Article

Time Collapse in Social Media: Extending the Context Collapse

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Abstract

Context collapse, or the flattening of multiple audiences into a single context, has been an important notion in research on privacy experiences, self-performance, and changing user practices in social media. Yet, previous research has mainly addressed context collapse in spatial rather than temporal terms. The resulting lack of an understanding of time in social media limits our conception of the social media context. The aim of this article is therefore to go beyond the spatial dimension in the current notion of "context collapse" in social media. We discuss relevant theories, empirical evidence, and technical features that address the importance of a time dimension and suggest a collapse of temporal patterns in social media. By introducing the concept of "time collapse," we account for how context in social media may muddle the time boundary between past and present, which, in turn, can affect how users manage their identity and performance on social media. Whereas research on social media has commonly addressed self-performance and impression management, we understand self-identity as an entity in progress. We analyze the results of two empirical case studies to suggest how and why a collapse of time related to self-performance is becoming increasingly prevalent, focusing on young people and Facebook. Our analyses contribute to a new understanding of time and the prolonged self-documenting practices typical of social media. Our research offers a unique understanding of the nature and conceptualization of time that may guide future directions in the study of social media and their implications for young people.

Keywords

context collapse, time collapse, social media, privacy, self-performance, identity

Unlike the typically anonymous online social environments of the 1990s, characterized by a nickname culture and a freedom to engage in changing identity games (Bechar-Israeli, 1995), modern social media profiles are often non-anonymous, with users revealing their real offline identities (Zhao, Grasmuck, & Martin, 2008). While Facebook and Google+ enforce real-name policies that require users to use their real names, Twitter and Instagram do not impose strict name-related rules. Still, many users choose to disclose their full names on these social media platforms (Kaarakainen & Hutri, 2016; Peddinti, Ross, & Cappos, 2014). Thus, many social media users—including, in particular, Facebook users—have now chronicled a decade or more of their lives online, with digital traces linked to their past identities available to their friends and acquaintances. In this article, we argue that the advent of non-anonymous social media has changed the contextual conditions for socializing and self-performance (Zhao et al., 2008), as well as how users perceive time.

According to Schoenebeck, Ellison, Blackwell, Bayer, and Falk (2016), existing work on social media has tended to focus on their "newness" and the ways in which content posted to social media portrays the current moment. However, to a large degree, modern social media may also capture, archive, and make semi-publicly or publicly available a history of the self. Current studies have not investigated how self-identity is an entity in progress in relation to social media performance over time. This research, therefore, lacks knowledge of how the nature and experience of time in social media might influence users' self-performance and participation.

In particular, younger users born after 1990, or "social media natives," who have grown up with social media like Facebook, may experience that their life and identity transitions are marked by different self-performance practices in social media from their early youth to their young adulthood. Since identity is not completely stable over time, it is reasonable to assume that users will become cautious of the

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consequences of life-logs in social media. The persistence of digital traces may raise tensions for self-performance conditioned by time: In other words, "who I am today is not the same as who I was a decade ago."

Past and archived content in social media may affect both memory and self-performance. While most humans have selective memories, which allow them to forget embarrassing moments, social media remembers every posted experience. The searchability of time-stamped content in social media may, therefore, influence humans' memories (Wang, Lee, & Hou, 2017) and their experiences of time. For example, a photo posted on Facebook may be re-published and commented on by others several years later. While the reoccurrence of old content may have positive outcomes, such as shared experiences of good memories, old content can also complicate present identity performance. Hence, previous research has suggested that the development of life "without being perpetually or periodically stigmatized as a consequence of a specific action performed in the past" (Mantelero, 2013, p. 230) is a fundamental human need. It is, therefore, increasingly important to understand how *time* is perceived in the context of a non-anonymous social media environment when investigating the behaviors of social media users. Under such conditions, time will be perceived as temporality across past events, which gives rise to ambiguities and complexities.

Several researchers have examined the interplay between users and the blurring context of social media, often referring to the concept of "context collapse" (e.g., Davis & Jurgenson, 2014; Hogan, 2010; Marwick & boyd, 2011, 2014; Papacharissi, 2012; Vitak, 2012; Wesch, 2009). Marwick and boyd (2011) describe context collapse as a social or spatial collapse, in which individuals must meet the expectations of multiple and diverse audiences simultaneously and which complicates self-performance.

Yet, few studies have sought to (a) include the *temporal* variable in their study of context collapse; (b) conceptually clarify the construct of the time dimension of context collapse, going beyond the spatial dimension; (c) specify how a collapse of temporal patterns affects self-presentations in the context of social media using empirical evidence; or (d) detail how time collapse as a concept compares and contrasts with other related theoretical approaches.

This article seeks to address these limitations by explicating the construct of time collapse and deriving novel theoretical propositions that extend context collapse as a construct. We propose that social media, as enduring and sometimes unpredictable life-logs, are increasingly experienced as a collapsing of the past and the present. More specifically, we discuss how social media in general, and Facebook in particular, contribute to a blurring of time and a muddling of past and present experiences—a *time collapse*. We suggest that social media users sense collapses in both time and social space (i.e., context) and that, hence, a linear structure of time is not necessarily useful when explaining

how social media users perceive time. We illustrate this point by focusing on younger users who have grown up with social media and Facebook—social media natives.

An understanding of time is particularly relevant for social media natives. The identity transition from adolescent to adult has long been of interest to researchers examining identity and human development (Hogan & Astone, 1986). Yet, the present generation of social media natives is, historically speaking, the first generation for whom this transition has been marked by user-generated content archived in social media, resulting in life-logs that trace individuals' growth from youth to adulthood.

Our extended understanding of context collapse may help future research and contemporary directions in social media to include a focus on temporal patterns as a means for explaining social media participation and identity construction. A clearer understanding of the time dimension may also help developers and researchers better understand individual and group dynamics in social media and how the context of space and time affects communication.

In the following, we first describe the concept of context collapse and research related to time in social media. Second, we discuss the reflexive self and self-narrative performances and technologies. Third, we analyze the results of two empirical case studies to suggest how and why a time collapse appears increasingly prevalent. We conclude by delineating a conceptualization of time collapse.

Background

Research and Definition of Context Collapse

Theoretically, the concept of context collapse builds on Goffman's (1958/1990) analysis of the structures of social situations. Goffman discussed how individuals tailor performances according to various social settings. Individuals segregate among different audience types to identify appropriate performances for distinct social situations (Goffman, 1959/1990).

Whereas tailoring performances and interactions is relatively manageable offline, such impression management is complicated in the online context of multiple flattened audiences. In research on online self-presentation and socializing, context collapse typically refers to how social media flatten multiple audiences into a single context (e.g., Davis & Jurgenson, 2014; Hogan, 2010; Marwick & boyd, 2011, 2014; Papacharissi, 2012; Vitak, 2012; Wesch, 2009). This context collapse may complicate audience segregation and the tailoring of self-performances in social media.

Navigating multiple audiences in the same place can cause embarrassing and harmful situations, as it may blur borders between the public and the private, the professional and the personal (Davis & Jurgenson, 2014). For example, a study by Lang and Barton (2015) reported that 84% of Facebook users have been tagged in photos that they have

found undesirable for a larger audience and have subsequently taken defensive action. Similarly, Facebook users with many diverse friends use a strategy of conformity when sharing content to maintain their privacy (Brandtzaeg, Lüders, & Skjetne, 2010). Moreover, Marwick and boyd (2011) found that some Twitter users use "imagined audiences" as a strategy to navigate multiple audiences.

Whereas the notion of a social situation refers to certain time/space coordinates (Meyrowitz, 1986, p. 333), studies of context collapse in social media have primarily addressed *space*, and not *time*, as a defining notion (see e.g., Davis & Jurgenson, 2014). By including time as well as space, therefore, we frame our work as a contribution to the concept of context collapse.

One of the earliest contributions to the topic of time and the persistence of content in networked technologies was boyd's (2010) discussion of the socio-technical affordances of social network sites. boyd's (2010) work suggested that persistence, replicability, scalability, and searchability introduce a social dynamic that forces people to cope with environments in which contexts collide and pointed to how content created in networked publics is captured and recorded. Most of these systems make such content persistent and searchable (i.e., searchability) by default, such that it can be retrieved at any time. The consequence is that content "may lose its essence when consumed outside of the context in which it was created" (boyd, 2010, p. 47). While boyd (2010) acknowledged the time dimension and the persistence of content, she did not systematically compare perceptions of time versus space in the context of networked publics. These are the original contributions of our study.

Specifically, we propose that time, in the context of social media, cannot be understood as a continued progression of events that occur in apparently irreversible sequences from the past through the present.

Recent Research on Social Media and Time

A review of recent research on social media reveals an increasing focus on time, addressing how new communication technologies alter perceptions of memories and experiences of time (Van Den Hoven, Sas, & Whittaker, 2012; Xu, Chang, Welker, Bazarova, & Cosley, 2016).

Kaun and Stiernstedt (2014) developed the concept of "social media time" to explain how Facebook provides users with an archival repository of memories, empowering them to interact with historical content, and to describe how users with specific historical purposes make use of the past as archived on Facebook. Others have addressed the consequences of the passing of time and self-performance in social media in ways that highlight the challenges involved (Ayalon & Toch, 2017; Schoenebeck et al., 2016; Xu et al., 2016; Zhao et al., 2013). These studies suggest that social media, as archival repositories of past performances and memories, may cause tensions for the present self. For example, old

Facebook content may be experienced as meddling current perceptions of the self (Zhao et al., 2013), and adolescents may experience old Facebook histories as embarrassing (Schoenebeck et al., 2016).

Ayalon and Toch (2017) found that younger people's (under the age of 35 years) sharing preferences were significantly affected by time, such that content once deemed appropriate may not be appropriate years later. In most social media, content creates tensions between self-presentation and archiving (Xu et al., 2016). This explains why social media like Snapchat, in which content is automatically deleted, seem to encourage less self-conscious forms of communication. By contrast, social media that archive content may encourage users to be more careful with the content they post (Morioka, Ellison, & Brown, 2016). The permanence of content over time, hence, turns the passing of time into a privacy challenge. This research is similar to our argument that communication and identity performance are affected by the time collapse in social media. Hence, the persistence of content challenges identity and privacy.

These studies indicate that social media research is increasingly addressing time and past user-generated content as relevant topics and, often, as challenges with regard to identity and self-performance. Past user-generated content blurs the notion of time and makes self-performance in social media more complicated. Old user-generated content can backfire later in life, perhaps particularly so for social media natives. As explicated in the introduction, social media natives are increasingly affected by digital traces from their earlier youth into adulthood. Whereas the nickname culture of previous online communities produced something of a privacy shelter (Bechar-Israeli, 1995), social media natives have grown up with a history of user-generated content linked to their real names. They have lived from youth to adulthood with non-anonymous social networking sites, such as Facebook, Instagram, and Twitter—services that, by default, store personal content shared over time.

In addition, and different from a decade ago, new search functions and features, such as Facebook Timeline, Facebook Graph Search, and Google social website indexing, make past content on Facebook and similar sites more accessible to other users (Ayalon & Toch, 2017). Recent research on the consequences of the persistence of content over time suggests that temporality might be a relevant addition to or extension of the notion of context collapse.

The Reflexive Self, Self-Narrative Performances, and Technologies of the Self

We situate our proposed notion of time collapse within a theoretical framework in which the self is considered a work-in-progress over time. The emphasis on time is evident in propositions about how individuals' self-identities are reflexively constructed. Hence, the process of becoming a person is incomplete and continuous (Foucault, 1997; Giddens,

1991 Rogers, 1961/1995). For the purposes of this article, Giddens' (1991) discussion of self-identity in late modernity helps frame our proposed notion of time collapse.

Giddens (1991) contrasted the self in the late modern age with the self in pre-modern cultures, observing that whereas the attributes of identity (e.g., gender, social status, and linage) used to be relatively fixed and linked with tradition, the individual in late modernity is expected to reflexively shape his or her own life trajectory. The importance of time is evident in how Giddens (1991) referred to "the self as reflexively understood by the person in terms of her or his biography" (p. 53). Self-identity is something individuals routinely create and sustain. In short, self-identity is not a given and does not persist without over time without changing.

The relevance of Giddens (1991) for understanding time collapse has a parallel in the relevance of Goffman (1959/1990) for understanding context collapse. The value and relevance of Goffman (1959/1990) relates to humans' continued need to perform according to the social situation at hand in a context in which the presentation of the self takes place in the oftentimes flattened social situations typical of social media (Brandtzaeg et al., 2010; Marwick & boyd, 2011; Vitak, 2012). The relevance and value of Giddens (1959/1990) relate to the continued sense of the self as reflexive and in-progress, yet in a time context in which users have little control over the resurfacing of old (and outdated) versions of the self. Time collapse depicts how old content sometimes disrupts current self-performances. The permanence of social media, which archives traces of the self at various points in time, is very different from the ephemeral self-performances that occur offline.

The construction and maintenance of these self-narratives, thus, has largely been intangible and ephemeral. Conversely, in social media, there is always the possibility that digital traces from the past will be inadvertently and unpredictably drawn into the present. Digital traces refer to individuals' traceable activities online and are often referred to as time-stamped digital footprints of expressions in social media (Lewis, Kaufman, Gonzalez, Wimmer, & Christakis, 2008). Moreover, old traces of who an individual once was sometimes resurface via an intermingling of human and machine practice; for example, a peer may come across an old photo and like it or comment on it. Algorithms respond, making the photo appear in the Facebook newsfeeds of more people, as if it were a part of the present rather than the past.

The distinction between pre- and post-social media is not that technologies have not been used to document personal life before. Since that self-identity is a work-in-progress and an individual's identity is transient, self-documenting practices, such as writing a journal, writing letters, and taking photographs can all be regarded as techniques for capturing or fixating fleeting moments of time. In this sense, contemporary practices of documenting and sharing bits of life online continue established methods of saving moments. Photographs capture and freeze bites of reality, forming an inevitable reference to what once was (Barthes, 1980/1982; Sontag, 1977). Similarly, journals and letters, as personal recordkeeping techniques, offer ways of narrating and memorializing life (Foucault, 1997; McKemmish, 1996). Whereas these old forms of capturing moments also transcend time, we argue that the documenting practices typical of social media sometimes do more: They *collapse* time, muddling the distinction between the current version of a life narrative and previous versions.

Empirical Work: From the Passing of Time to Time Collapse

In this section, we explore two interview studies of Facebook users that we have conducted over the last 9 years. We conducted the earlier study in 2009 and the most recent in 2015. We seek to shed light on both a transition in how young people experience time and the concept of time collapse. While time was not a big issue for the 2009 Facebook sample, it emerged as a problem for the sample of social media natives in 2015. These social media natives increasingly experienced the passing of time as documented through Facebook and Twitter. As a result, their experiences of social media memories or content have shifted from experiences of passive archives to much less predictable and sometimes intrusive factors in the present.

Facebook 2009: A Time Before Timeline

Our 2009 study centered on the privacy dilemma of Facebook, examining the seeming impossibility of simultaneously maximizing sociability, content sharing, and privacy. Our 2009 study compared two samples, a younger and an older sample, to explore how younger and older individuals experienced Facebook use, social sharing, and privacy. The younger sample comprised eight people ranging in age from 16 to 33 years ($M = 22$), and the older sample comprised eight participants between 40 and 64 years ($M = 48$). In total, we included nine females and seven males, roughly evenly divided between the two samples. The participants all lived in an urban area of the capital of Norway, Oslo, and they differed somewhat in education and background.

We used a purposive sampling strategy to recruit of participants according to a priori selection criteria (Robinson, 2014). These criteria included age, gender, at least 6 months of Facebook experience, and regularity in Facebook use (at least once a week).

Our protocol included 16 open-ended questions covering user motivation and usage patterns related to sociability, content sharing, social trust, the people with whom the participants shared content and their privacy experiences related to content sharing and sociability.

Herein, we focus on the younger sample, as this is our target group for understanding the notion of time collapse. The interview data were audio-recorded, transcribed, and analyzed by the authors of this article. We applied a combination of qualitative content analysis, categorization, and hermeneutical interpretation. The concepts of sociability, content sharing, and privacy served as the analytical background and framework.

Our findings suggested that the heterogeneous networks of Facebook friends affected users' behaviors in terms of content sharing. In other words, the context collapse in Facebook made study participants increasingly self-aware, with the result that they presented conformed, glossy, and highly filtered versions of themselves. Although Facebook was the first massive social network to enforce a real name policy, an experience of collapsed time was not particularly present.

One reason might be that most participants had used Facebook for 2 years or less; thus, the extent to which their lives were documented on the platform was limited. Equally, if not more importantly, Facebook had not yet implemented Timeline. Before Timeline, Facebook gave people access to old content, but finding this content required repeatedly clicking a button labeled "Older posts" at the bottom of a profile page to retrieve a user's history, such that past status updates and actions appeared to belong to a much more inaccessible past (Lessin, 2011). Facebook's introduction of Timeline reframed these past updates as "a narrative biography, a story chronicling how life has been up to the present day by rearranging bits and pieces uploaded previously" (Van Dijck, 2013, p. 204). Thus, the 2009 (pre-Timeline) Facebook was not designed to intermingle the past with the present.

When talking about what to share and what not to share, participants typically referred to what others shared that they would consider inappropriate. For example, 32-year-old Lisa pointed to parents who exposed their children by posting "a lot of stuff about them." Overall, the participants' sense of context collapse was much more prominent than their wariness about narrating a persistent biography, as illustrated by Jenny (23 years):

> I don't feel I can do anything without everyone seeing it, and I have been tagged in photos that I don't want my mom to see [laughs], even my grandmother who's on Facebook. Like, they don't want to see me smashed at a party. I feel it's kind of out of control.

Jenny continued by describing how she had been surprised by what others shared: "Like writing about how down they're feeling and posting it for all to see. And, like, writing about intimate things or becoming very personal." However, Jenny's caution about being too private was largely situated in the present. She had not thought much about content being available in the future.

Some, such as Elene (20 years), reported concerns about whether deleted content would actually be erased and whether it could create problems in the future:

Interviewer:	What do you think about content published on Facebook being available also in the future? Is that something you've reflected on?
Elene:	No, I haven't thought much about it, but maybe I should have. If you have an event or a party or something, often you delete it afterwards, but you don't know if it's actually deleted.
Interviewer:	That stuff you delete may not be deleted, or . . . ?
Elene:	Maybe it is, but it's hard to tell. But, of course, it's scary if it's not deleted. That might very well be the case. There's not much that can be used against me later, but if there is anything, that could be it.

As a general tendency, the participants seemed to think that, if they carefully considered what to share and what not to share in the present, they would be comfortable with that content being available in the future. We did not analyze what the participants actually shared versus what they claimed to share. Yet, considering the full-name disclosure and the heterogeneous characteristics of Facebook friends, we find it likely that self-presentations in early Facebook years were relatively edited and filtered. Participants wanted to come across as looking good and being happy and positive. For young participants, being authentic was also considered important. This self-perceived cautiousness in sharing practices in the present helped to explain why the participants did not worry too much about leaving digital traces that would be available in the future.

Adult participants appeared to worry more about the younger generation's ability to consider the appropriateness of digital traces for their future selves:

> The things I publish about myself and my family, I'm not worried about that. I don't think I've published anything that can cause harm. But considering what kids and the young, what they put out. Like, they're kids; they don't think about it. I think everyone has done things in their youth, and it's important the young people are reminded that what they put out, anyone can find that later. (Hanna, 43 years)

> Young people are vulnerable. Like, if you're 17 and start to put out a lot of stuff on Facebook that you regret three years later when you're more grown up, or if you're applying for a job and your potential employer Googles you and finds your open profile on Facebook. (Lisa, 32 years)

Overall, the participants conveyed a sense of their own self as expressed on Facebook as highly edited, filtered,

and tuned to safe, happy, and slightly flat expressions. Reflexivity in terms of self-expressions was evident, yet to such an extent that we might question whether the self as portrayed on Facebook is anything resembling internalized personal biographies. The self as performed for others is always socially situated, hence the rich discussions of context collapse in Facebook. Yet, are "safe" performances in terms of context collapse also necessarily "safe" in terms of potential time collapse? In our 2009 study, the time dimension surfaced as a potential rather than an experienced issue. As 33-year-old Ryan emphasized, "There's nothing that really disappears once it's online. You need to be a bit restrictive both with what you write and [with] what photos you publish." This is a telling and almost predictive quote to close off the 2009 study: At the time, old content was tedious to retrieve, and Facebook seemed almost ephemeral; however, the introduction of Timeline would change that.

Social Media Natives in 2015: Social Media History

In 2015 (Brandtzaeg & Chaparro Domínguez, 2018), we conducted 15 in-depth interviews with younger journalists from Spain (SP) and Norway (NO) to investigate how young people used Facebook and Twitter in particular and social media in general for content sharing and self-presentation in both their private and professional lives. The interviewees ranged from 21 to 26 years old with a median age of 23 years and comprised nine women and six men. The participants were chosen because they were born between 1989 and 1995, and they were, therefore, teenagers when social media like Instagram and Facebook became popular for communication, sharing, and self-expression (e.g., social media natives). In this regard, the selected individuals had grown up with popular social media as part of their self-presentation strategy and identity construction. Their occupations as journalists further implied a particular need to balance their personal and professional social media identities. In terms of time collapse, they expressed clear concerns about how digital traces from their youth were incompatible with their current brands and reputations as professional journalists. Young journalists were, therefore, ideal for studying the transition from being a youth to being a young professional on social media. We asked questions related to how the participants experienced this transition, how they used social media today, and how their previous usage patterns influenced their participation in social media as professionals. These topics were chosen to explore the participants' attitudes toward and experiences with Facebook and other social media and to gain insight into possible experiences related to time collapse.

The interviews were audio-recorded, transcribed, and then coded according to categories derived from the issues that emerged from the questions asked and the participants' responses. All the interviews, analyses, and coding of the transcribed interviews were conducted by the same two researchers. The results showed that nearly all interviewees had a story to tell about the evolution of identity over time on social media—from youthful and experimental teenage identities toward professional and public adult identities:

> Journalists my age have had Twitter for several years already. Of course, others might find messages written by a 16-year-old boy. (Luis, 21 years, SP)

> I was very active on Twitter between 2011 and 2012, saying out loud everything I was thinking about. That's maybe okay when you're a teenager, but not when you're in your twenties and a professional. Looking back, I see that my earlier expressions on social media are not too optimal, as they will be there forever. When I started at one of the bigger newspapers, the editor told me that I should keep my opinions to myself. [. . .] And the other day, I went through all the tweets I had tweeted and deleted things because I just was so paranoid about those issues, if someone wants to go and find things about me to destroy me. (Julie, 26 years, NO)

Our findings revealed that the interviewed journalists behaved carefully and quietly on social media to avoid revealing youthful content from the past. They felt jealous of older journalists who had primarily professional and more consistent social media identities, without traces of their experimental youth. Anna, a 23-year-old (NO), reflected, "Old journalists don't have many nude photos of themselves online, do they?"

These young people also reported having grown up with experiences from online safety campaigns that made them conscious about the consequences of their online activity. Hence, many, such as Julie (26 years), above, reported cleaning up their profiles and hiding or erasing embarrassing digital histories. They typically expressed concerns about how people could look up their histories on social media:

> You're sort of afraid of stepping out of line, sort of afraid to get busted [. . .] And if they get curious about you, looking up what you've done and posted on Facebook or social media before, it feels like, yeah, that this is not you, in a way. You are, in a way, a bit vulnerable on Facebook. (Lise, 24 years, NO)

A typical implication seems to be that young people avoid expressing their opinions on Facebook in particular and on social media in general:

> All very politically correct, and I think it characterizes how youth behave on Facebook [. . .] Yes, you keep the big points for yourself, and it just seems like it's important to be very generalizing, but it's important to lay out a nice picture and get, or do a thing: just the links that make people see that you are a good person or cool, instead of actually expressing something that might upset someone. (Johanna, 25 years, NO)

Some said they preferred the ephemerality of Snapchat to Facebook, since it allowed them avoid digital footprints or time collapse. As 20-year-old Jenny (NO) pointed out, "there is no communication history in Snapchat." Others in our sample also turned to more private modes of social media communication, such as messaging services like WhatsApp and Telegram. This turn toward more private use and less sharing of content among younger people in social media has also been observed in other recent studies (Ayalon & Toch, 2017; Xu et al., 2016).

Thus, the participants experienced both context collapse and the dimension of time in how they behaved and acted on social media. They had been on social media since their early teenage years, documenting the transition across various phases of life from experimental youth to adult professional. They were in the midst of shaping their life trajectories: of constructing and maintaining their self-narratives (Giddens, 1991). Their reflections imply that it can be awkward to experience the echoes of past content and expressions in the present (e.g., Mantelero, 2013; Schoenebeck et al., 2016).

In comparison with the participants in the 2009 Facebook study, the social media natives we interviewed in 2015 experienced more clashes between their experimental youthful social media identities and adult norms about how to behave as professionals online. This may be because these young people had more comprehensive online life-logs than the 2009 participants. The participants in the 2015 sample expressed feeling in-between past and present, such that past content could do harm if seen by the wrong person. They reported a sense of vulnerability about past individual and online expressions being used against them. Hence, several of the 2015 participants reported cleaning up their old social media profiles to avoid embarrassing situations: an action that demonstrates the complexity of growing up with social media. They also expressed having to cope with vulnerabilities related to self-expression in social media while balancing both private with work and past with present. This latter finding reflects the results of Morioka et al. (2016), who found that the searchability and visibility of an identity related to online posts affect what and how young people share.

Discussion

Little research has been undertaken to increase our understanding of the multidimensional nature of context collapse in social media. This article addresses this gap by exploring how the context of use and communication in social media, and particularly Facebook, can be explained by not only a spatial approach but also a time approach, suggesting a collapse of temporal patterns—of past and present—in social media.

We illustrate the growing importance of time collapse through theory, new research, and two Facebook studies with younger adults from different points in time (2009 and 2015). In the 2009 Facebook study, participants largely experienced the past as being situated in the past. Whereas old content was available, the participants experienced it as being so in a largely passive manner. By contrast, however, the young social media natives in the 2015 study experienced a distinct time collapse, such that their current social media performances were affected by their past digital expressions or footprints. Hence, young people who have grown up with social media struggle to navigate an unpredictable structure of time (Morioka et al., 2016) that mixes past and present. They experience uncertainty in how time will change and how old content, expressions, and profiles will affect future interactions.

We argue that there are three reasons the near and distant past, documented as digital traces, appear increasingly unpredictable as traces situated in the present.

First, a perception of time collapse seems primarily associated with a real-name online presence, typical of Facebook and, to some degree, Twitter and Instagram. Time collapse appears to relate to a searchable and retrievable archive of content that is explicitly attached to a candid online presence. We, hence, do not expect similar tensions to be prevalent on platforms allowing anonymous or nickname profiles, such as Tumblr, or for Twitter users who do not disclose their identities. In such cases, anonymity and nicknames produce a sense of shelter. Content archives appear semi-secluded, and accessing them requires knowing the undisclosed links between the online profile and the offline self. Yet, anonymous and pseudonymous profiles are clearly not without risk of being disclosed and revealed.

Second, people now have considerable histories on social media, including years of shared content. In the 2009 Facebook study, this was not really the case. Whereas the study participants were asked their thoughts about content being available in the future, experiences were still limited and did not cover much time or many major life-phase events. By contrast, the young journalists interviewed in 2015 had experience with the consequences of having large parts of their lives chronicled. These social media natives, who had grown up and transitioned from youth to adulthood posting online content, thus perceived a clear time collapse. The young journalists reported having more comprehensive life-logs than the young people interviewed in 2009. They reflected on the self as dynamic and ever-changing, yet considered the past to be something private, reporting experiences that parallel Giddens' (1991) account of self-identity as a project in progress. Yet, through social media, different versions of the self are made manifest and retrievable. Although the young journalists regarded their past identity expressions as private memories that they wanted to control, fulfilling this wish for privacy is more complicated in today's social media universe, in which past events are connected with individuals' names and presence.

Time collapse occurs in social media services on which content is archived and made easily retrievable. The privacy problems associated with the archiving of user-generated

content are mirrored by the changing notion of privacy from "the right to be left alone" to "the right to be forgotten" (Mantelero, 2013). This latter view of privacy has arisen from individuals' requests to be able to delete archived online content about themselves that could relate to problematic stigmatizations, such as revenge porn or references to past embarrassing actions. We use the term *archive agency* to describe social media archives that perform actions on their own. For example, Facebook's "On This Day" memories prompt users to re-share old posts. These traces are clearly stamped as memories; thus, they do not necessarily impose a time collapse.

Third, time collapse appears mostly relevant for semi-public and public social spaces involving either an extended, loose network of ties or general public access to past content in the present. Liking, commenting, or sharing old posts in Facebook; retweeting old tweets; or re-posting past Instagram photos are examples of actions others perform that can make old content resurface in the present. On Facebook, such actions allow the platform to promote content in newsfeeds (archive agency) beyond the control of human actors.

In summary, time collapse involves (a) a full-name online presence in (b) social spaces in which content is archived and (c) made semi-publicly or publicly available. These three factors can be considered the premises for time collapse to be perceived as a complicating aspect of being and behavior in social media. Our conceptualization of time collapse, with its combination of premises, including social spaces that are semi-publicly or publicly available, also means that we extend the relevance of a socio-spatial approach with a temporal dimension. That is, with time, people engage with increasingly heterogeneous audiences, and these audiences are provided the means to fold back in time and revisit digital traces of past self-performance. Time collapse is, therefore, characterized by a desynchronization between how people want to perform (their present expressions) and how their current selves are affected by past expressions and others' access to them. As time passes and more persistent social media content is added, users experience an increased need to manage this content, which seems to complicate self-performance.

When social media muddle present narratives and past narratives of the self, this may cause unwanted tension and even conflict between versions of self. Such tensions are particularly evident among social media natives and may explain why members of this generation gravitate toward more private messaging services, such as Snapchat. By not archiving content, Snapchat focuses on immediacy in the communication process. This way of approaching time and memory in communication is more similar to offline communication, and it directly contrasts with how other social media, such as Facebook, make personal content from the past shared and searchable, creating shared memories that are available to others and that may cause a time collapse of past and present events.

The primary contribution of this study, in comparison to the existing literature on social media and self-performance (e.g., Davis & Jurgenson, 2014; Hogan, 2010; Marwick & boyd, 2011, 2014; Papacharissi, 2012; Vitak, 2012), is an original examination of the concept of context collapse. Most studies on context collapse have focused on the socio-spatial aspects of the circumstances in social media. In this study, we have contributed a more multidimensional perspective that considers the dimension of time.

We argue that both space and time are vital to scholars' theorizing of the social media context. Since social media are integral to our lives over time, it is essential to develop an understanding of the interdependencies between physical spaces and time in our understanding of context collapses in social media. This understanding is particularly important in relation to the identity transition from youth to adulthood, which is often marked by dynamic and evolving self-performance practices on social media.

Our empirical work provides a detailed understanding of time in social media, explicating how experiences of time are not linear. Our conceptualization of time collapse is, however, subject to limitations. The validity of our contribution has been established only through limited and explorative empirical research, though the concept of time collapse has also been alluded to by the recent studies reviewed in this article. Our conceptual extension of context collapse and corresponding specific hypotheses should be explicitly tested in future research.

Conclusion

The current literature on social media has repeatedly addressed spatial terms and metaphors to understand the dynamics of social media. By comparison, we have explained and conceptualized time and how it is experienced and organized in social media, thereby offering an important contribution to the literature seeking to understand the complexities of human behavior in social media. Whereas Marwick and boyd (2011) and others have primarily addressed the collapse of space, we argue for the need to include the collapse of temporal patterns in the conceptualization of context collapse in social media. We have explained how time collapse (i.e., the collapse of past and present) impair the sense of linear time on non-anonymous social media, such as Facebook. Through our use of empirical evidence from two case studies and by detailing how the concept of time collapse compares and contrasts with other related theoretical approaches, we have laid the foundation for an understanding that specifies how a collapse of temporal patterns affects memory and self-presentations in the context of social media.

Our 2015 case study shows that an experience of time collapse makes it more complicated for an individual to control life events, such as how content and expressions flow and when and where they can be observed by others. This may be of particular relevance for social media natives, who have

life-logs marked by years of archived user-generated social media content. Social media natives may experience uncertainty and ambiguity relating to how time will change and how old content, expressions, and profiles will affect future interactions. This uncertainty may create barriers to communication and identity performance. Whereas research on social media has commonly addressed self-performance, few studies have linked these investigations to how self-identity is typically conceptualized as an entity in progress. For example, people using social media over different periods of life, such as the transition from youth to adulthood, have limited control over the resurfacing of old self-performances. Time collapse, hence, relates to "the right to be forgotten": the idea that individuals should be able to go about their lives without the potential stigma that might be attached to their past actions.

Finally, we suggest that future research should adequately acknowledge and articulate time as a dimension of context collapse. Yet, future research should investigate a more multidimensional understanding of context collapse, including both space and time, to support a more comprehensive understanding of social media practices. It is also important to explore in more detail how young people cope with context collapse in social media. We know from previous literature that users sometime use "imagined audiences" (Marwick & boyd, 2011) or conformity (Brandtzaeg et al., 2010) as strategies to navigate networked audiences that contain many different social relationships. However, we know too little about how users handle enduring and sometimes unpredictable life-logs that collapse the past with the present.

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References

Ayalon, O., & Toch, E. (2017). Not even past: Information aging and temporal privacy in online social networks. *Human–Computer Interaction*, *32*, 73–102.

Barthes, R. (1982). *Camera lucida: Reflections on photography*. New York, NY: Hill & Wang (Original work published 1980).

Bechar-Israeli, H. (1995). From "Bonehead" to "cLoNehEAd": Nicknames, play, and identity on internet relay chat. *Journal of Computer-Mediated Communication*, *1*(2). Retrieved from: http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1995.tb00325.x/full

boyd, d. (2010). Social network sites as networked publics: Affordances, dynamics, and implications. In Z. Papacharissi (Ed.), *A Networked self: Identity, community, and culture on social network sites* (pp. 39–58). New York, NY: Routledge.

Brandtzaeg, P. B., & Chaparro Domínguez, M. Á. (2018). From youthful experimentation to professional identity: Understanding identity transitions in social media (Manuscript submitted for review in the journal Young).

Brandtzaeg, P. B., Lüders, M., & Skjetne, J. H. (2010). Too many Facebook "friends?" Content sharing and sociability versus the need for privacy in social network sites. *International Journal of Human-Computer Interaction*, *26*, 1006–1030.

Davis, J. L., & Jurgenson, N. (2014). Context collapse: Theorizing context collusions and collisions. *Information, Communication & Society*, *17*, 476–485.

Foucault, M. (1997). *Ethics: Subjectivity and truth* (Vol. 1). New York, NY: The New Press.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Cambridge, UK: Polity Press.

Goffman, E. (1990). *The presentation of self in everyday life*. London, England: The Penguin Press (Original work published 1959).

Hogan, B. (2010). The presentation of self in the age of social media: Distinguishing performances and exhibitions online. *Bulletin of Science, Technology & Society*, *30*, 377–386.

Hogan, D. P., & Astone, N. M. (1986). The transition to adulthood. *Annual Review of Sociology*, *12*, 109–130.

Kaarakainen, M. T., & Hutri, H. (2016). Participating with a real name, a nickname or by being anonymous? Anonymous and identifiable users' skills and internet usage habits. In *Tuovi 14: Interaktiivinen tekniikka koulutuksessa2016-konferenssin tutkijatapaamisenartikkelit*(pp.40–48).Retrievedfromhttp://tampub.uta.fi/bitstream/handle/10024/100124/978–952–03–0307–5.pdf?sequence=4#page=40

Kaun, A., & Stiernstedt, F. (2014). Facebook time: Technological and institutional affordances for media memories. *New Media & Society*, *16*, 1154–1168.

Lang, C., & Barton, H. (2015). Just untag it: Exploring the management of undesirable Facebook photos. *Computers in Human Behavior*, *43*, 147–155.

Lessin, S. (2011, September 22). Tell your story with Timeline. *FB newsroom*. Retrieved from http://newsroom.fb.com/news/2011/09/tell-your-story-with-timeline/

Lewis, K., Kaufman, J., Gonzalez, M., Wimmer, A., & Christakis, N. (2008). Tastes, ties, and time: A new social network dataset using Facebook.com. *Social Networks*, *30*, 330–342.

Mantelero, A. (2013). The EU proposal for a general data protection regulation and the roots of the "right to be forgotten." *Computer Law & Security Review*, *29*, 229–235.

Marwick, A. E., & boyd, d. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, *13*, 114–133.

Marwick, A. E., & boyd, d. (2014). Networked privacy: How teenagers negotiate context in social media. *New Media & Society*, *16*, 1051–1067.

McKemmish, S. (1996). Evidence of me. *Archives & Manuscripts*, *24*, 28–45.

Meyrowitz, J. (1986). *No sense of place: The impact of electronic media on social behavior*. Oxford, UK: Oxford University Press.

Morioka, T., Ellison, N. B., & Brown, M. (2016). Identity work on social media sites: Disadvantaged students' college transition

processes. In *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing* (pp. 848–859). New York, NY: ACM.

Papacharissi, Z. (2012). Without you, I'm nothing: Performances of the self on Twitter. *International Journal of Communication*, *6*, 1989–2006.

Peddinti, S. T., Ross, K. W., & Cappos, J. (2014). On the Internet, nobody knows you're a dog: A Twitter case study of anonymity in social networks. In *Proceedings of the 2nd ACM conference on online social networks* (pp. 83–94). New York, NY: ACM.

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology*, *11*, 25–41.

Rogers, C. R. (1995). *On becoming a person: A therapist's view of psychotherapy*. New York, NY: Houghton Mifflin (Original work published 1961).

Schoenebeck, S., Ellison, N. B., Blackwell, L., Bayer, J. B., & Falk, E. B. (2016). Playful backstalking and serious impression management: How young adults reflect on their past identities on Facebook. In *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing* (pp. 1475–1487). New York, NY: ACM.

Sontag, S. (1977). *On photography*. New York, NY: Palgrave Macmillan.

Van Den Hoven, E., Sas, C., & Whittaker, S. (2012). Introduction to this special issue on designing for personal memories: Past, present, and future. *Human–Computer Interaction*, *27*, 1–12.

Van Dijck, J. (2013). "You have one identity": Performing the self on Facebook and LinkedIn. *Media, Culture & Society*, *35*, 199–215.

Vitak, J. (2012). The impact of context collapse and privacy on social network site disclosures. *Journal of Broadcasting & Electronic Media*, *56*, 451–470.

Wang, Q., Lee, D., & Hou, Y. (2017). Externalising the autobiographical self: Sharing personal memories online facilitated memory retention. *Memory*, *25*, 772–776.

Wesch, M. (2009). YouTube and you: Experiences of self-awareness in the context of the collapse of the recording webcam. *Explorations in Media Ecology*, *8*, 19–34.

Xu, B., Chang, P., Welker, C. L., Bazarova, N. N., & Cosley, D. (2016). Automatic archiving versus default deletion: What Snapchat tells us about ephemerality in design. In *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing* (pp. 1662–1675). New York, NY: ACM.

Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, *24*, 1816–1836.

Zhao, X., Salehi, N., Naranjit, S., Alwaalan, S., Voida, S., & Cosley, D. (2013). The many faces of Facebook: Experiencing social media as performance, exhibition, and personal archive. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1–10). New York, NY: ACM.

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