could also affect how you think of the event. Even though you really enjoyed it and want to share it with people and because of all the likes and all the views that you have, maybe not as good as what you've had before, then that might bring you down on how you have remembered the event and how you felt about it as well.

William: Yeah, because then the association is the fact that I've only had three likes on this post, not like this was an awesome day you know. I think, again, it's negatively impacting memory, because you're changing the association with it.

Here, the discussion reveals how the response on social media can change how the individual associates with or views a memory. Their value of the memory can be shifted by social media's value structures. The number of likes was a crucial part of the feedback loop being described here. The number of likes, it is suggested, shapes the way the individual feels about the memory. Counting memories

through likes, shapes, or structures the feeling toward certain memories. In turn, this changes the attachment to the memory, which may also then impact upon how that memory is recalled and, potentially, how it will be remembered, if at all, in the future. Content that is repackaged as memories is essentially validated in social media through these likes. It implies a certain "trust in numbers," as Theodore Porter (1995) argued, where Facebook likes can be seen to shape the meanings and associations of past memories. Once the content becomes about an individual's biography as well as about their interactions, and once old content is repackaged as memories, then moments within those biographies are open to judgment when they resurface, potentially altering how that biography is understood or viewed.

When prompted to elaborate the relationship between social media likes and memory, the discussion continued,

Researcher: So based on the likes you get?
William: Yeah yeah, which we shouldn't really need to do. If it's special to you then it's special to you. We should be focusing on that rather than who is seeing it and who is sharing it or liking it or if you're getting comments back. It's not about that. It's about the memory. Which is why I don't think social media altogether as good as what it could be.
Ava: Yeah, I was going to say that. You're constantly depending on others and what they think of your memories, and it should be, as you say, your way of seeing it and your special moments, not what the people around you think
Researcher: It's like putting a number on it.
William: Yeah
Researcher: So you think more about the number in a way, right?
Ava: Yeah

There is a clear acknowledgment from William of the power of social media likes in defining and judging memories, this is coupled with a sense that this valuation of memories through likes remains hard to escape despite this awareness. William is clear that although memories can be seen as individual, in the social media space, they are open to a collective act of valuation that has the potential to change their presence and the worth attached to it by that individual. Ava similarly observes the power of the collective social media network in shaping personal attachments to a memory. The dependence on others to rate a memory in order to validate it is notable in Ava's reflections. This collective act of valuation frames the memory in terms of the level of engagement it receives on the platform.

As social media platforms have become memory devices, memories, and people's memory making practices can be seen to be folded into what has been called the "Like economy"

(Gerlitz & Helmond, 2013). This is an economy capitalizing on people's participation on a platform, turning it into relational value and "likes." People's engagements with their memories on social media platforms are similarly turned into relational value, something that can be liked or ignored by others, something that can become visible or made invisible. In short, the memory that is shared is an object to be engaged with or ignored. This suggests the potential for the abstraction of the memory into a metric, which then comes to influence or define how that memory is viewed, attachments to it and the value placed upon it. As such, the memory becomes imbued with social expectations of what is "enough" or "not enough" likes, which ultimately has the potential to shape a person's associations with that memory. Thus, very personal processes of memory making are open to the metrics and the "like economy" of social media.

In a separate focus group, a similar set of observations surfaced. Jane, who indicated that she would share memories with specific people through a private message but would not share them with everyone, began by noting that memories follow a similar logic to other content on social media:

> Jane: I think sometimes, if you do share something, not necessarily memories but anything on social media, you find yourself, almost in spite of yourself, caring about the likes number, so I think I purposely wouldn't do that if that's something that maybe I cherished.
>
> Researcher: Do you think it would change it, change how you remember the thing, the fact that you care about those numbers or likes or whatever?
>
> Jane: Yeah, it might somewhat.
>
> Eva: I think in some situations it would. Like if it's a picture of a social situation, you know, like a party, and it gets no likes you're like oh well that sucked . . . if it's just a picture of you and your friend doing some dumb thing and it gets no likes you're like whatever . . . There's a huge culture around, you know, you have to get the most likes or else you're not cool. So I think in a way that it can tarnish the memory, but at the same time I also think it depends on the situation

The participants here are identifying a broader set of judgments and valuations, a broader social media logic, of which memory is a part. They are also highlighting here how decisions are made about the level to which a memory is then allowed to circulate within social media networks and how a sense of privacy may limit that circulation. Clearly then, memories are drawn into a broader logic of metric-based validation and valuation in social media (Grosser, 2014). As

with the previous focus group, here too, it is noted that the attachment to and value of a memory can be changed by the reaction and number of likes it receives. As a result, Jane holds back on sharing particular "cherished" memories, just in case, the number of likes it receives alters their relationship with the memory. The fear here is that the social media metric might damage the memory. This is almost to protect a memory from exposure to metricization. This raises interesting questions about what kind of memories are considered fitting to be shared on social media, based upon the potential future reaction or possible damage to that memory. Eva adds to this that the power of the social media "like" might implicate some types of memories more than others—with a memory of a social situation more likely to be affected by the number of likes it receives. Yet, in both cases, users have to negotiate and predict what memories to share on social media based on the likes these will receive.

As Facebook likes are visible markers of perceived validation and acceptability of certain memories, this also raises an interesting question of the power of the visibility of mundane metrics. As Taina Bucher (2012) has argued, part of the algorithmic power of social media platforms such as Facebook resides in their ability to impose a perceived "threat of invisibility" onto users. Users wish to participate on the platform, she argues, because of the "constant possibility of disappearing and becoming obsolete" (Bucher, 2012, p. 1164). Yet, as we demonstrate here, there also remains a kind of "threat of visibility" on social media platforms, as participation and visibility means exposing oneself and one's memories to metricization and metric-based forms of validation from other users. Ultimately, however, the suggestion here is that not all types of memories are as vulnerable to being reshaped by social media likes. This poses the question of how the metrics implicate different memory types differently in social media spaces.

In their own words, then, it would seem that as well as making memories more visible and shaping their value, there is also a sense that a limited response from a social media network to a shared memory could, as it is put above, "tarnish" it. And so we begin to see here how the number of social media "likes" can mediate, measure, and lead to alterations in the value associated with a memory. This is a form of quantified nostalgia. In counting memories in this way, social media metrics intervene in the emotional responses or attachment to those memories. As Espeland and Stevens (2008) have pointed out, metrics "can become epistemic practices, embodying and routinizing norms of scepticism and certainty about the world" (p. 421). Quantifying nostalgia, which encapsulates the dynamics of the metrification and quantification of engagements with the past, has the potential to become such an "epistemic practice" that shapes and routinizes certain perceptions and certainties about the past. Furthermore, one possible implication of counting memories could be that this mode of metricization and social validation instills in people, what Helen Kennedy (2016) has called, "a desire for numbers." There could be an incentive

for users to share memories in a way that garners enough likes for it not to "tarnish" the memory. This set of relations and tensions takes us from just counting memories to thinking about how nostalgia and an individual's emotional connections with their past are quantified.

Streaks, Accumulation, and the Incentive to Keep Remembering

Another salient way in which memory can be seen to be shaped by social media metrics is through the Timehop "streak." The streak is a measure which signals how many days in a row a user has been through the app to check for daily memories. It ultimately functions, as it does on other platforms such as Snapchat and in many online games, to display and cement a user's routine engagement on the platform. As such, it is a metric aimed at capturing memory frequency and is aimed at motivating a routine and ongoing engagement with past content. In one sense, the streak embodies and typifies the aim of algorithmic media: to be fundamentally habitual and sticky (as discussed in Chun, 2016). Yet, along with Facebook likes, it also typifies a different way in which memories can be metricized. Where the like was a measure of a notional collective response to a memory, the streak is a measure of an ongoing engagement with memories. As Harvey, one of the participants, noted,

> It's pretty rare that I miss a day of Timehop checking because I have the Streak. It's over 740 days now, something like that streak. I have set it to give me a reminder in the morning, it gives me a reminder, a notification, to open it up.

The important thing here is in maintaining the streak. The streak can be seen to both keep score of how many days one has checked Timehop in a row, while also constituting something in its own right. Its ever-increasing numbers, if one keeps checking Timehop, can be a powerful means to incentivize further participation and further engagement with memories. The result of this metric is an engagement of memory with the established "rhythms" of social media (see Carmi, 2020). The metric here is active in how people remember and how frequently they use social media as a source of remembering the past. The quantification of days provided by the Streak feature becomes an incentive to keep remembering. It is an incentive to dig into past content and to share what is found—thus, it is a quantification of nostalgia in terms of locating memories which then feeds into the collective act of sharing that nostalgia.

These streak metrics are about the accumulation of acts of engagement with memories. When asked about whether keeping up the streak has had any impact on her use of the app, Emma stated,

> I do think it becomes more valuable as it goes on. I think probably the first few years that I used it was kind of "ehm whatever," but now that I know that there are things in there that I look forward to seeing or that will be neat to see one

day in your Timehop, now I think I'm more invested in like I need to check my Timehop today, I want to check my Timehop today.

The streak metric feeds a logic of discovery. The sustained engagement with the past that it encourages leads, it is suggested, to the uncovering of interesting and evocative moments. And so, it is a metric that can lead to a greater depth and volume of memory making in social media. For Emma, the emotional engagement with the app is modulated by the accumulation of content that is being presented. So there are two types of accumulation at work here: the accumulation of memories within social media and the accumulation of engagements with those memories in Timehop. Emma states that the first few years of using the memory feature were, as she puts it, "ehm whatever," indicating a sense of being underwhelmed, whereas she now feels more invested in using the app because, she explains, "I know that there are things in there I look forward to seeing." The sense of discovery is clear here (Espeland & Stevens, 2008). The accumulation of biographical content has meant that the memory app has more to do and more to reveal. There is the scope to keep digging because of all that accumulated past content. Moreover, Emma suggests that the streak helps shape her emotional engagement with the memory app from detached curiosity to something she is "more invested in." We see the attachment with memory and with the means of memory making arising again here.

The relationship between the streak, metrics, accumulation, emotional engagement, and remembering the past is not limited to a certain age group. When interviewing Sarah, we talked at length about her relationship with her sons, all of which were avid users of memory features such as Facebook Memories and Timehop. When asked about using features such as Timehop, but also having a 14-year-old son that uses it at the same time, she responded that

> It's fun. It often means that he'll show me something that is showing up in his memories. He doesn't post as much as I do, but yes he is always really interested in keeping up his streak and just looking at the things that were happening a year or two ago.

The intersection of social media, metrics, and memory can be seen, in this instance, to problematize any notion that remembering is simply a product of aging. Instead, for Sarah's 14-year-old son keeping up his streak and looking at things "happening a year or two ago" were intimately interwoven and, to use van Dijk's (2009) terminology, "amalgamated." The incentive to keep remembering, to keep looking back, can be seen here to be facilitated by the accumulation of biographical content on the feature as well as fuelled by the maintenance of a metric. The individual need not be looking back into the distant past for this to be effective, the recent past is just as likely to be mined in order for the memory streak to be maintained.

As we have already outlined in the earlier discussion of Facebook likes, the attachment to memories is being redefined by the functions and architectures of these media. The point

here is that metrics can change attachments to memories, as we saw earlier, but they can also impact upon the frequency, rhythms, and depth of memory making that occurs in social media. Tellingly, Ethan similarly stated that the streak "is not a priority, but the longer it happens, the more it becomes a priority." This would suggest that the power of the metric and of its influence over memory making can escalate the longer it is in use. So the format of *staying on a streak*, or keeping the numbers of engagements accumulating, draws the individual back, repeatedly, into these social media memories. Social media memories, then, can be conceptualized as *habitual memories*, constituting networks of affects, memory practices, data, and numbers. As both Emma and Ethan point out, there is an intimate link between quantifying engagement with the app, the accumulation of content, and how people encounter and engage with their social media past. The result of this is likely to be an increase in the volume of memories excavated and an escalation in the volume of memories that circulate.

Numerating Engagements, Competition, and the Impulse to Not Give Up

Whereas, the accumulation of content over time and the streak helped Emma "look forward to seeing" memories pop up on her memory features, for other participants, it created a sense of competition and anxiety. The metric for engagement over time was a source of comparison and competition—it urges these participants to ask who is most engaged with the past. This implies that within social media engagement with past content is seen as a virtue and that digging up memories is a desirable characteristic of a social media user. Here, it is the logic of competition that starts to drive memory making in social media. As Miriam states,

> I remember before you just scrolled through. You hook up your Facebook and you scroll through and it tells you everything, but I feel like once the streak started I got competitive about it. That's how I ended up getting really into it.

For Miriam, the streak added a "competitive" edge to her use of the memory feature. Miriam stated that the streak encouraged her to check the app "like every single day," and if she lost the streak she would get frustrated. This metric, like other features of the platforms, seems to embed memory into the everyday activities of social media users. For Miriam, the streak made her "really addicted" to the memory app.

Miriam's experiences suggest not only a particular engagement with a particular memory feature, but also a specific relationship to the past. As Grace also pointed out when interviewed about the streak: "for a while it was addictive, because I don't want to break my streak. So I'm logging on everyday trying to see what's going on." The use of metrics on social media platforms, Benjamin Grosser (2014) suggests, activates in users a "desire for *more*," that is, "*more* 'likes', *more* comments, and *more* friends." In the case of social media, metrics, and memory, however, this

desire manifests itself differently. Engaging with and remembering the past, becomes equivalent to "keeping up": *keep* producing, *keep* revisiting, *keep* sharing, *keep* up the numbers. The numbers create an imperative to *keep up with the past*. Social media memories become intimately interwoven with notions of accumulation, the amassing of content, and building of numbers over time. Taking a similar angle concerning competition and the need to keep up, Diana stated that the streak function made the use of the memory feature feel more like "a race," making the experience of the memory feature and the memories it resurfaces speedier and, therefore, "anxiety inducing." This was also echoed by Keith who said that "every day I check it and I get anxious if I don't, because I want to keep that streak going you know what I mean. It's like a sense of pride almost." As such, the competitive edge to this memory feature became a source of both pride and anxiety for some of the participants. Again, this also has knock on effects for the amount of memories that are extracted and which circulate.

Interestingly, this sense of competition, pride, and anxiety were felt in spite of the awareness that these numbers were essentially arbitrary. As Diana pointed out, "sometimes it's a source of stress, where I'm like oh no did I check it today? I don't want to lose my streak, which is so artificial and strange." This suggests an interesting paradox inherent in the memory app usage, between the seeming artificiality of numbers but also their capacity to affect users emotionally. Echoing the earlier discussion of validation in Facebook Memories, Francis stated that "These arbitrary numbers, they don't really matter but it's just nice as a sense of affirmation." The quantification of nostalgia, as such, engenders various affective states. It is a source of contesting and conflicting emotional impacts. As with any form of competition, the streak helps generate both frustration and pride, anxiety and affirmation. With this metric as with the social media "like," there is a strong sense that the social media user may be aware of the potential limitations and misrepresentations but they still find it hard to remove themselves from the influence and power that the metric exercises.

Such an approach to memory making inevitably creates other types of tension. As the streak number takes on a certain value over time, it can sometimes be seen to be in direct conflict with the memories one is shown on memory features. As Grace points out,

> It [the streak] pushes you to stay engaged and to stay there. I guess that becomes hard for someone who is trying to step away from their memories or doesn't want to see anything, I guess that creates tension from wanting to keep this streak and not wanting to revisit the bad things that were happening then. Or the things that you have lost.

The streak can sometimes, Grace states, be hard for those people who are faced with memories they do not want to see, but who still want to keep up the streak. The metric here creates a tension in which it draws the user into engagement

even where the memories encountered may be a problem for them. This emotional tension that the Streak produces was also aptly illustrated when Diana discussed her occasional encounters with uncomfortable or painful memories. As a way to manage such painful reminders, Diana stated that "I'll give myself permission to tap very quickly through it and not engage with it, and just get to the end and close the app and be done with it." The depth and veracity of the engagement with the memory are restricted here, the memory is only cursory. As such, part of Diana's tactic of managing uncomfortable memories resurfacing on memory features was to "tap very quickly through" and, as she mentions later on, "choosing not to have an emotional connection" with those memories. And so the pace increases.

When asked if there is a particular reason for her choosing not to have an emotional connection to some memories, Diana responded,

> I think it's more just okay I know what just happened, I will deal with this emotionally at the time and place of my choosing, it's not today. But I also want that streak number, so I know what I have to do to get over it, to get to the end of this. I don't know, it's very kind of there's something kind of survivalist about it, not now, go away, delaying you for another year. I know that I won't have to think about this for a year once the notification goes away.

New difficulties and tensions emerge where memory is enumerated and resurfaced in this way. As the participant points out, there exists a tension within the experience of the memory feature: users sometimes feel the necessity to navigate painful or difficult memories while, simultaneously, ensuring that one keeps up the streak number. This is indicative of how the metricization of the memory feature incentivizes routine engagement, not only with the feature itself but also with that which the feature resurfaces on a daily basis, even if the resurfacing memories are potentially uncomfortable to recall. By giving memory making a numerical value, these examples also show that the streak, albeit "artificial and strange" as Diana remarked, has the capacity to shape users' engagement with the past.

Conclusion: Metrics and Social Media Memory Making

Metrics are reshaping the volume of memories on social media and the attachments that individuals have with them. This article has explored the processes of quantifying nostalgia and some of its effects on memory making and memory practices. It has begun to show some of the ways that metrics are mediating social media memories and shaping how people remember, when they remember and the attachment they have to those memories. Metrics can draw attention to past content and change how individuals feel about those moments. As memories are counted and turned into numbers, opportunities are created for the attachments with those memories to be quantified and, therefore, reshaped. This article looked at two

particular metrics, but there are others and more will emerge as the memory functions and features of social media continue to expand. As we have shown, the value, meaning, and significance of social media memories along with the way these memories then circulate back into the life of the individual user and their network is substantially shaped by metrics. The processes of quantifying nostalgia are emblematic of an intensification of systems of measurement proliferating in society. In our case, it would seem that metrics are an *affective* feature of memory making within social media. Reflecting a widespread calculative mode of reasoning (Beer, 2016) and despite their intimacy and emotive potential, memories do not escape from the reach of this rationality.

With metrics both capturing and producing actions and practices, the concept of quantified nostalgia is intended to provide a focal point for continuing to explore the logic within which memory is metricized. Quantified nostalgia seeks to make sense of the ways in which people's engagements with the past have been quantified and metricized. In particular, in this article, we have brought out the intervention of metrics in attachments to memory and into the routines of social media memory engagement. The use of metrics in social media memory making fits with the logic of increasing engagement with the platform. One way that platforms achieve this aim is by resurfacing past content as memories and by increasing attachments to the past content held within social media. In this sense, it could be suggested that what is being measured is not just the memory, there is also an attempt to use metrics to expand and reconfigure the attachments to those memories. In this sense, the thing being quantified is nostalgia. What is being turned into a metric is not just the memory, but the levels of attachment or potential attachment (as these are often predictive) to those memories. The greater the measure of nostalgia, the greater the attachment and the greater the engagement. The notion of quantified nostalgia is intended to capture what happens when memory and metrics meet within the spaces and logics of social media. This article has begun to explore how this logic of quantification is shaping memory making.

Remembering or revisiting one's past, in the cases outlined in this article, becomes equivalent to keeping up with the past as it rapidly accumulates within social media's archival structures. Guiding, validating, and reinforcing memory making, metrics play a powerful role in social media. Within social media and its inherent logics, the biography of the individual is transformed into content that can be numerated, rated, and then prioritized. This article has examined the "ordinary affects" (Stewart, 2007) of metrics for people's memory practices within social media. Metrics provide a means to keep people perpetually and increasingly engaged in their past, making them think about which memories to share and keeping them active memory making practices.

In *Data Selves*, Deborah Lupton (2020, p. 44) argues that it is necessary to look at the way that personal data are "materialized." The metrics that shape both memory making and the meanings attached to specific memories are an instance of this

materialization in operation. The quantifying of nostalgia on social media platforms and memory features facilitates the interactional and emotive properties of remembering—enabling a memory to find its audience, become visible and have the greatest reach. The result is that metrics are involved in how memories are made, defined, and realized in social media spaces. What is remembered, how it is remembered, and the response it creates are shaped by these metrics. The memory of an event or moment is affected and shaped by how other people perceive it and the metric-based response (in terms of likes, shares, and comments) that the memory gets on social media. Once memories are counted, then quantified nostalgia becomes an active presence within social media, driving activity, and engagement, while also binding together the individuals that make up their networks.

Declaration of Conflicting Interests

Funding

ORCID iD

Benjamin N. Jacobsen https://orcid.org/0000-0002-6656-8892

References

Beer, D. (2016). *Metric power*. Palgrave Macmillan.

Blom, I., Lundemo, T., & Rossaak, E. (2015). *Memory in motion: Archives, technology and the social*. Amsterdam University Press.

Bucher, T. (2012). Want to be on the top? Algorithmic power and the threat of invisibility on Facebook. *New Media and Society*, *14*(7), 1164–1180.

Bucher, T. (2018). *If . . . Then: Algorithmic power and politics*. Oxford University Press.

Carmi, E. (2020). Rhythmedia: A study of Facebook immune system. *Theory, Culture & Society*, *37*(5), 119–138.

Chun, W. H. K. (2016). *Updating to remain the same: Habitual new media*. MIT Press.

Espeland, W. N., & Stevens, M. (2008). A sociology of quantification. *European Journal of Sociology*, *49*(3), 401–436.

Facebook Help Centre. (2018). What things appear in memories? *Facebook*. https://en-gb.facebook.com/help/?helpref=uf_permalink1422085768088554

Garde-Hansen, J., Hoskins, A., & Reading, A. (2009). *Save as . . . Digital memories*. Palgrave Macmillan.

Gerlitz, C., & Helmond, A. (2013). The like economy: Social buttons and the data-intensive web. *New Media & Society*, *15*(8), 1348–1365.

Gillespie, T. L. (2010). The politics of "platforms." *New Media & Society*, *12*, 347–364.

Grosser, B. (2014, November 9). What do metrics want? How quantification prescribes social interaction on Facebook. *Computational Culture*. http://computationalculture.net/what-do-metrics-want/

Hoskins, A. (2018). *Digital memory studies: Media pasts in transition*. Routledge.

Jacobsen, B. N. (2020). Algorithms and the narration of past selves. *Information, Communication & Society*. Advance online publication. https://doi.org/10.1080/1369118X.2020.1834603

Jacobsen, B. N., & Beer, D. (2021). *Social media and the automatic production of memory: Classification, ranking and the sorting of the past*. Bristol University Press.

Kennedy, H. (2016). *Post, mine, repeat: Social media data mining becomes ordinary*. Palgrave Macmillan.

Kennedy, H., & Hill, R. L. (2017). The feeling of numbers: Emotions in everyday engagements with data and their visualisation. *Sociology*, *52*(4), 830–848.

Lash, S. (2010). *Intensive culture: Social theory, religion and contemporary capitalism*. SAGE.

Latimer, J., & López Gómez, D. (2019). Intimate entanglements: Affects, more-than-human intimacies and the politics of relations in science and technology. *The Sociological Review*, *67*(2), 247–263.

Lomas, N. (2018, July 9). Timehop discloses July 4 data breach affecting 21 million. *TechCrunch*. https://techcrunch.com/2018/07/09/timehop-discloses-july-4-data-breach-affecting-21-million/

Lupton, D. (2020). *Data selves*. Polity Press.

Neiger, M., Meyers, O., & Zanberg, E. (2011). *On media memory: Collective memory in a new media age*. Palgrave Macmillan.

Ozkul, D., & Humphreys, L. (2015). Record and remember: Memory and meaning-making practices through mobile media. *Mobile Media & Communication*, *3*, 351–365.

Porter, T. (1995). *Trust in numbers: The pursuit of objectivity in science and public life*. Princeton University Press.

Prey, R., & Smit, R. (2019). From personal to personalized memory: Social media as mnemotechnology. In Z. Papacharissi (Ed.), *A networked self and birth, life, death* (pp. 209–224). Routledge.

Serafinelli, E. (2020). Networked remembrance in the time of insta-memories. *Social Media + Society*, *6*(3), 2056305120940799. https://doi.org/10.1177/2056305120940799

Stewart, K. (2007). *Ordinary affects*. Duke University Press.

Timehop. (2019). *Reinventing reminiscing*. https://www.timehop.com/about

van Dijck, J. (2007). *Mediated memories in the digital age*. Stanford University Press.

van Dijck, J. (2009). Mediated memories as amalgamations of mind, matter and culture. In R. van de Vall & R. Zwijnenberg (Eds.), *The body within: Art, medicine and visualization* (pp. 157–172). Brill.

van Dijck, J., & Poell, T. (2013). Understanding social media logic. *Media and Communication*, *1*(1), 2–14.

Author Biographies

Benjamin N. Jacobsen is an Associate Lecturer in Sociology at the University of York. His book *Social Media and the Automatic Production of Memory* (co-authored with David Beer) is in press and will be published in April 2021.

David Beer is Professor of Sociology at the University of York. His recent books include *Metric Power, The Data Gaze* and *Georg Simmel's Concluding Thoughts*.